Appendix A

Site Boundary Determination

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NOVEMBER 2010
SITE BOUNDARY TECHNICAL MEMORANDUM

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November 22, 2010

Mr. Steve Teel, L.HG.
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Dear Mr. Teel:

On behalf of the Port of Olympia and at the request of Ms. Joanne Snarski, I am enclosing two hardcopies of a draft Site Boundary Technical Memorandum for the East Bay Redevelopment Site for your review. This document was prepared in accordance with Agreed Order DE7830.

If you have questions about the enclosed report, please feel free to contact me or Chris Waldron at 570-1700.

Respectfully,

Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

Enclosures

cc:

Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Ivy Anderson, Office of the Attorney General (electronic copy)
Ms. Joanne Snarski, Port of Olympia (one hardcopy)
Mr. Eric Hielema, LOTT Clean Water Alliance (one hardcopy)
Mr. Jay Burney, City of Olympia (one hardcopy)
Mr. Tom Morrill, City of Olympia (electronic copy)
Ms. Kim Seely, Coastline Law Group (electronic copy)
Ms. Maggie Yowell, Foster Pepper (electronic copy)
Mr. Josh Johnson, Brown and Caldwell (electronic copy)
Mr. Chris Waldron, PIONEER Technologies Corporation (electronic copy)

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Site Boundary Technical Memorandum for the East Bay Redevelopment Site

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IN COORDINATION WITH:

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NOVEMBER 2010

This document was prepared under my direction. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Troy D. Bussey Jr., P.E., L.G., L.HG. Date
Senior Professional Engineer
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ACRONYMS AND ABBREVIATIONS

Acronym	Explanation
AO	Agreed Order
AOC	Area of Concern
ATSDR	Agency for Toxic Substances and Disease Registry
BGS	Below Ground Surface
CAP	Cleanup Action Plan
City	City of Olympia
CLARC	Cleanup Levels and Risk Calculations
COI	Constituent of Interest
COPC	Constituent of Potential Concern
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons
Dioxins/Furans	Chlorinated Dibenzo-p-dioxins and Chlorinated Dibenzofurans
Ecology	Washington State Department of Ecology
FS	Feasibility Study
IA	Interim Action
IACL	Interim Action Cleanup Level
IARL	Interim Action Remediation Level
IAWP	Interim Action Work Plan
IEPA	Illinois Environmental Protection Agency
LOTT	LOTT Clean Water Alliance
MADEP	Massachusetts Department of Environmental Protection
MTCA	Model Toxics Control Act
NJAC	New Jersey Administrative Code
PCBs	Polychlorinated Biphenyls
PID	Photoionization Detector
PIONEER	PIONEER Technologies Corporation
Port	Port of Olympia
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
site	East Bay Redevelopment Site
SVOC	Semi-volatile Organic Compound
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons in the Diesel Range
TPH-G	Total Petroleum Hydrocarbons in the Gasoline Range
TPH-HO	Total Petroleum Hydrocarbons in the Heavy Oil Range
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

SECTION 1 – INTRODUCTION

1.1. East Bay Redevelopment Project

The Port of Olympia (Port), in conjunction with a wide variety of partners (e.g., State of Washington, City of Olympia [City], LOTT Clean Water Alliance [LOTT], Hands On Children's Museum) are redeveloping the downtown Olympia property known as the East Bay Redevelopment Project. Cleanup activities pursuant to Model Toxics Control Act (MTCA) regulations are being conducted in conjunction with redevelopment. This Brownfield redevelopment project is very important to the Port, its partners, and the Olympia community due to the project's anticipated role in revitalizing downtown Olympia. The location of the project is shown on Figure 1.

The East Bay Redevelopment Project consists of nine parcels. The Port currently owns six of the nine parcels (Parcels 1, 2, 3, 6, 7, and 9) within the East Bay Redevelopment Project boundary.[1] LOTT and the City purchased Parcel 4 and Parcel 5, respectively, from the Port in June 2010.[2] LOTT purchased Parcel 8 from the Port in 2009.[3] The locations and ownership of Parcels 1 through 9 are shown on Figure 2.[4]

In 2010, the Port completed installation of utilities, roads, sidewalks, and associated cleanup activities within the public right-of-ways of the East Bay Redevelopment Project in order to facilitate ongoing and pending redevelopment (PIONEER Technologies Corporation [PIONEER] 2010a). LOTT completed construction of the LOTT Administrative Building and Water Education and Technology Center on its property (including Parcel 8) in 2010. Construction of the Hands On Children's Museum on Parcel 5 began in October 2010. Construction of a public plaza on Parcel 4 is scheduled to occur in 2011. The Port has a conceptual plan for construction of a variety of mixed-use, urban buildings (e.g., commercial office space, retail/restaurants, a hotel, parking, and urban housing such as condominiums above ground-level retail) on the six Port-owned parcels.

1.2. Memorandum Purpose

The purpose of this technical memorandum is to determine a site boundary for the East Bay Redevelopment site (site) for use in the Remedial Investigation (RI) / Feasibility Study (FS) Report for the site.[5] This memorandum focuses on the essential information and evaluations necessary to determine

[1] The addresses for Port property known as Parcels 1, 2, 3, 6, 7, and 9 are 715 Olympia Avenue NE/724 State Avenue NE, 625 Olympia Avenue NE, 510 State Avenue NE, 427 Marine Drive NE, 517 Marine Drive NE, and 323 Jefferson Street NE, respectively.

[2] The address for Parcel 4 is 325 Marine Drive NE. The address for Parcel 5 is 410 Jefferson Street NE.

[3] The address for Parcel 8 is 421 Jefferson Street NE.

[4] Figure 2 also shows approximate locations of surrounding property owned by the Port, City, or LOTT.

[5] The assumed site boundary used prior to development of this memorandum is shown in Figure 2.

a site boundary consistent with Revised Code of Washington (RCW) 70.105D.020(5), and does not attempt to include all of the RI/FS components that will be included in the RI/FS Report. This memorandum will be included as an appendix to the RI/FS Report.

1.3. MTCA Site Definition

The purpose of MTCA as articulated in Washington Administrative Code (WAC) 173-340-100 is "to identify, investigate, and clean up facilities where hazardous substances have come to be located." Per RCW 70.105D.020(5), a facility "means (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publically owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft, or (b) any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located." Although Chapter 70.105D of the RCW does not specifically define the meaning of site, Washington State Department of Ecology (Ecology) determined in WAC 173-340-200 that site "means the same as 'facility'".

1.4. Site Boundary Evaluation Framework

Determining a boundary for this site is complicated by:

- the fact that most of the site and much of downtown Olympia is comprised of historic fill material dredged from Budd Inlet, which likely contained constituents that had entered Budd Inlet sediments from a wide variety of historic point and non-point sources, and
- approximately 150 years of urban and industrial activity in downtown Olympia may have produced elevated constituent concentrations in downtown Olympia (including the site).

With these potentially confounding factors in mind, the following framework was used to determine the site boundary:

- On-property groundwater screening level exceedances for groundwater constituents of potential concern (COPCs) were evaluated in the context of the soil-to-surface water empirical evaluation report (PIONEER 2010b).
- Soil screening levels were developed and compared with on-property RI soil data to identify soil COPCs.
- The lateral and vertical distributions of the soil screening level exceedances for each COPC were compared with (1) the locations of historic operation areas (i.e., potential source areas), (2) the constituents potentially associated with each historic operation area, and (3) the conceptual site fate and transport model in order to explain the distribution of the COPC. The conceptual site fate and transport model is presented in Figure 3.[6] The conceptual site fate and transport model includes sources, possible release mechanisms (e.g., spill, buried refuse, combustion), and possible transport mechanisms (e.g., erosion, leaching to deeper soil, airborne deposition).

[6] Updated from the model presented in the Remedial Investigation Work Plan (GeoEngineers and PIONEER 2008).

- If the data distribution for a COPC did not match the conceptual site fate and transport model for an on-property source, then other plausible hypotheses were explored to determine the best explanation of the COPC data distribution.
- Once the data distribution was understood in terms of historic operation areas and the conceptual site fate and transport model, the extent of impacts from on-property sources was delineated for each COPC based on surrounding data and fate and transport considerations.
- A resulting site boundary was developed that encompassed the combined extent of all COPC releases from on-property sources.

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SECTION 2 – SITE BACKGROUND

2.1. Site Location

The site is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to the East Bay of Budd Inlet. For the purposes of this memorandum, until a data-driven site boundary is defined in Section 5, the terms on-site and on-property refer to locations within the yellow border designated as "current site boundary" on Figures 2 through 31.[7,8] The size of the "current site boundary" is approximately 14.6 acres.

2.2. Fill History

The original pre-developed shoreline of downtown Olympia, as shown in Figure 4, was significantly different than the current shoreline. The entire Port peninsula, a significant portion of downtown Olympia, and the entire site (except for the southwest corner) are situated on land that was reclaimed through the application of fill material beginning in the late 1800s. Most of this fill consists of sediment that was dredged from Budd Inlet as part of civic improvement projects to both expand shipping channels and increase urban land (Stevenson 1982). The largest dredging event took place from 1909 to 1911, in which over 2 million cubic yards of sediment was dredged and used as fill, adding 29 blocks of land north of Olympia Avenue (Stevenson 1982). Smaller scale projects to dredge Budd Inlet and create reclaimed land with the dredge spoils continued from 1924 into the 1970s (Stevenson 1982). The last fill event that created the current shoreline occurred in 1982 (Stevenson 1982, Eric Egge, personal communication). Figure 5 shows the approximate shoreline location over time as the area was filled.[9]

The pre-1982 fill primarily consists of material dredged from Budd Inlet (Stevenson 1982). The primary soil type for pre-1982 fill is light or dark sand, with some woody debris from historic lumber milling operations. The 1982 fill on the eastern edge of the site consists of light-colored gravel that was imported from an off-site rock quarry (Eric Egge, personal communication). Based on boring logs, the thickness of fill at the site typically ranges from five to 15 feet (GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Landau Associates 2009).

[7] The "current site boundary" is the previously assumed site boundary. This boundary is used in all figures and text prior to Section 5 solely to provide context for discussions until an official site boundary is determined in Section 5.

[8] Although Parcel 8 is part of the overall East Bay Redevelopment Project, it is not part of the East Bay Redevelopment site. Rather, Parcel 8 is part of the LOTT Expansion site. The adjacent 3.4-acre LOTT Expansion site is owned by LOTT and is being addressed by LOTT as a separate Voluntary Cleanup Program site.

[9] The pre-1982 shoreline and fill event locations were determined by evaluating historical records (e.g., aerial photographs, Sanborn maps) presented in previous site reports (GeoEngineers 2007b, GeoEngineers and PIONEER 2008). The 1982 shoreline and fill event locations were determined by evaluating a 1979 aerial photograph (GeoEngineers 2007b), 1979 ground surface elevation contours (Eric Egge, personal communication) (see Appendix B), and boring logs (GeoEngineers 2007c, PIONEER 2009a, PIONEER 2009b).

2.3. Operational History

Detailed information about the operational history of the site is presented in previous site documents (GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers and PIONEER 2008). In summary, land use history consisted of three distinct periods: (1) lumber milling and related operations by a variety of owner/operators from the late 1800s until 1968, (2) warehouse and commercial storage by the Port and its tenants from 1968 to 2008, and (3) vacant land awaiting redevelopment from 2008 to current (with the exception of Parcels 1 and 9).[10]

Former lumber milling activities and related operations prior to 1968 included lumber sawing, lumber milling, veneer manufacturing, and plywood manufacturing. Over time, as more reclaimed land was created with the dredge-fill activities, operations expanded. The greatest extent, and longest duration, of all of the operations was plywood/veneer manufacturing by the St. Paul and Tacoma Lumber Company and its predecessor from 1921 to 1968. Figure 6 shows an estimate of the maximum known extent of historic operational footprints based on a review of historical maps and aerial photographs (GeoEngineers 2007b).

Historical maps were used to identify features associated with past operations that may be associated with areas of concern (AOCs) for potential contamination. As shown in Figure 7, lumber milling operations included various support facilities that may be AOCs such as shops (e.g., machine shops, blacksmith shops, repair shop, welding shop, electronic shop), power/boiler houses, oil houses, tar dipping tanks, and transformers. Figure 8 groups the individual AOCs into generalized historic operation areas (i.e., potential source areas), and presents constituents of interest (COI) for each historic operation area.[11]

2.4. Regulatory Context

The Port originally entered the site into Ecology's Voluntary Cleanup Program per WAC 173-340-515 in 2007 when the East Bay Redevelopment Project began. In October 2008, the Port and Ecology entered into Agreed Order (AO) DE5471 for the site, in which the Port agreed to submit to Ecology an RI Work Plan (RIWP), an Interim Action (IA) Work Plan (IAWP) for infrastructure improvements, an IA Report for infrastructure improvements, an RI Report, a Supplemental RIWP (if necessary), and a Supplemental RI Report (if necessary). The Infrastructure IAWP, RIWP, and Infrastructure IA Report were approved by Ecology in May 2009, September 2009, and June 2010, respectively.

In September 2010, the Port, City, LOTT, and Ecology entered into AO DE7830, which supersedes AO DE5471. In AO DE7830, the Port, City, and LOTT agreed to submit to Ecology a Site Boundary Technical Memorandum, Data Gap Work Plan (if necessary), RI/FS Report, draft Cleanup Action Plan

[10] Parcel 1 has been used for boat storage since the land was created in 1982, and Parcel 9 is currently being used as a parking lot.

[11] In general, each historic operation area boundary was assumed to extend 25 feet beyond the boundary of the AOC (or group of AOCs) to account for any spills or localized transport associated with the AOC, and to account for any uncertainty in the AOC location.

(CAP), and Parcels 4 and 5 IA Report.[12] This memorandum satisfies the Site Boundary Technical Memorandum requirement specified in AO DE7830.

2.5. Investigation Chronology

A detailed investigation chronology will be presented in the RI/FS Report. In summary, investigation activities have been documented in the following major deliverables:

- The December 20, 2007 draft RI/FS and Conceptual CAP documented the relevant investigation activities conducted prior to December 2007 (GeoEngineers 2007c).
- The October 22, 2008 RIWP (GeoEngineers and PIONEER 2008) documented the investigation approach to be used during the RI as well as the investigation activities conducted between December 2007 and October 2008 (e.g., groundwater sampling of MW16 in July 2008, tidal study conducted by Greylock Consulting).
- The May 2009 IAWP (PIONEER 2009a) documented the Phase 1 RI soil investigation activities, which were conducted in November 2008.
- Results from the June 2009 Phase 2 RI soil investigation activities were submitted to Ecology following sample collection (PIONEER 2009b) and will be formally documented in the RI/FS Report.
- An October 2009 memorandum documented soil sampling results from three soil borings advanced in September 2009 on Parcels 4 and 5 (Brown and Caldwell 2009c).
- The September 2010 soil-to-surface water empirical evaluation report (PIONEER 2010b) documents all groundwater-related investigation activities conducted to date.

Figure 9 shows all groundwater and on-site soil sample locations discussed in the above investigations.

2.6. Analytical Procedures

Soil and groundwater samples were analyzed for the following constituents using the following analytical methods:

- Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver), copper, and nickel were analyzed using United States Environmental Protection Agency (USEPA) Methods SW846-6010B (7471 for mercury), SW846-6020A (7470A for mercury), or 200.8.
- Total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) were analyzed using Ecology Method NWTPH-G.
- TPH in the diesel range (TPH-D) and heavy oil range (TPH-HO) were analyzed using Ecology Method NWTPH-Dx.
- Volatile organic compounds (VOCs) were analyzed using USEPA Method SW846-8260B.
- Semi-volatile organic compounds (SVOCs) were analyzed using USEPA Method SW846-8270C.
- Polychlorinated biphenyls (PCBs) were analyzed using USEPA Method SW846-8082.

[12] A Parcels 4/Parcel 5 IAWP (Brown and Caldwell 2010a) was included as an exhibit to AO DE7830.

- Chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans) were analyzed using USEPA Method SW846-8290.

SECTION 3 – ANALYTICAL RESULTS

The purpose of this section is to comprehensively compare soil and groundwater results with conservative soil and groundwater screening levels to determine COPCs that need to be evaluated for the site boundary determination.

3.1. Groundwater Results

Groundwater results from eight comprehensive groundwater monitoring events are presented and discussed in the soil-to-surface water empirical evaluation report (PIONEER 2010b).[13] In summary, it has been empirically demonstrated that constituents in soil have not impacted groundwater, and will not impact surface water via groundwater transport, with the exception of limited uncertainty associated with the empirical demonstration for arsenic, TPH-D, and TPH-HO since these constituents have been detected at least once above their respective surface water screening levels in on-property monitoring wells MW03, MW18, MW24S, and MW25S (PIONEER 2010b). The location of MW03, MW18, MW24S, and MW25S are shown in Figure 10. However, the only groundwater exceedances that have been replicated are the detections of TPH-HO in MW25S at concentrations slightly above the TPH-HO screening level on two occasions, and dissolved arsenic in MW24S at concentrations slightly above the arsenic screening level (but perhaps within the range of natural background concentrations). In order to delineate the potential groundwater exceedances associated with MW24S and MW25S, the extents of groundwater impacts were assumed to extend halfway to surrounding monitoring wells.[14] Figure 10 presents the delineated area associated with MW24S and MW25S. Since the delineated areas for replicated groundwater exceedances are within the property boundary, the remainder of the memorandum focuses on the delineation of soil screening level exceedances.

3.2. Development of Soil Screening Levels

Soil screening levels for unrestricted land uses were developed for every constituent detected in soil in order to facilitate determination of the site boundary. The soil screening level for each detected

[13] The primary purpose of the empirical evaluation was to determine soil cleanup levels that are protective of the potential soil-to-surface water pathway.

[14] The western boundary of the potential MW25S exceedance was assumed to extend to the western property boundary since there is not a monitoring well located west of MW25S. This is likely a conservative assumption since (1) the primary direction of groundwater flow is to the northeast towards Budd Inlet, (2) the magnitude of the TPH-HO exceedance in MW25S is minor, (3) the groundwater level in MW25S is near ground surface and therefore samples collected from MW25S may not be representative of groundwater conditions, and (4) the assumed western extent of the potential MW25S exceedance is larger than the northern, eastern, or southern extents.

constituent was the most stringent of the following, subject to any necessary adjustments per WAC 173-340-740(5)(b) or WAC 173-340-740(5)(c):[15]

- MTCA Standard Method B direct contact formula value (MTCA Equation 740-1) for noncarcinogens from Ecology's Cleanup Levels and Risk Calculations (CLARC) database (Ecology 2010d)
- MTCA Standard Method B direct contact formula value (MTCA Equation 740-2) for carcinogens from Ecology's CLARC database (Ecology 2010d)
- IA Cleanup Levels (IACLs) for the Direct Contact Pathway in Table C-4 of the IAWP (PIONEER 2009a)
- For arsenic, TPH-D, and TPH-HO, soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER 2010b)
- For volatile constituents, soil concentrations protective of potential migration to indoor air based on criteria in WAC 173-340-740(3)(b)(iii)(C) (e.g., 10,000 mg/kg for TPH-D, IACLs for Protection of Potential Surface Water Receptors in Table C-4 of the IAWP for TPH-G, benzene, toluene, ethylbenzene, total xylenes, and total naphthalenes)

3.3. Soil COPCs and Results

Table 1 presents a preliminary screening of all soil COIs in order to determine soil COPCs that warrant additional evaluation and discussion. A soil COI is defined as any constituent that has ever been analyzed in soil at the site. Soil COPCs are defined as any constituent that has been detected in soil at least once above its soil screening level calculated in accordance with Section 3.2. All on-site soil RI data collected to date were considered in this screening process.[16] As shown in Table 1, the following constituents are considered soil COPCs for the purposes of this memorandum:

- Arsenic
- Lead
- TPH-G
- TPH-D
- TPH-HO
- Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs)
- Total dioxins/furans

Tables 2 through 8 present soil concentrations by sample location and depth for arsenic, lead, TPH-G, TPH-D, TPH-HO, total cPAHs, and total dioxins/furans, respectively. As shown on Table 1, the exceedance frequencies for arsenic, lead, TPH-G, and TPH-D are all three percent or less. The

[15] The determination of these soil screening levels is consistent with the conceptual site exposure model and IA Cleanup Levels (PIONEER 2009a), as modified by the soil-to-surface water empirical evaluation (PIONEER 2010b).

[16] IA soil data collected from soil stockpiles were not included in the evaluation since these samples are composite samples from soil stockpiles. In general, IA soil data were consistent with RI soil data.

exceedance frequencies for TPH-HO, total dioxins/furans, and total cPAHs are five percent, 20 percent, and 36 percent, respectively. The magnitudes of almost all exceedances are less than 10 times the respective soil screening levels.[17] This general lack of significant site contamination is consistent with the expectation that sawmills and associated shops are generally not as impacted as the prototypical MTCA, Superfund, or RCRA site (e.g., chemical manufacturing facilities, chemical storage/distribution facilities, major spills).

[17] The only exceptions are as follows. The total cPAH concentrations in two samples (sample collected from 0 to 2 feet below ground surface [bgs] in DP11 at 1.0 mg/kg and sample collected from 3 to 5 feet bgs in DP39 at 1.1 mg/kg) are slightly more than 10 times the soil screening level. The dioxins/furans concentrations in four samples (DP42 at 7 to 8 feet bgs, MW24S at 6.5 to 8 feet bgs, TP01 at 2 to 2.5 feet bgs, and TP02 at 2 to 2.5 feet bgs) are more than ten times the soil screening level.

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SECTION 4 – SITE BOUNDARY DELINEATION DISCUSSION

The purpose of this section is to evaluate the soil data for the seven COPCs listed in Section 3.3 using the framework presented in Section 1.4 to determine the MTCA site boundary.

4.1. 1982 Fill Event

Before the delineations of the seven COPCs are discussed, it should be noted that concentrations exceeding the soil screening levels are not expected in the 1982 gravel fill since the source for the 1982 fill was a clean, upland borrow source (Eric Egge, personal communication), and none of the potential historical sources were still operating in 1982. The presence of 1982 gravel fill that is visually and chemically distinct from pre-1982 sand fill is supported by field observations and analytical data. As shown in Table 9, none of COPC concentrations in the 14 samples collected from the 1982 gravel fill exceed soil screening levels. Moreover, all of the detections are significantly less than the soil screening levels. Figures 11 and 12 display the lack of exceedances in the 1982 fill for total cPAHs and total dioxins/furans, respectively. Figures 13 and 14 are cross-sections that visually present the distinction between the pre-1982 fill and 1982 fill for the boiler house area and the power house area, respectively.[18] The lithologic difference between 1982 gravel fill and pre-1982 fill was determined using soil descriptions in boring logs, the shoreline locations shown in Figure 5, and a 1979 survey of the surface topography prior to the 1982 fill event (Eric Egge, personal communication). Appendix A includes the boring logs and survey information used in this discussion.

4.2. Arsenic, Lead, TPH-G, TPH-D, and TPH-HO

Figures 15 through 19 show the soil concentrations for arsenic, lead, TPH-G, TPH-D, and TPH-HO, respectively, relative to historic operation areas identified in Figure 8 for these COPCs. As shown in Figures 15 through 19, all of the arsenic, lead, TPH-G, TPH-D, and TPH-HO soil screening level exceedances are located within historic operation areas that could have released these particular COPCs to soil via a spill or buried refuse, with the following exceptions. The detection of arsenic in DP17 and the detection of lead in DP11 are not within historic operation areas assumed to be associated with lead or arsenic. However, DP17 is located immediately adjacent to the hog fuel pile, and it is possible that arsenic was released from this area. Likewise, DP11 is located within the oil house area, and it is possible that lead was released within the oil house area or is associated with lead-based paint. While the exceedances in samples deeper than 6 feet bgs without a corresponding exceedance in shallower samples from the same soil boring (i.e., arsenic in DP17, lead in DP11, and TPH-HO in DP18) is unusual for a

[18] The TP02 sample in Figure 13 is shown near the interface between the two fills based on the assumption that the top four feet of soil encountered in MW16 is 1982 gravel fill (as opposed to some later localized fill). However, the 1979 surface topography survey, the DP33 boring log, and the TP02 log itself indicate that the TP02 sample was collected from pre-1982 fill.

typical spill scenario, one plausible explanation for these isolated deep exceedances is that previously impacted surface material was buried during subsequent fill events.

Each of the COPC exceedances shown on Figures 15 through 19 is relatively isolated and is expected to have a minimal lateral extent since (1) the data distribution does not suggest the releases were wide spread,[19] (2) the COPCs are associated with non-combustion releases, (3) any leaching from soil to groundwater is localized (PIONEER 2010b), and (4) erosion is not expected to be a significant transport pathway given the data distribution, flat topography, and infiltration capacity of site soil. As a result, the extents of the arsenic, lead, TPH-G, TPH-D, and TPH-HO soil screening level exceedances were assumed to either extend halfway to surrounding soil samples with concentrations less than the respective soil screening level, or to a distance of 25 feet if there are no surrounding samples within 100 feet of a particular exceedance.[20] Figures 20 through 24 present the delineated areas for arsenic, lead, TPH-G, TPH-D, and TPH-HO, respectively. All delineated areas for these COPCs arsenic, lead, TPH-G, TPH-D, and TPH-HO are within the property boundary.

4.3. Total cPAHs

Figure 25 shows the soil concentrations for total cPAHs relative to historic operation areas identified in Figure 8 that could have released total cPAHs. As shown in Figure 25, all of the total cPAHs soil screening level exceedances are located within or immediately adjacent to historic operation areas that could have released cPAHs. The distribution of total cPAHs exceedances indicates that cPAHs were likely released from historic operation areas via spills and/or buried refuse. While the exceedances in samples deeper than 6 feet bgs without a corresponding exceedance in shallower samples from the same soil boring (i.e., DP15, DP16, DP43, DP44) is unusual for a typical spill scenario, one plausible explanation for these deep exceedances is that previously impacted surface material was buried during subsequent fill events.

It is unlikely that airborne deposition of emissions from the three on-property combustion sources (i.e., boiler house, power house, and refuse fire area) is responsible for the total cPAHs exceedances for the following reasons:

- In an airborne deposition scenario, the highest concentrations would be in surface soil. By contrast, most of the total cPAHs exceedances in the boiler house area, power house area, and refuse fire area are in samples collected from deeper than 6 feet bgs. In addition, as shown in Table 10, the site-wide average total cPAHs concentration, maximum total cPAHs concentration, and exceedance frequency for samples greater than 6 feet bgs are similar to those for samples

[19] In addition to the general lack of exceedances in the RI data, arsenic, lead, TPH-G, TPH-D, and TPH-HO were not detected at concentrations exceeding the soil screening levels in any of the 36 IA soil stockpile samples (PIONEER 2010a).

[20] A distance of 25 feet is a conservative estimate since (1) the data distribution indicates the exceedances are isolated, (2) there is not expected to be significant lateral distribution for the fate and transport reasons stated in this paragraph, and (3) the lateral distance of all Parcel 4/5 remediation level exceedances addressed to date have been less than ten feet (Brown and Caldwell 2010b).

collected in the top two feet of soil. In terms of exceedance magnitude, five of the seven samples with total cPAHs concentrations exceeding 0.5 mg/kg are in samples collected deeper than 6 feet bgs, and only one of the seven samples is a surface soil sample (DP11).[21]

- In an airborne deposition scenario, one would typically expect the highest concentrations in the areas immediately surrounding the combustion source, which is where particulates primarily settle. By contrast, total cPAHs are detected at relatively consistent concentrations across the site.
- A significant number of total cPAHs exceedances are located upwind of the on-property combustion sources given the predominant wind direction for Olympia as shown in Figure 26.
- The deep exceedances cannot be explained by airborne deposition followed by subsequent fill events. As shown in Figure 11, the land where most of the total cPAHs exceedances are located was created prior to 1908. The refuse fire area operated after 1908, and the boiler house and the power house operated after 1924 (GeoEngineers 2007a, 2007b).

A factor that complicates the evaluation of potential on-property releases from spills and buried debris is that total cPAHs are likely present in downtown Olympia soil at concentrations exceeding the soil screening level due to urban background.[22] The site, adjacent property, and upwind property have been used for urban and commercial/industrial purposes for approximately the past 150 years. Examples of off-property, stationary combustion sources on the Port peninsula, the western shore of West Bay, and downtown Olympia that could have impacted site soil and/or the Budd Inlet sediments used as fill are shown in Appendix B.[23,24] Mobile combustion sources such as ship smokestacks and automobile/truck traffic in downtown Olympia also could have contributed cPAHs to site soils or the Budd Inlet sediments used as site fill. USEPA, Ecology, and regulatory agencies in other states have acknowledged that concentrations of total cPAHs are significantly higher in urban soil and fill material than pristine soil. The USEPA noted that concentrations in urban soil appear to be two orders of magnitude higher than concentrations in rural soil (USEPA 1982). A recent review by Ecology (Ecology 2010a) concluded Washington State soil has elevated benzo(a)pyrene concentrations significantly above 0.1 mg/kg, especially in the urban areas "along the I-5 corridor in the Puget Sound region." In addition, the Illinois Environmental Protection Agency (IEPA), Massachusetts Department of Environmental Protection (MADEP), and New Jersey Administrative Code (NJAC) have accepted that total cPAHs concentrations up to 1.7 mg/kg, 10 mg/kg, and 188 mg/kg, respectively, can be attributed to urban background and/or fill

[21] The samples with total cPAHs concentrations exceeding 0.5 mg/kg are a DP11 sample at 0 to 2 feet bgs, a DP15 sample at 10 to 12 feet bgs, a DP39 sample at 3 to 5 feet bgs, a MW20 sample at 6 to 8 feet bgs, a MW23S sample at 9 to 10.5 feet bgs, a MW24S sample at 6.5 to 8 feet bgs, and a MW25S sample at 6.5 to 7.5 feet bgs.

[22] This hypothesis was originally explored because the total cPAHs distribution in the RI and IA data appeared heterogeneous, and there was a general lack of TPH-D and TPH-HO exceedances in samples with total cPAHs exceedances.

[23] In addition to impacts from airborne deposition, the Budd Inlet sediments that were used as site fill were also likely impacted by a wide variety of historic point and non-point sources (e.g., wastewater discharges, stormwater discharges).

[24] Based on the historical photographs, the emissions from the historic on-property combustion sources appear to be less significant visually compared to the off-property combustion sources.

material (IEPA 2010, MADEP 1992, NJAC 2010).[25] Table 11 and Figure 27 present total cPAHs concentrations detected at the site relative to concentrations at nearby sites[26], concentrations from urban soil background studies found in the literature, and concentrations accepted as urban background by other state regulatory agencies. As shown in Table 11 and Figure 27, the on-property total cPAHs exceedances appear to be within the concentration range of what is typically attributable to urban background.

Regardless of the exact urban background contribution relative to on-property releases from spills and buried refuse, the on-property releases are not expected to extend laterally off-property since (1) the data distribution does not indicate that there was a single large source (e.g., large spill) that could have impacted a large area[27] (2) airborne deposition is not a significant transport pathway as described previously in this section, (3) cPAHs bind strongly to soil and have limited mobility once deposited due to their high soil organic carbon-water partitioning coefficient (Ecology 2010d), (4) any leaching from soil to groundwater is localized (PIONEER 2010b), and (5) erosion is not expected to be a significant transport pathway given the data distribution, flat topography, and infiltration capacity of site soil. As a result, the extents of the total cPAHs soil screening level exceedances were conservatively assumed to extend halfway to surrounding soil samples with concentrations less than the soil screening level, or to a distance of 25 feet if there are no surrounding samples within 100 feet of a particular exceedance[28,29,30], as

[25] Ecology has made similar policy choices for area-wide contamination in other situations, such as accepting an urban background concentration of 20 mg/kg for arsenic, and using 100 mg/kg and 200 mg/kg as trigger levels for arsenic associated with the Tacoma Smelter Plume (Ecology 2001b).

[26] The LOTT Expansion site, 318 State Avenue site, and the Downtown Safeway site are located within 1,000 feet of the site and are situated on land that was likely created with historic fill from Budd Inlet. All data at these sites were essentially collected on a grid basis without an obvious bias towards likely on-site PAH release locations, with the following exception. Some Downtown Safeway site samples were collected where former underground storage tank features were located; however, this data was excluded from consideration in the data summary since the sample locations were biased.

[27] For instance, there are no RI samples with a total cPAHs concentration greater than 3.4 mg/kg, which is the remediation level used in the Parcel 4/Parcel 5 Interim Action Work Plan (Brown and Caldwell 2010a), and a likely remediation level for the FS.

[28] The only locations near the property boundary where the 25 feet criterion was applied were one DP37 sample in the southwestern corner of the property, one DP38 sample in the southwestern corner of the property, and one MW21S sample in the northern portion of the property. A distance of 25 feet is considered a conservative estimate for these cases since (1) there is not expected to be significant lateral distribution for the fate and transport reasons stated in this paragraph, (2) the lateral distance of all Parcel 4/5 remediation level exceedances addressed to date have been less than ten feet (Brown and Caldwell 2010b), and (3) the resulting delineation extents extend a considerable distance beyond the corresponding AOC locations that could have produced the exceedances. Perhaps more importantly, the total cPAHs concentrations in the DP37, DP38, and MW21S exceedances are 0.12 mg/kg, 0.098 mg/kg, and 0.16 mg/kg, respectively. These concentrations are significantly less than what is most likely attributable to urban background. The author of a recent Ecology evaluation of state-wide benzo(a)pyrene data (Ecology 2001a) suggested establishing an urban background concentration using an upper bound value from a peer-reviewed urban background study, such as the 95th upper confidence limit on the mean presented in the Bradley *et al* 1994 study, which was 3.3 mg/kg (Craig McCormack, personal communication). As shown on Table 11, the lowest of the 90th percentile concentrations or maximum concentrations for urban background studies is 0.54 mg/kg.

bounded to the east by the 1982 fill (see Section 4.1 discussion). Figure 28 presents the delineated areas for total cPAHs. The delineated areas for the total cPAHs exceedances are within the property boundary.

4.4. Total Dioxins/Furans

Before the total dioxins/furans exceedances are discussed, the following points should be noted to provide context about the detected total dioxins/furans concentrations:

- Dioxins/furans are ubiquitous in the environment, including in food and remote wildernesses (Agency for Toxic Substances and Disease Registry [ATSDR] 1998). ATSDR recommends a 50 ng/kg soil screening level and 1,000 ng/kg preliminary remediation goal for evaluating potential health risks associated with exposure to residential soil containing dioxins/furans (ATSDR 2008).
- Although the maximum total dioxins/furans background concentration observed in a 1999 Ecology study of Washington soil was 21 ng/kg, current Ecology guidance suggests the urban background concentration for Washington soil is 9.9 ng/kg (Ecology 2010c). Ecology is planning to conduct a new background study in the near future, perhaps in part because the 1999 study was based on a limited data set, including only 14 urban background sample locations (Ecology 2010c). For purposes of this memorandum, it is assumed that all dioxins/furans concentrations exceeding the 9.8 ng/kg soil screening level are potentially attributable to an on-property release.

Figure 29 shows the soil concentrations for total dioxins/furans relative to historic operation areas identified in Figure 8 for total dioxins/furans. As shown in Figure 29, the two highest total dioxins/furans concentrations[31] detected at the site are located within the boiler house area and power house area.[32] If the boiler house and power house burned salt-laden hog fuel (i.e., wood waste from logs rafted in salt water), dioxins/furans could have been produced (Ecology 1998a). However, it is unlikely that airborne deposition of emissions from the boiler house or power house is responsible for the total dioxins/furans exceedances for the following reasons:

- In an airborne deposition scenario, the highest concentrations would be in surface soil. Due to their strong adsorption to soil and general lack of mobility, dioxins/furans associated with airborne deposition from combustion sources are most often found in the top few inches of surface soil (ATSDR 1998). By contrast, none of the total dioxins/furans exceedances in the

[29] The exceedances associated with one MW20 sample and one DP27 sample in the northwestern corner of the property are delineated at the property boundary based on results from nearby samples on the LOTT Expansion site.

[30] The exceedance in the sample designated as BC_DP27 on Figure 28 is located on the LOTT Expansion site. There are not any exceedances in the adjacent DP22 samples located on-site.

[31] The two highest concentrations were detected in a sample collected from TP02 and a sample collected from MW24S. These two exceedances are noteworthy because they are the only samples with total dioxins/furans concentrations exceeding 510 ng/kg, which is the remediation level used in the Infrastructure IAWP (PIONEER 2009a) and the Parcel 4/Parcel 5 IAWP (Brown and Caldwell 2010a), and is a likely remediation level for the FS.

[32] The refuse fire area does not appear to be a possible source area based on a lack of total dioxins/furans soil screening level exceedances within or adjacent to the refuse fire area.

boiler house area or power house area are in samples collected in the top two feet of soil. In addition, as shown in Table 10, the site-wide average total dioxins/furans concentration, maximum total dioxins/furan concentration, and exceedance frequency for samples deeper than 6 feet bgs are greater than those for samples collected in the top two feet of soil.

- In an airborne deposition scenario, one would typically expect the highest concentrations in the areas immediately surrounding the combustion source, which is where particulates primarily settle. By contrast, the majority of samples collected within or immediately adjacent to the boiler house area and power house area do not have elevated total dioxins/furans concentrations in samples shallower than 6 feet bgs (i.e., DP33, DP39[33], DP40, DP42[34], DP43, DP44, DP45, MW23S, and MW24S).
- Two of the total dioxins/furans exceedances (DP30 and TP04) are located upwind or crosswind of the on-property combustion sources given the predominant wind direction for Olympia as shown in Figure 26.
- The deep exceedances cannot be explained by airborne deposition followed by subsequent fill events. As shown in Figure 12, the land where most of the total dioxins/furans exceedances are located was created prior to 1908. The boiler house and the power house operated after 1924 (GeoEngineers 2007a, 2007b).
- As shown in Figure 30, the congener profiles of those RI and Infrastructure IA samples with total dioxins/furans concentrations exceeding 9.8 ng/kg are consistent with congener profiles of RI and Infrastructure IA samples that have total dioxins/furans concentrations less than what would be considered background (i.e., approximately 9.8 ng/kg) and congener profiles for Ecology's 1999 urban background data set (Ecology 1999a, 1999b, 1999c). By contrast, air emissions from hog fuel burners produce less octochlorodibenzo-p-dioxin, octochlorodibenzofuran, and 1,2,3,4,6,7,8-heptachlorodibenzofuran, while producing more 2,3,7,8-dibenzofuran (Ecology 1999a, Ecology 1999b) as shown in Figure 30.
- Seven of the 11 samples with total dioxins/furans exceedances are associated with wood debris.

Rather than being associated with airborne deposition, it appears that the total dioxins/furans exceedances are primarily associated with wood debris. As shown in Table 12, seven of the 11 samples with total dioxins/furans screening level exceedances are associated with wood debris.[35] Perhaps more importantly,

[33] Although the total dioxins/furans concentration in the sample collected from 3 to 5 feet bgs in DP39 exceeds the soil screening level, the maximum total dioxins/furans concentration in DP39 samples collected at depths less than 6 feet bgs is only 17 ng/kg.

[34] Although the total dioxins/furans concentration in the sample collected from 1 to 2 feet bgs in DP42 exceeds the soil screening level, the maximum total dioxins/furans concentration in DP42 samples collected at depths less than 6 feet bgs is only 31 ng/kg.

[35] The samples associated with wood debris are the MW24S samples at 6.5 to 8 and 9 to 10 feet bgs, TP01 sample at 2-2.5 feet bgs, DP42 sample at 7 to 8 feet bgs, TP04 sample at 1.5 to 2 feet bgs, DP30 sample at 7 to 7.5 feet bgs, and DP39 sample at 3 to 5 feet bgs.

five of the six highest total dioxins/furans concentrations are in samples associated with wood debris.[36,37] Based on visual and olfactory observations, both of the MW24S exceedances appear to be associated with a treated wood piling that was encountered in the subsurface. It is possible that the other five exceedances associated with wood debris samples are also attributable to treated wood. For instance, there were slight detections of VOCs by the field photoionization detector (PID) for wood-related sample exceedances in DP39 and DP42. Similar PID readings were measured in one of the two MW24S samples that exhibited visual and olfactory evidence of treated wood. While the PID cannot detect non-volatile compounds such as dioxins/furans, it is possible that there are low level VOC concentrations remaining in treated wood, and that the PID readings in these wood-related samples are indicators of treated wood. The boring logs for the 11 samples with total dioxins/furans exceedances are included in Appendix A.

In addition to treated wood, it is possible that there could have been localized spills of waste ash from the boiler house and/or power house, which could explain some of the isolated exceedances (e.g., TP02). Although ash has not been definitively encountered in any soil boring or test pit (GeoEngineers 2007c, PIONEER 2009a, PIONEER 2009b, Brown and Caldwell 2009c, Brown and Caldwell 2010b, Insight Geologic 2009, Landau Associates 2009), a one-inch seem of material tentatively identified as "possible ash" was encountered at approximately 2.5 feet bgs in DP17.[38] DP17 is located between the boiler house area and the power house area, approximately 100 feet southwest of TP02.

A factor that complicates the evaluation of on-property exceedances associated with treated wood and waste ash is that historic total dioxins/furans concentrations in Budd Inlet surface sediment may have been elevated (i.e., exceed 9.8 ng/kg) due to historic, regional anthropogenic activities. Although the range of historic total dioxins/furans concentrations in former native sediment is unknown, one recent report measured total dioxins/furans concentrations in Budd Inlet surface sediment at concentrations up to 60 ng/kg (Science Applications International Corporation 2008). The pre-1982 fill is primarily comprised of material dredged from Budd Inlet. Although most of the pre-1982 fill likely consists of deeper sediment (which would not be impacted with dioxins/furans) due to the volume and soil types needed for fill activities, it is possible that pockets of the pre-1982 fill contain material that was dredged from surface sediment.

Regardless of whether elevated concentrations of total dioxins/furans at the site are associated with treated wood, waste ash, and/or pre-1982 fill, dioxins/furans from any of these sources are not expected to have migrated laterally off-property since (1) the data distribution does not indicate that there was a single

[36] With the exception of the TP02 sample, the maximum total dioxins/furans concentration for samples not associated with wood debris is 57 ng/kg in the TP03 sample. Although wood debris was not specifically noted in the test pit logs for TP02 and TP03, the TP02 sample location contained brick debris and the TP03 sampling location contained concrete, brick, and glass debris.

[37] In addition to the RI data, the maximum total dioxins/furans concentration in any of the 36 soil stockpile samples collected during the Infrastructure IA (which included soil excavated from both the boiler house area and power house area) was 51 ng/kg (PIONEER 2010a).

[38] Although a three-inch seem of wood encountered at approximately 9 feet bgs in MW11 was logged as "black sandy wood (ash?)" (GeoEngineers 2007c), the boring log implies this material is most likely burned/decomposing wood.

large source (e.g., large spill) that could have impacted a large area, (2) airborne deposition is not a significant transport pathway as described previously in this section, (3) dioxins/furans bind strongly to soil/wood and are essentially immobile once deposited (ATSDR 1998), (4) any leaching from soil/wood to groundwater is localized (PIONEER 2010b), and (5) erosion is not expected to be a significant transport pathway given the data distribution, flat topography, and infiltration capacity of site soil. As a result, the extents of the total dioxins/furans soil screening level exceedances were conservatively assumed to extend halfway to surrounding soil samples with concentrations less than the soil screening level, or to a distance of 25 feet if there are no surrounding samples within 100 feet of a particular exceedance,[39] as bounded to the east by the 1982 fill (see Section 4.1 discussion). Figure 31 presents the delineated areas for total dioxins/furans. The delineated areas for the total dioxins/furans exceedances are within the property boundary.

[39] The only location near the property boundary where the 25 feet criterion was applied was one DP30 sample on the western side of the property. A distance of 25 feet is considered a conservative estimate for this case since (1) there is not expected to be significant lateral distribution for the fate and transport reasons stated in this paragraph, (2) the lateral distance of all Parcel 4/5 remediation level exceedances addressed to date have been less than ten feet (Brown and Caldwell 2010b), (3) there are no historic operation areas near DP30 that could have produced the exceedance, (4) there are no exceedances in the samples collected to the northwest, north, and east of DP30, and (5) the DP30 sample was collected from 7 to 7.5 feet bgs and is associated with disturbed native sediment and wood debris.

SECTION 5 – CONCLUSION

Figure 32 presents a summary of the following inputs that were used to determine the site boundary:

- Delineated areas associated with groundwater exceedances as shown in Figure 10
- Delineated areas for arsenic exceedances in soil as shown in Figure 20
- Delineated area for lead exceedances in soil as shown in Figure 21
- Delineated areas for TPH-G exceedances in soil as shown in Figure 22
- Delineated areas for TPH-D exceedances in soil as shown in Figure 23
- Delineated areas for TPH-HO exceedances in soil as shown in Figure 24
- Delineated areas for total cPAHs exceedances in soil as shown in Figure 28
- Delineated areas for total dioxins/furans exceedances in soil as shown in Figure 31
- Locations where soil with concentrations exceeding Infrastructure IACLs were reused during the Infrastructure IA (PIONEER 2010a)
- Locations where soil with concentrations exceeding Parcel 4/Parcel 5 IACLs may be reused during the Parcel 4/Parcel 5 IA (Brown and Caldwell 2010a)
- Locations where soil with concentrations exceeding future cleanup levels may be reused during future development activities (i.e., Parcels 2, 3, 6, 7, and 9)[40]

Figure 33 presents the resulting site boundary that encompasses all of the inputs listed above. The resulting site boundary is the same as the boundary that was used previously, with the exception that Parcel 1 is no longer included within the site boundary.[41] The resulting site boundary shown in Figure 33 is entirely located on property owned by the Port, City, and LOTT.

Based on the rationale presented in this document, existing data are sufficient to characterize and delineate all COPC releases emanating from on-property sources. Since there are no data gaps that need to be filled in order to determine the site boundary, the RI/FS Report will be prepared in accordance with the schedule presented in AO DE7830.

[40] Parcel 1 is smaller than the other parcels, is currently being used, and will likely be developed separately from the other parcels. As a result, soil reuse does not need to occur in Parcel 1, and will not occur in Parcel 1 if Parcel 1 is not located within the site boundary.

[41] Parcel 1 is not included within the site boundary since (1) there are no soil or groundwater screening level exceedances for samples collected within or immediately adjacent to Parcel 1 (i.e., MW11 and DP36), (2) there are no AOCs or historic operation areas in Parcel 1, (3) Parcel 1 consists primarily of 1982 fill, and (4) it will not be used for soil reuse if it is not included within the site boundary.

REFERENCES

ATSDR 1995. Toxicological Profile for Polycyclic Aromatic Hydrocarbons, August.

——— 1998. Toxicological Profile for Chlorinated Dibenzo-*p*-Dioxins, December.

——— 2008. Update to the ATSDR Policy Guidelines for Dioxins and Dioxin-Like Compounds in Residential Soil, November.

Bradley L.J.N. *et al* 1994. Background Levels of Polycyclic Aromatic Hydrocarbons (PAH) and Selected Metals in New England Urban Soils, Journal of Soil Contamination 3(4).

Brown and Caldwell 2007a. Draft Phase II Environmental Site Assessment, East Bay Port of Olympia Property, January 5.

——— 2007b. Environmental Investigation, East Bay Port of Olympia Property, March 15.

——— 2007c. Phase II Environmental Site Assessment, Proposed LOTT Administration Building, December 21.

——— 2009a. Supplemental Phase II Environmental Site Assessment, Proposed LOTT Administration Building, January.

——— 2009b. Personal communication between Josh Johnson and Troy Bussey regarding PAH data at Downtown Safeway/City Hall site, October.

——— 2009c. Technical Memorandum from Josh Johnson to Rick Dougherty and Eric Hielema with subject of "Summary Report, East Bay Redevelopment Parcel 4 and 5 Subsurface Investigation," October 16.

——— 2010a. Technical Memorandum from Josh Johnson to Jay Burney and Eric Hielema with subject of "Parcel 4/Parcel 5 Interim Action Work Plan – Public Comment Draft," June 23.

——— 2010b. Personal communication between Jon Turk and Troy Bussey regarding preliminary results from Parcel 4 and Parcel 5 IA confirmation soil samples, November 22.

California Department of Toxic Substance Control (DTSC) 2009. Use of the Northern and Southern California Polynuclear Aromatic Hydrocarbon (PAH) studies in the Manufactured Gas Plant Site Cleanup Process. July 1, 2009.

Camp Dresser & McKee 1995. CA/T ROW Background Soil Contaminant Assessment. Prepared for the Massachusetts Highway Department, Central Artery/Tunnel Project.

Canadian Council of Ministers of the Environment (CCME) 2008. Canadian Soil Quality Guidelines for Carcinogenic and Other Polycyclic Aromatic Hydrocarbons (Environmental and Human Health Effects). Scientific Supporting Document.

Ecology 1994. Natural Background Soil Metals Concentrations in Washington State, Publication No. 94-115, October.

——— 1998a. Washington State Dioxin Source Assessment, Publication No. 98-320, July.

——— 1998b. Washington State Dioxin Source Assessment, Data Appendix (Appendix D), Publication No. 98-321, July.

——— 1999a. Final Report, Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State, Publication No. 99-309, April.

——— 1999b. Supplemental Appendices, Final Report, Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State, Publication No. 99-310, April.

——— 1999c. Addendum to Final Report: Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State, Publication No. 99-333, November.

——— 2001a. Concise Explanatory Statement for the Amendments to the Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC, Publication No. 01-09-043, February 12.

——— 2001b. Questions & Answers: Tacoma Smelter Plume Site – Cleanup Levels and Interim Action Trigger Levels and Interim Action Trigger Levels for Arsenic and Lead, Publication No. 01-09-038, August.

——— 2010a. Early-Life Exposure to Chemical Carcinogens: Looking at Benzo[a]Pyrene as an Example for updates to the Model Toxics Control Act Cleanup Regulation, Prepared by Toxics Cleanup Program Policy & Technical Support Unit, March 22.

——— 2010b. Personal communication between Troy Bussey and Craig McCormack regarding selection of appropriate urban background concentration for total cPAHs, March.

——— 2010c. Natural Background for Dioxins/Furans in WA Soils, Technical Memorandum #8 from Dave Bradley to Interested Persons, August 9.

——— 2010d. Toxics Cleanup Program's Cleanup Levels and Risk Calculations (CLARC) database, https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx, accessed October.

GeoEngineers 2007a. Phase I Environmental Site Assessment, East Bay Redevelopment Project, March 14.

——— 2007b. Supplemental Site Use History and Soil and Groundwater Sampling Clarifications, East Bay Redevelopment Property, August 3.

——— 2007c. Draft Remedial Investigation/Feasibility Study and Conceptual Cleanup Action Plan, East Bay Redevelopment, Port of Olympia, December 20.

——— 2009. Personal communication between Iain Wingard and Troy Bussey regarding PAH data at 318 State Avenue site, October.

GeoEngineers and PIONEER 2008. Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia, October 22. As amended with January 30, 2009 replacement pages.

IEPA 2010. Urban Area Polycyclic Aromatic Hydrocarbons Study Tiered Approach to Corrective Action Objectives,http://www.cityofchicago.org/content/dam/city/depts/doe/general/UrbanManagementAndBrownfields_PDFs/USGSBackgroundPNAStudySummary.pdf. Accessed October.

Insight Geologic 2009. Letter Report to Skillings Connolly titled "Report, Geotechnical Assessment, Proposed Marine View Drive Extension," January 15.

Landau Associates 2009. Geotechnical Report, Hands on Children's Museum, Olympia, Washington, March 19.

Licensed Site Professional Association (LSPA) 2001. Summary of Selected Results, LSPA Anthropogenic Fills Soils Project, April 2001. Personal Communication.

MADEP 1992. Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil.

Mauro D.M *et al* 2006. Survey of the Distribution and Sources of PAHs in Urban Surface Soils. Land Contamination and Reclamation 14(2). pp 513-521(9).

NJAC 2010. Technical Requirements for Site Remediation, New Jersey Administrative Code 7:26E, Appendix D. April 19.

Office of the Washington State Climatologist 2005. Wind Rose Plot for Station #24227 – Olympia Airport, Washington, http://www.climate.washington.edu/windrose/Olympia-WindRose.pdf.

PIONEER 2009a. Port of Olympia East Bay Site: Interim Action Work Plan, May.

——— 2009b. Email transmission of Phase 2 Remedial Investigation preliminary soil data from Troy Bussey to Joanne Snarski and Steve Teel, June 29 and July 4.

——— 2010a. Infrastructure Interim Action Report for East Bay Redevelopment Site, June.

——— 2010b. Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water Via Groundwater at the East Bay Redevelopment Site, September.

Port of Olympia 2010. Personal communication between Troy Bussey and Eric Egge regarding 1982 gravel fill that created current shoreline, September 30.

Science Applications International Corporation 2008. Sediment Characterization Study, Budd Inlet, Olympia, WA – Final Data Report, March 12.

Stevenson, Shanna 1982. "Superior Shipping Service", A History of the Port of Olympia.

Teaf, C.M. 2008. Polycyclic Aromatic Hydrocarbons (PAHs) in Urban Soil: A Florida Risk Assessment Perspective. International Journal of Soil, Sediment, and Water 1(2).

Thurston Regional Planning Council 2010. Personal communication between Melody Feden and Scott Carte regarding Thurston County original shoreline information.

USEPA 1982. An Exposure and Risk Assessment for Benzo[a]pyrene and Other Polycyclic Aromatic Hydrocarbons, Volume 1, July.

Washington State Archives 2010. Oblique aerial photographs of unknown date from Washington State Archives office, obtained April.

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TABLES

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Table 1. Preliminary Screening of Soil Constituents of Interest

Chemical Abstract Service No.	Constituent	Number of Soil Samples	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Number of Detections	Maximum Detected Concentration (mg/kg)	Soil Screening Level (mg/kg)[1]	Soil Screening Level Exceedance?	Exceedance Frequency (%)
Total Metals									
7440-38-2	Arsenic (inorganic)	107	0.25	14	81	84	20[2]	Yes	3
7440-39-3	Barium	83	--	--	83	320	16,000	No	--
7440-43-9	Cadmium	107	0.18	2.4	39	5.2	72	No	--
7440-47-3	Chromium	85	--	--	85	120	120,000[3]	No	--
18540-29-9	Chromium (VI)	4	0.10	5.0	0	--	--	--	--
7439-92-1	Lead (inorganic)	107	1.5	5.7	95	2500	250	Yes	1
7439-97-6	Mercury (inorganic)	80	0.013	0.14	34	0.22	24	No	--
7782-49-2	Selenium (and compounds)	83	0.20	24	25	73	400	No	--
7440-22-4	Silver	83	0.20	4.8	7	2.0	400	No	--
Total Petroleum Hydrocarbons									
PTC_000003	Diesel Range Organics	106	5.0	140	53	7300	3000	Yes	2
PTC_000004	Gasoline Range Organics	85	0.73	73	23	290	100	Yes	3
PTC_000005	TPH Heavy Oil	106	25	230	57	21,000	3000	Yes	5
Volatile Organic Constituents									
563-58-6	1,1-Dichloropropene	61	0.041	3.7	0	--	--	--	--
87-61-6	1,2,3-trichlorobenzene	61	0.041	3.7	0	--	--	--	--
95-63-6	1,2,4-Trimethylbenzene	61	0.041	3.7	4	0.16	4000	No	--
108-67-8	1,3,5-Trimethylbenzene	61	0.041	3.7	3	0.13	4000	No	--
142-28-9	1,3-dichloropropane	61	0.016	1.5	0	--	--	--	--
103-65-1	1-Phenylpropane	61	0.041	3.7	0	--	--	--	--
594-20-7	2,2-dichloropropane	61	0.041	3.7	0	--	--	--	--
95-49-8	2-chlorotoluene	61	0.041	3.7	0	--	--	--	--
106-43-4	4-chlorotoluene	61	0.041	3.7	0	--	--	--	--
99-87-6	4-isopropyltoluene	61	0.041	3.7	19	4.3	No value[6]	--	--
71-43-2	Benzene	86	0.0010	0.75	3	0.011	0.22	No	--
108-86-1	Bromobenzene	61	0.041	3.7	0	--	--	--	--
74-97-5	Bromochloromethane	61	0.041	3.7	0	--	--	--	--
75-27-4	Bromodichloromethane	61	0.041	3.7	0	--	--	--	--
75-25-2	Bromoform	61	0.041	3.7	0	--	--	--	--
74-83-9	Bromomethane	61	0.055	19	1	0.35	5	No	--
56-23-5	Carbon Tetrachloride	61	0.016	1.5	0	--	--	--	--
75-69-4	CFC-11	61	0.041	3.7	0	--	--	--	--
75-71-8	CFC-12	61	0.041	3.7	0	--	--	--	--
108-90-7	Chlorobenzene	61	0.041	3.7	0	--	--	--	--
67-66-3	Chloroform	61	0.041	3.7	0	--	--	--	--
74-87-3	Chloromethane	61	0.015	3.7	8	0.090	77	No	--
98-82-8	Cumene	61	0.041	3.7	0	--	--	--	--
96-12-8	Dibromo-3-chloropropane, 1,2-	61	0.041	3.7	0	--	--	--	--
124-48-1	Dibromochloromethane	61	0.041	3.7	0	--	--	--	--
106-93-4	Dibromoethane, 1,2-	61	0.041	3.7	0	--	--	--	--

Table 1. Preliminary Screening of Soil Constituents of Interest

Chemical Abstract Service No.	Constituent	Number of Soil Samples	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Number of Detections	Maximum Detected Concentration (mg/kg)	Soil Screening Level (mg/kg)[1]	Soil Screening Level Exceedance?	Exceedance Frequency (%)
106-46-7	Dichlorobenzene, 1,4-	61	0.0051	0.23	0	--	--	--	--
75-34-3	Dichloroethane, 1,1-	61	0.041	3.7	0	--	--	--	--
107-06-2	Dichloroethane, 1,2-	61	0.041	3.7	0	--	--	--	--
75-35-4	Dichloroethene, 1,1-	61	0.016	1.5	0	--	--	--	--
156-59-2	Dichloroethylene, Cis-1,2-	61	0.041	3.7	0	--	--	--	--
156-60-5	Dichloroethylene, Trans-1,2-	61	0.041	3.7	0	--	--	--	--
75-09-2	Dichloromethane	61	0.015	3.7	0	--	--	--	--
78-87-5	Dichloropropane, 1,2-	61	0.0082	0.75	0	--	--	--	--
10061-01-5	Dichloropropene, Cis-1,3-	61	0.041	3.7	0	--	--	--	--
10061-02-6	Dichloropropene, Trans-1,3-	61	0.041	3.7	0	--	--	--	--
100-41-4	Ethyl Benzene	86	0.0010	3.7	0	--	--	--	--
75-00-3	Ethyl Chloride	61	0.21	19	0	--	--	--	--
74-95-3	Methylene Bromide	61	0.041	3.7	0	--	--	--	--
104-51-8	n-Butylbenzene	61	0.041	3.7	0	--	--	--	--
95-47-6	o-Xylene	77	0.039	3.7	0	--	--	--	--
135-98-8	sec-Butylbenzene	61	0.041	3.7	2	0.037	No value[6]	--	--
100-42-5	Styrene	61	0.041	3.7	0	--	--	--	--
98-06-6	Tert-butylbenzene	61	0.041	3.7	0	--	--	--	--
79-34-5	Tetrachloroethane, 1,1,2,2-	61	0.0082	0.75	0	--	--	--	--
127-18-4	Tetrachloroethylene	61	0.026	2.3	0	--	--	--	--
108-88-3	Toluene	86	0.0010	3.7	3	0.043	240	No	--
1330-20-7	Total Xylenes	86	0.0020	7.4	0	--	--	--	--
71-55-6	Trichloroethane, 1,1,1-	61	0.016	1.5	0	--	--	--	--
79-00-5	Trichloroethane, 1,1,2-	61	0.041	3.7	0	--	--	--	--
79-01-6	Trichloroethylene	61	0.016	1.5	0	--	--	--	--
96-18-4	Trichloropropane, 1,2,3-	61	0.041	3.7	0	--	--	--	--
75-01-4	Vinyl Chloride	61	0.016	1.5	0	--	--	--	--
179601-23-1	Xylene, M,p-	86	0.0020	3.7	0	--	--	--	--
Semivolatile Organic Compounds									
88-75-5	2-Nitrophenol	60	0.010	1.0	0	--	--	--	--
65794-96-9	3- & 4-methylphenol	32	0.020	2.0	3	0.16	No value	--	--
83-32-9	Acenaphthene	86	0.0020	0.25	18	1.9	4800	No	--
208-96-8	Acenaphthylene	86	0.0020	0.25	21	0.13	No value[6]	--	--
120-12-7	Anthracene	86	0.0020	0.50	28	0.57	24,000	No	--
191-24-2	Benzo(g,h,i)perylene	86	0.0028	0.50	41	0.44	No value	--	--
56832-73-6	Benzofluoranthenes (sum)	23	0.0046	0.013	20	0.91	No value	--	--
65-85-0	Benzoic Acid	60	0.26	25	0	--	--	--	--
100-51-6	Benzyl Alcohol	60	0.010	1.0	1	0.77	24,000	No	--
111-91-1	Bis(2-Chloroethoxy)methane	60	0.010	1.0	0	--	--	--	--
39638-32-9	Bis(2-Chloroisopropyl)ether	60	0.015	1.5	0	--	--	--	--

Table 1. Preliminary Screening of Soil Constituents of Interest

Chemical Abstract Service No.	Constituent	Number of Soil Samples	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Number of Detections	Maximum Detected Concentration (mg/kg)	Soil Screening Level (mg/kg)[1]	Soil Screening Level Exceedance?	Exceedance Frequency (%)
117-81-7	Bis(2-ethylhexyl)Phthalate (DEHP)	60	0.15	170	6	530	71	No[4]	--
111-44-4	Bis(Chloroethyl)ether	60	0.010	1.0	0	--	--	--	--
101-55-3	Bromodiphenyl ether, 4-	60	0.010	1.0	0	--	--	--	--
85-68-7	Butyl Benzyl Phthalate, N-	60	0.010	1.0	3	0.065	16,000	No	--
86-74-8	Carbazole	60	0.015	1.5	1	0.069	50	No	--
59-50-7	Chloro-3-methylphenol, 4-	60	0.010	1.0	0	--	--	--	--
106-47-8	Chloroaniline, 4-	60	0.010	1.0	1	0.018	320	No	--
91-58-7	Chloronaphthalene, 2-	60	0.0020	0.20	0	--	--	--	--
95-57-8	Chlorophenol, 2-	60	0.010	1.0	0	--	--	--	--
7005-72-3	Chlorophenyl-phenyl ether, 4-	60	0.010	1.0	0	--	--	--	--
132-64-9	Dibenzofuran	60	0.010	1.0	2	0.94	160	No	--
84-74-2	Dibutyl Phthalate	60	0.020	2.0	11	0.43	8000	No	--
95-50-1	Dichlorobenzene, 1,2-	61	0.0051	0.23	0	--	--	--	--
541-73-1	Dichlorobenzene, 1,3-	61	0.0051	0.23	0	--	--	--	--
91-94-1	Dichlorobenzidine, 3,3'	60	0.020	2.0	0	--	--	--	--
120-83-2	Dichlorophenol, 2,4-	60	0.010	1.0	0	--	--	--	--
84-66-2	Diethyl Phthalate	60	0.010	1.0	1	0.016	64,000	No	--
131-11-3	Dimethyl Phthalate	60	0.010	1.0	0	--	--	--	--
105-67-9	Dimethylphenol, 2,4-	60	0.010	1.0	0	--	--	--	--
534-52-1	Dinitro-o-Cresol, 4,6-	60	0.10	10	0	--	--	--	--
51-28-5	Dinitrophenol, 2,4-	60	0.10	10	0	--	--	--	--
121-14-2	Dinitrotoluene, 2,4-	60	0.010	1.0	0	--	--	--	--
606-20-2	Dinitrotoluene, 2,6-	60	0.010	1.0	1	0.033	80	No	--
117-84-0	Di-n-Octylphthalate	60	0.020	2.0	4	1.4	1600	No	--
206-44-0	Fluoranthene	86	0.0022	1.5	44	2.9	3200	No	--
86-73-7	Fluorene	86	0.0020	1.0	23	1.1	3200	No	--
118-74-1	Hexachlorobenzene	60	0.0051	0.50	0	--	--	--	--
87-68-3	Hexachlorobutadiene	61	0.0051	0.23	0	--	--	--	--
77-47-4	Hexachlorocyclopentadiene	60	0.010	1.0	0	--	--	--	--
67-72-1	Hexachloroethane	60	0.010	1.0	0	--	--	--	--
78-59-1	Isophorone	60	0.010	1.0	0	--	--	--	--
95-48-7	Methylphenol, 2-	60	0.010	1.0	0	--	--	--	--
106-44-5	Methylphenol, 4-	28	0.022	0.93	1	6.1	400	No	--
88-74-4	Nitroaniline, 2-	60	0.010	1.0	0	--	--	--	--
99-09-2	Nitroaniline, 3-	60	0.010	1.0	0	--	--	--	--
100-01-6	Nitroaniline, 4-	60	0.010	1.0	0	--	--	--	--
98-95-3	Nitrobenzene	60	0.010	1.0	0	--	--	--	--
100-02-7	Nitrophenol, 4-	60	0.10	10	0	--	--	--	--
621-64-7	Nitrosodi-N-propylamine, N-	60	0.010	1.0	0	--	--	--	--
86-30-6	Nitrosodiphenylamine, N-	60	0.0051	0.50	0	--	--	--	--
87-86-5	Pentachlorophenol	60	0.010	1.0	5	0.17	8	No	--

Table 1. Preliminary Screening of Soil Constituents of Interest

Chemical Abstract Service No.	Constituent	Number of Soil Samples	Minimum Non-Detect PQL (mg/kg)	Maximum Non-Detect PQL (mg/kg)	Number of Detections	Maximum Detected Concentration (mg/kg)	Soil Screening Level (mg/kg)[1]	Soil Screening Level Exceedance?	Exceedance Frequency (%)
85-01-8	Phenanthrene	86	0.0022	0.20	42	2.9	No value[6]	--	--
108-95-2	Phenol	60	0.010	1.0	0	--	--	--	--
129-00-0	Pyrene	86	0.0022	0.093	47	2.3	2400	No	--
630-20-6	Tetrachloroethane, 1,1,1,2-	61	0.041	3.7	0	--	--	--	--
cPAH TEQ	Total cPAHs[5]	123	0.0051	1.1	77	1.1	0.095	Yes	36
NAPHTH_TEQ	Total Naphthalene[5]	107	0.0071	0.75	47	142	160	No	--
120-82-1	Trichlorobenzene, 1,2,4-	61	0.0051	0.23	0	--	--	--	--
95-95-4	Trichlorophenol, 2,4,5-	60	0.010	1.0	0	--	--	--	--
88-06-2	Trichlorophenol, 2,4,6-	60	0.015	1.5	0	--	--	--	--
Dioxins/Furans									
TCDD_TEF	2,3,7,8-TCDD TEQs [Dioxins/Furans][5]	60	1.3E-07	1.3E-07	59	9.8E-04	9.8E-06	Yes	20
Total Polychlorinated Biphenyls									
TOT_PCBs	Total PCBs	75	0.020	1.1	3	0.12	0.5	No	--

Notes:

-- = Constituent was not detected or did not have a standard

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

Dioxins/furans = chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans

MTCA = Model Toxics Control Act

No value = No Method B Soil Screening values or surface water values listed in Ecology's Cleanup Levels and Risk Calculation (CLARC) for this constituent or constituent not included in CLARC.

PCBs = Polychlorinated biphenyls

PQL = practical quantitation limit

TPH = Total petroleum hydrocarbons

TPH-D = Total petroleum hydrocarbons in the diesel range

TPH-G = Total petroleum hydrocarbons in the gasoline range

TPH-HO = Total petroleum hydrocarbons in the heavy oil range

WAC = Washington Administrative Code

Detected concentrations and soil screening levels are presented with two significant figures.

[1]Most stringent of Method B direct contact formula value (MTCA Equation 740-1) for non-carcinogens and (MTCA Equation 740-2) for carcinogens, and IACLs for the direct contact pathway in the Interim Action Work Plan (PIONEER 2009a). For arsenic, TPH-D, and TPH-HO soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to surface water empirical evaluation (PIONEER 2010b). For volatile constituents, soil concentrations protective of potential migration to indoor air based on criteria in WAC 173-340-740(3)(b)(iii)(C).

[2]Adjusted up to accepted background concentration for soil of 20 mg/kg per WAC 173-340-740(5)(c) (see footnote b to MTCA Table 740-1).

[3]This screening value is based on values for chromium(III) because chromium(VI) was never detected, including in two of three samples that have exceeded the accepted Puget Sound background concentration of 48 mg/kg (Ecology, 1994)

[4]The six detections of the ubiquiteous plasticizer bis(2-ethylhexyl)phthalate in 2007 are most likely associated with field/lab contamination rather than the site release. As a result, bis(2-ethylhexyyl)phthalate was explicitly excluded from the list of constituents of potential concern in the Remedial Investigation Work Plan (GeoEngineers and PIONEER 2008) and Interim Action Work Plan (PIONEER, 2009a).

[5]Values for total cPAHs, total naphthalenes, and total dioxins/furans are based on benzo(a)pyrene, naphthalene, and 2,3,7,8-tetrachlorodibenzo-p-dioxin, respectively.

[6] Alkylbenzenes and non-carcinogenic polcyclic aromatic hydrocarbons are components of petroleum products that are already accounted for in the TPH cleanup levels (e.g., see footnote 14a to MTCA Table 830-1).

Table 2. Arsenic Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
BC_DP-07	2/14/2007	4-8	7.1	
BC_DP-08	2/14/2007	4-8	3.9	
BC_DP-09	2/14/2007	4-8	3.8	
BC_TP02	10/9/2008	2	1.9	U
		4	1.6	U
DP01	9/25/2006	1-3	5.7	
DP02	9/25/2006	1-3	3.7	
DP03	9/25/2006	1-3	4.4	
DP04	9/25/2006	1-3	3.8	
		4-6	**52**	
DP05	9/25/2006	2-4	1.7	
DP06	9/26/2006	3-5	5.8	
DP07	9/26/2006	4.5-6.5	2.9	
DP08	9/26/2006	1-3	1.8	
DP09	9/25/2006	1-3	3.3	
DP10	9/26/2006	2-4	2.0	
DP11	1/2/2007	0-2	2.8	
		8-10	14	
DP12	1/2/2007	0-2	4.1	
		8-10	4.1	
DP17	8/3/2007	4-6	7.0	U
		10-12	**84**	
DP18	8/3/2007	2-4	2.2	U
		10-12	4.4	U
DP19	8/3/2007	6-8	1.8	U
		10-12	2.3	U
DP20	8/3/2007	2-4	1.8	U
		10-12	2.9	U
DP21	8/3/2007	6-8	**72**	
		10-12	5.5	U
DP22	8/3/2007	4-6	1.9	U
		10-12	2.0	U
DP26	6/10/2009	1-2	9.8	
		7-8	3.8	
DP27	11/4/2008	0-1	3.0	
		3-4	3.5	
		4-5	3.1	
		6-7	2.1	
DP28	6/10/2009	1-2	6.1	
		4-5	3.8	
DP29	6/10/2009	3-4	5.9	
		7-8	3.6	
DP30	11/4/2008	1-2	3.4	
		3-4	5.1	
		7-8	9.9	
DP31	6/10/2009	3-4	7.3	
DP32	11/4/2008	4-5	2.3	
DP33	11/4/2008	1-2	1.9	
		3-4	2.1	
		5-6	3.0	
		7-8	2.8	
DP34	11/4/2008	4-6	3.9	
		8-10	15	
DP36	11/4/2008	5-6	2.6	
DP37	6/10/2009	2-4	3.9	
		6-8	6.7	

Table 2. Arsenic Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP38	11/4/2008	1-2	2.9	
		5-6	6.8	
		6-7	7.5	
DP39	6/10/2009	1-2	4.9	
		3-5	3.3	
DP40	11/4/2008	1-2	2.7	
		3-4	2.8	
		5-6	2.4	
DP41	6/10/2009	3-4	3.1	
DP42	6/10/2009	1-2	3.0	
		5-6	4.2	
		7-8	3.7	
MW01	1/2/2007	4-6	1.9	
		10-12	2.0	
MW02	1/2/2007	2-4	3.1	
		8-10	3.6	
MW03	1/2/2007	4-6	1.8	
		8-10	1.8	
MW04	1/2/2007	2-4	3.4	
		14-16	2.4	
MW05	1/15/2007	10-12	9.9	
MW06	1/15/2007	2-4	3.7	
		10-12	2.5	
MW08	1/17/2007	2-4	5.4	
		4-6	5.3	
		8-10	9.5	
MW09	1/17/2007	2-4	3.2	
		4-6	2.0	
MW11	8/1/2007	2-4	1.8	U
		10-12	2.0	U
MW12	8/1/2007	4-6	1.5	U
		10-12	1.7	U
MW13	8/1/2007	6-8	1.7	U
		10-12	4.4	
MW15	8/3/2007	4-6	3.6	
		10-12	4.9	U
MW16	7/31/2007	4-6	1.7	U
		16-18	6.4	
MW18	8/2/2007	8-10	1.9	U
		10-12	1.8	U
MW19	8/1/2007	4-6	2.3	U
		8-10	2.5	U
MW20	8/2/2007	2-4	1.7	U
		6-8	4.9	U
MW23S	6/12/2009	5-6	0.13	U
		9-11	8.6	
MW24S	6/12/2009	7-8	1.8	
		9-10	4.8	
MW25S	6/12/2009	7-8	4.1	
MW25S	6/12/2009	11-12	4.9	
MW25S	6/12/2009	13-14	3.1	

Notes:

Arsenic screening level = 20 mg/kg

J = estimated value

U = not detected at shown concentration

ft bgs = feet below ground surface

Table 3. Lead Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
BC_DP-07	2/14/2007	4-8	7.2	
BC_DP-08	2/14/2007	4-8	4.9	
BC_DP-09	2/14/2007	4-8	12	
BC_TP02	10/9/2008	2	3.3	
		4	0.80	U
DP01	9/25/2006	1-3	38	J
DP02	9/25/2006	1-3	12	J
DP03	9/25/2006	1-3	19	J
DP04	9/25/2006	1-3	12	J
		4-6	140	J
DP05	9/25/2006	2-4	2.2	J
DP06	9/26/2006	3-5	48	J
DP07	9/26/2006	5-7	1.5	
DP08	9/26/2006	1-3	37	J
DP09	9/25/2006	1-3	2.5	J
DP10	9/26/2006	2-4	2.6	J
DP11	1/2/2007	0-2	8.2	
		8-10	**2500**	
DP12	1/2/2007	0-2	17	
		8-10	17	
DP17	8/3/2007	4-6	17	
		10-12	110	
DP18	8/3/2007	2-4	4.5	
		10-12	8.0	
DP19	8/3/2007	6-8	3.0	
		10-12	10	
DP20	8/3/2007	2-4	0.90	U
		10-12	140	
DP21	8/3/2007	6-8	30	
		10-12	2.9	U
DP22	8/3/2007	4-6	2.2	
		10-12	11	
DP26	6/10/2009	1-2	13	
		7-8	2.4	
DP27	11/4/2008	0-1	6.6	
		3-4	5.1	
		4-5	4.2	
		6-7	1.3	
DP28	6/10/2009	1-2	131	
		4-5	7.6	
DP29	6/10/2009	3-4	8.7	
		7-8	32	
DP30	11/4/2008	1-2	6.3	
		3-4	2.9	
		7-8	56	
DP31	6/10/2009	3-4	3.1	
DP32	11/4/2008	4-5	2.5	
DP33	11/4/2008	1-2	2.2	
		3-4	2.2	
		5-6	2.6	
		7-8	7.7	
DP34	11/4/2008	4-6	4.7	
		8-10	56	
DP36	11/4/2008	5-6	2.9	
DP37	6/10/2009	2-4	11	
		6-8	8.2	

Table 3. Lead Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP38	11/4/2008	1-2	12	
		5-6	32	
		6-7	95	
DP39	6/10/2009	1-2	15	
		3-5	18	
DP40	11/4/2008	1-2	3.8	
		5-6	2.6	
		3-4	3.4	
DP41	6/10/2009	3-4	3.4	
DP42	6/10/2009	1-2	12	
		5-6	14	
		7-8	2.5	
MW01	1/2/2007	4-6	2.7	
		10-12	4.2	
MW02	1/2/2007	2-4	8.8	
		8-10	7.0	
MW03	1/2/2007	4-6	1.8	
		8-10	1.4	
MW04	1/2/2007	2-4	85	
		14-16	1.8	
MW05	1/15/2007	10-12	170	
MW06	1/15/2007	2-4	2.2	
		10-12	11	
MW08	1/17/2007	2-4	14	
		4-6	11	
		8-10	25	
MW09	1/17/2007	2-4	2.6	
		4-6	1.8	
MW11	8/1/2007	2-4	0.90	U
		10-12	2.0	
MW12	8/1/2007	4-6	0.75	U
		10-12	0.85	U
MW13	8/1/2007	6-8	21	
		10-12	52	
MW15	8/3/2007	4-6	0.85	U
		10-12	12	
MW16	7/31/2007	4-6	0.80	U
		16-18	1.2	U
MW18	8/2/2007	8-10	0.90	U
		10-12	0.90	U
MW19	8/1/2007	4-6	2.3	
		8-10	1.2	U
MW20	8/2/2007	2-4	1.8	
		6-8	25	
MW23S	6/12/2009	5-6	0.46	
		9-11	71	
MW24S	6/12/2009	7-8	54	
		9-10	34	
MW25S	6/12/2009	7-8	108	
		11-12	17	
		13-14	2.5	

Notes:

Lead screening level = 250 mg/kg

J = estimated value

U = not detected at shown concentration

ft bgs = feet below ground surface

Table 4. TPH-G Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP01	9/25/2006	1-3	2.5	J
DP02	9/25/2006	1-3	24	
DP03	9/25/2006	1-3	1.7	J
DP04	9/25/2006	1-3	1.6	J
		4-6	13	
DP05	9/25/2006	1.5-3.5	0.78	J
DP06	9/26/2006	3-5	**290**	
DP07	9/26/2006	4.5-6.5	2.1	
DP08	9/26/2006	1-3	60	
DP09	9/25/2006	1-3	0.82	J
DP10	9/26/2006	2-4	8.7	
DP11	1/2/2007	0-2	7.6	J
		8-10	13	J
DP12	1/2/2007	0-2	0.46	UJ
		8-10	0.50	UJ
DP15	1/15/2007	2-4	7.5	U
		10-12	37	U
DP17	8/3/2007	4-6	36	U
		10-12	26	U
DP18	8/3/2007	2-4	11	
		10-12	19	U
DP19	8/3/2007	6-8	73	
		10-12	8.5	U
DP20	8/3/2007	2-4	4.3	U
		10-12	12	U
DP21	8/3/2007	6-8	5.5	U
		10-12	27	U
DP22	8/3/2007	4-6	4.2	U
		10-12	5.0	U
DP24	8/3/2007	8-10	**150**	
		10-12	4.4	J
DP27	11/4/2008	3-4	2.5	U
DP28	6/10/2009	1-2	2.5	U
		3.5-5	2.5	U
DP34	11/4/2008	4-6	2.5	U
		7.5-9.5	2.5	U
DP36	11/4/2008	5-6	2.5	U
DP37	6/10/2009	2-3.5	2.5	U
		6-7.5	2.5	U
DP38	11/4/2008	5-6	2.5	U
		6-7	2.5	U
DP39	6/10/2009	0.5-2	2.5	U
		3-5	2.5	U
DP40	11/4/2008	1-2	2.5	U
		3-4	2.5	U
		5-6	2.5	U
MW01	1/2/2007	4-6	2.7	U
		10-12	2.8	U
MW02	1/2/2007	2-4	1.3	UJ
		8-10	9.8	J

Table 4. TPH-G Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
MW03	1/2/2007	4-6	2.3	U
		8-10	0.65	UJ
MW04	1/2/2007	2-4	1.5	UJ
		14-16	0.37	UJ
MW05	1/15/2007	10-12	31	
MW06	1/15/2007	2-4	3.6	U
		10-12	34	
MW09	1/17/2007	2-4	3.3	U
		4-6	3.6	U
MW10	1/15/2007	2-4	5.5	U
		10-12	7.5	U
MW11	8/1/2007	2-4	5.0	U
		10-12	4.8	U
MW12	8/1/2007	4-6	4.5	U
		10-12	4.4	U
MW13	8/1/2007	6-8	14	
		10-12	24	
MW15	8/3/2007	4-6	4.3	U
		10-12	19	U
MW16	7/31/2007	4-6	3.9	U
		16-18	5.0	U
MW18	8/2/2007	8-10	5.0	U
		10-12	3.8	U
MW19	8/1/2007	4-6	**220**	
		8-10	11	U
MW20	8/2/2007	2-4	5.5	U
		6-8	15	U
MW21S	6/12/2009	2.5-4	2.5	U
MW23S	6/12/2009	5-6	2.5	U
		9-10.5	2.5	U
MW24S	6/12/2009	6.5-8	2.5	U
		9-10	2.5	U
MW25S	6/12/2009	6.5-7.5	2.5	U
		10.5-12	2.5	U
		12.5-14	2.5	U

Notes:
TPH-G screening level = 100 mg/kg
J = estimated value
U = not detected at shown concentration
ft bgs = feet below ground surface

Table 5. TPH-D Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
BC_DP-07	2/14/2007	4-8	23	
BC_DP-08	2/14/2007	4-8	91	
BC_DP-09	2/14/2007	4-8	45	
BC_TP02	10/9/2008	2	15	U
		4	13	U
DP01	9/25/2006	1-3	22	J
DP02	9/25/2006	1-3	580	
DP03	9/25/2006	1-3	77	
DP04	9/25/2006	1-3	25	J
		4-6	**3900**	
DP05	9/25/2006	2-4	9.1	J
DP06	9/26/2006	3-5	97	
DP07	9/26/2006	5-7	14	U
DP08	9/26/2006	1-3	**7300**	
DP09	9/25/2006	1-3	14	U
DP10	9/26/2006	2-4	6.4	J
DP11	1/2/2007	0-2	51	J
		8-10	220	J
DP12	1/2/2007	0-2	22	UJ
		8-10	18	U
DP13	1/15/2007	4-6	2900	
		8-10	69	
DP14	1/17/2007	2-4	14	U
		4-6	190	
		8-10	76	
DP15	1/15/2007	2-4	72	
		10-12	70	U
DP16	1/17/2007	2-4	13	U
		4-6	34	
		8-10	15	U
DP17	8/3/2007	4-6	130	
		10-12	44	U
DP18	8/3/2007	2-4	580	
		10-12	960	
DP19	8/3/2007	6-8	370	
		10-12	67	
DP20	8/3/2007	2-4	15	U
		10-12	600	
DP21	8/3/2007	6-8	87	
		10-12	110	
DP22	8/3/2007	4-6	16	U
		10-12	17	U
DP23	8/1/2007	12-14	29	J
DP24	8/3/2007	8-10	81	
DP25	8/3/2007	10-12	14	U
DP28	6/10/2009	1-2	13	U
		4-5	13	U
DP29	6/10/2009	7-8	13	U
		13-14	13	U
DP31	6/10/2009	3-4	13	U
DP34	11/4/2008	4-6	5.4	
		8-10	16	
DP35	6/10/2009	5-6	13	U
DP36	11/4/2008	5-6	16	
DP37	6/10/2009	2-4	13	U
		6-8	13	U

Table 5. TPH-D Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP38	11/4/2008	5-6	8.2	
		6-7	56	
DP39	6/10/2009	1-2	13	U
		3-5	13	U
DP40	11/4/2008	1-2	22	
		3-4	2.5	U
		5-6	19	
MW01	1/2/2007	4-6	13	U
		10-12	14	U
MW02	1/2/2007	2-4	5.5	UJ
		8-10	5.0	UJ
MW03	1/2/2007	4-6	14	U
		8-10	14	U
MW04	1/2/2007	2-4	110	J
		14-16	15	U
MW05	1/15/2007	10-12	38	
MW06	1/15/2007	2-4	14	U
		10-12	1400	
MW08	1/17/2007	2-4	32	
		4-6	48	
		8-10	29	U
MW09	1/17/2007	2-4	14	U
		4-6	14	U
MW10	1/15/2007	2-4	52	
		10-12	77	
MW11	8/1/2007	2-4	30	J
		10-12	17	UJ
MW12	8/1/2007	4-6	12	UJ
		10-12	14	UJ
MW13	8/1/2007	6-8	170	J
		10-12	95	J
MW14	8/7/2007	7-9	290	
		8-10	14	U
MW15	8/3/2007	4-6	15	U
		10-12	300	
MW16	7/31/2007	4-6	28	J
		16-18	48	J
MW18	8/2/2007	8-10	15	UJ
		10-12	15	UJ
MW19	8/1/2007	4-6	19	UJ
		8-10	78	J
MW20	8/2/2007	2-4	15	UJ
		6-8	42	UJ
MW23S	6/12/2009	5-6	1160	
		9-11	13	U
MW24S	6/12/2009	7-8	13	U
		9-10	13	U
MW25S	6/12/2009	7-8	13	U
		11-12	13	U
		13-14	13	U

Notes:
TPH-D screening level = 3,000 mg/kg
J = estimated value
U = not detected at shown concentration
ft bgs = feet below ground surface

Table 6. TPH-HO Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
BC_DP-07	2/14/2007	4-8	82	
BC_DP-08	2/14/2007	4-8	606	
BC_DP-09	2/14/2007	4-8	286	
BC_TP02	10/9/2008	2	30	U
		4	25	U
DP01	9/25/2006	1-3	100	
DP02	9/25/2006	1-3	**9900**	
DP03	9/25/2006	1-3	620	
DP04	9/25/2006	1-3	77	
		4-6	**7200**	
DP05	9/25/2006	2-4	26	U
DP06	9/26/2006	3-5	320	
DP07	9/26/2006	5-7	27	U
DP08	9/26/2006	1-3	**8800**	
DP09	9/25/2006	1-6	28	U
DP10	9/26/2006	2-4	25	U
DP11	1/2/2007	0-2	160	
		8-10	1000	
DP12	1/2/2007	0-2	290	
		8-10	69	J
DP13	1/15/2007	4-6	**21,000**	
		8-10	400	
DP14	1/17/2007	2-4	28	U
		4-6	1300	
		8-10	490	
DP15	1/15/2007	2-4	720	
		10-12	1200	
DP16	1/17/2007	2-4	27	U
		4-6	31	U
		8-10	30	U
DP17	8/3/2007	4-6	115	U
		10-12	490	
DP18	8/3/2007	2-4	730	
		10-12	**4600**	
DP19	8/3/2007	6-8	30	U
		10-12	89	
DP20	8/3/2007	2-4	30	U
		10-12	49	U
DP21	8/3/2007	6-8	650	
		10-12	230	
DP22	8/3/2007	4-6	32	U
		10-12	33	U
DP23	8/1/2007	12-14	28	UJ
DP24	8/3/2007	8-10	170	
DP25	8/3/2007	10-12	27	U
DP28	6/10/2009	1-2	50	U
		4-5	50	U
DP29	6/10/2009	7-8	50	U
		13-14	50	U
DP31	6/10/2009	3-4	50	U
DP34	11/4/2008	4-6	13	
		8-10	36	
DP35	6/10/2009	5-4	50	U
DP36	11/4/2008	5-6	163	
DP37	6/10/2009	2-4	50	U
		6-8	50	U

Table 6. TPH-HO Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP38	11/4/2008	5-6	14	
		6-7	470	
DP39	6/10/2009	1-2	50	U
		3-5	440	
DP40	11/4/2008	1-2	113	
		3-4	39	
		5-6	295	
MW01	1/2/2007	4-6	7.1	J
		10-12	27	U
MW02	1/2/2007	2-4	68	
		8-10	28	J
MW03	1/2/2007	4-6	22	J
		8-10	28	U
MW04	1/2/2007	2-4	730	
		14-16	15	J
MW05	1/15/2007	10-12	170	
MW06	1/15/2007	2-4	28	U
		10-12	2200	
MW08	1/17/2007	2-4	71	
		4-6	29	U
		8-10	60	U
MW09	1/17/2007	2-4	27	U
		4-6	27	U
MW16	7/31/2007	4-6	27	UJ
		16-18	91	J
MW10	1/15/2007	2-4	550	
		10-12	740	
MW11	8/1/2007	2-4	27	UJ
		10-12	34	UJ
MW12	8/1/2007	4-6	24	UJ
		10-12	27	UJ
MW13	8/1/2007	6-8	580	J
		10-12	180	J
MW14	8/7/2007	7-9	1100	
		8-10	27	U
MW15	8/3/2007	4-6	30	U
		10-12	450	
MW18	8/2/2007	8-10	30	UJ
		10-12	30	UJ
MW19	8/1/2007	4-6	37	UJ
		8-10	80	J
MW20	8/2/2007	2-4	30	UJ
		6-8	85	UJ
MW23S	6/12/2009	5-6	13	U
		9-11	13	U
MW24S	6/12/2009	7-8	494	
		9-10	418	
MW25S	6/12/2009	7-8	2020	
		11-12	1070	
		13-14	13	U

Notes:

TPH-HO screening level = 3,000 mg/kg

J = estimated value

U = not detected at shown concentration

ft bgs = feet below ground surface

Table 7. Total cPAHs Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
BC_TP02	10/9/2008	2	0.0095	
		4	0.0039	U
DP01	9/25/2006	1-3	0.019	J
DP02	9/25/2006	1-3	**0.19**	J
DP03	9/25/2006	1-3	0.055	J
DP04	9/25/2006	1-3	0.050	J
		4-6	0.047	J
DP05	9/25/2006	1.5-3.5	0.0059	J
DP06	9/26/2006	3-5	**0.096**	J
DP07	9/26/2006	4.5-6.5	0.0016	J
DP08	9/26/2006	1-3	**0.24**	J
DP09	9/25/2006	1-3	0.0042	J
DP10	9/26/2006	2-4	0.0013	J
DP11	1/2/2007	0-2	**1.0**	
		8-10	**0.17**	
DP12	1/2/2007	0-2	0.042	
		8-10	0.0078	
DP13	1/15/2007	4-6	0.56	U
		8-10	0.019	
DP14	1/17/2007	2-4	0.025	U
		4-6	**0.20**	
		8-10	0.030	
DP15	1/15/2007	2-4	0.030	
		10-12	**0.54**	
DP16	1/17/2007	2-4	0.026	U
		4-6	0.088	
		8-10	**0.15**	
DP17	8/3/2007	4-6	0.11	U
		10-12	0.082	
DP18	8/3/2007	2-4	0.032	U
		10-12	**0.16**	
DP19	8/3/2007	6-8	0.026	U
		10-12	0.034	U
DP20	8/3/2007	2-4	0.026	U
		10-12	0.044	U
DP21	8/3/2007	6-8	0.036	U
		10-12	0.083	U
DP22	8/3/2007	4-6	0.027	U
		10-12	0.030	U
DP23	8/1/2007	12-14	0.027	U
DP24	8/3/2007	8-10	0.031	U
DP25	8/3/2007	10-12	0.024	U
DP26	6/10/2009	1-2	**0.18**	
		3-4	**0.14**	
DP27	11/4/2008	0-1	**0.16**	
		3-4	0.0097	
		4-5	0.043	
DP28	6/10/2009	1-2	0.046	
		3-5	0.051	
DP29	6/10/2009	1-2	**0.39**	
		7-8	**0.20**	
		13-14	**0.20**	
DP30	11/4/2008	3-4	0.028	
DP32	11/4/2008	4-5	0.0038	U

Table 7. Total cPAHs Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP33	11/4/2008	1-2	0.027	
		3-4	**0.26**	
		5-6	0.024	
		7-8	**0.33**	
DP34	11/4/2008	4-6	0.054	
		7.5-9.5	0.048	
DP37	6/10/2009	2-3.5	**0.12**	
DP38	11/4/2008	1-2	0.052	
		5-6	**0.098**	
		6-7	0.084	
DP39	6/10/2009	0.5-2	**0.18**	
		3-5	**1.1**	
DP40	11/4/2008	1-2	0.031	
		3-4	0.0075	
		5-6	0.037	
DP43	9/16/2009	2-3	0.098	U
		6-7	0.098	U
		9-10	**0.12**	
DP44	9/16/2009	2-3	0.098	U
		6-7	0.098	U
		9-10	**0.19**	
DP45	9/16/2009	1-2	0.098	U
		6-7	0.098	U
		9-10	0.098	U
MW01	1/2/2007	4-6	0.0041	
		10-12	0.0077	
MW02	1/2/2007	2-4	0.035	
		8-10	0.0086	
MW03	1/2/2007	4-6	0.018	
		8-10	0.0026	U
MW04	1/2/2007	2-4	**0.11**	
		14-16	0.0028	U
MW05	1/15/2007	10-12	**0.14**	
MW06	1/15/2007	2-4	0.0026	U
		10-12	0.0037	U
MW08	1/17/2007	2-4	0.031	
		4-6	0.030	
		8-10	0.054	U
MW09	1/17/2007	2-4	0.023	U
		4-6	0.025	U
MW10	1/15/2007	2-4	**0.11**	
		10-12	**0.10**	
MW11	8/1/2007	2-4	0.026	U
		10-12	0.031	U
MW12	8/1/2007	4-6	0.023	U
		10-12	0.026	U
MW13	8/1/2007	6-8	0.026	U
		10-12	0.085	
MW14	8/7/2007	7-9	0.0072	J
		8-10	0.0042	U
MW15	8/3/2007	4-6	0.026	U
		10-12	0.075	U
MW16	7/31/2007	4-6	0.0056	
		16-18	0.0036	U

Table 7. Total cPAHs Soil Concentrations

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
MW18	8/2/2007	8-10	0.027	U
		10-12	0.026	U
MW19	8/1/2007	4-6	0.034	U
		8-10	0.036	U
MW20	8/2/2007	2-4	0.026	U
		6-8	**0.76**	
		8-10	0.019	J H B
MW21S	6/12/2009	0.5-1.5	**0.16**	
MW23S	6/12/2009	5-6	**0.17**	
		9-10.5	**0.62**	
MW24S	6/12/2009	6.5-8	**0.90**	
		9-10	**0.26**	
MW25S	6/12/2009	6.5-7.5	**0.56**	
		10.5-12	0.050	
		12.5-14	**0.13**	

Notes:
Total cPAHs scrennning level = 0.095 mg/kg
Non-detected values greater than the screening level are not bolded as an exceedance.
H = sample was prepped or analyzed beyond the specified holding time
B = Compound was found in the blank and sample
J = Estimated value
U = Not detected at shown concentration
ft bgs = feet below ground surface
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs, all congeners have been detected at least once in soil and groundwater.

Table 8. Total Dioxins/Furans Soil Concentration

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (ng/kg)[(1)]	Qualifier
BC_TP02	10/9/2008	2	0.44	
		4	0.064	U
DP26	6/10/2009	1-2	**45**	
		3-4	4.9	J
		7-8	2.2	J
DP27	11/4/2008	0-1	3.6	J
		3-4	0.19	J
		4-5	0.79	J
		6-7	0.15	J
DP29	6/10/2009	1-2	3.6	J
DP30	11/4/2008	1-2	0.63	J
		3-4	0.13	J
		7-7.5	**56**	J
DP31	6/10/2009	3-4	0.21	J
DP32	11/4/2008	1-2	0.14	J
		4-5	0.12	J
		8-9	0.37	J
DP33	11/4/2008	1-2	2.9	J
		3-4	8.2	J
		5-6	0.64	J
		7-8	5.3	J
DP34	11/4/2008	1-3	6.7	J
		4-6	1.1	J
		7.5-9.5	2.5	J
DP36	11/4/2008	1-2	0.15	J
		5-6	1.2	J
		8-9	0.21	J
DP38	11/4/2008	5-6	4.1	J
		6-7	5.3	J
DP39	6/10/2009	0.5-2	4.3	J
		3-5	**17**	J
DP40	11/4/2008	1-2	4.7	J
		3-4	0.95	J
		5-6	0.66	J
DP41	6/10/2009	1-2	3.2	J
		3-4	0.19	J
DP42	6/10/2009	1-2	**31**	J
		5-6	4.8	J
		7-8	**160**	
DP43	9/16/2009	2-3	0.52	J
		6-7	0.36	J
		9-10	2.2	J
DP44	9/16/2009	2-3	1.3	J
		6-7	0.26	J
		9-10	0.29	J
DP45	9/16/2009	1-2	6.1	J
		6-7	0.72	J
		9-10	4.1	J
MW22S	6/12/2009	0.5-2	2.6	J
		2-4	0.30	J

Table 8. Total Dioxins/Furans Soil Concentration

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (ng/kg)[1]	Qualifier
MW23S	6/12/2009	5-6	1.1	J
MW24S	6/12/2009	1-2.5	1.2	J
		3-4.5	6.1	J
		6.5-8	**980**	
		9-10	**79**	J
TP01[2]	10/4/2007	2-2.5	**430**	J
TP02	10/4/2007	2-2.5	**650**	J
TP03	10/4/2007	3.5-4	**57**	J
TP04	10/4/2007	1.5-2	**85**	

Notes:

Total Dioxins/Furans screening level = 9.8 ng/kg

[1]Compound totaling was performed in accordance with Ecology's Concise Explanitory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Dioxins/Furans, all congeners have been detected at least once in soil.

[2]The duplicate result for this sample is 370 ng/kg.

J = value below calibration range

U = not detected at shown concentration

ft bgs = feet below ground surface

Table 9. COPC Concentrations in Samples Collected from 1982 Fill

Site ID	Sample Date	Sample Depth Range (ft bgs)	Arsenic Concentration (mg/kg)	Lead Concentration (mg/kg)	TPH-G Concentration (mg/kg)	TPH-D Concentration (mg/kg)	TPH-HO Concentration (mg/kg)	Total cPAHs Concentration (mg/kg)	Total Dioxins/Furans Concentration (ng/kg)
DP32	11/4/2008	1-2	NA	NA	NA	NA	NA	NA	0.14 J
		4-5	2.3	2.5	NA	NA	NA	0.0038 U	0.12 J
		8-9	NA	NA	NA	NA	NA	NA	0.37 J
DP33	11/4/2008	1-2	1.9	2.2	NA	NA	NA	0.027	2.9 J
DP36	11/4/2008	1-2	NA	NA	NA	NA	NA	NA	0.15 J
		5-6	2.6	2.9	2.5 U	16	163	NA	1.2 J
		8-9	NA	NA	NA	NA	NA	NA	0.21 J
DP40	11/4/2008	1-2	2.7	3.8	2.5 U	22	113	0.031	4.7 J
		3-4	2.8	2.6	2.5 U	2.5 U	39	0.0075	0.95 J
DP41	6/10/2009	1-2	NA	NA	NA	NA	NA	NA	3.2 J
		3-4	3.1	3.4	NA	NA	NA	NA	0.19 J
MW11	8/1/2007	2-4	1.8 U	0.90 U	5.0 U	30 J	27 UJ	0.026 U	NA
MW18	8/2/2007	8-10	1.9 U	0.90 U	5.0 U	15 UJ	30 UJ	0.027 U	NA
		10-12	1.8 U	0.90 U	3.8 U	15 UJ	30 UJ	0.026 U	NA
Soil Screening Level			20	250	100	3,000	3,000	0.095	9.8

Notes:

ft bgs = feet below ground surface

J = estimated value

NA = Sampled not analyzed for that constituent

U = not detected at shown concentration

Compound totaling for total cPAHs and total dioxins/furans was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs and dioxins/furans, all congeners have been detected at least once in soil.

1982 gravel fill was also encountered in MW12 from 0-3 ft bgs and in MW13 from 0.5-2.5 ft bgs, but no samples were collected from these intervals in MW12 and MW13.

Table 10. Total cPAHs and Total Dioxins/Furans Soil Concentrations by Depth Interval

Constituent	Sample Top Depth (feet bgs)	Number of Samples	Minimum Concentration	Average Concentration	Maximum Concentration	Soil Screening Level Exceedance Frequency [1]
Total cPAHs	0-2	20	0.0042 mg/kg	0.15 mg/kg	1.0 mg/kg	40%
	2-6	48	0.0013 mg/kg	0.087 mg/kg	1.1 mg/kg	21%
	Greater than 6	55	0.0026 U mg/kg	0.13 mg/kg	0.90 mg/kg	31%
Total dioxins/furans	0-2	16	0.14 ng/kg	12 ng/kg	85 ng/kg	19%
	2-6	27	0.64 ng/kg	58 ng/kg	650 ng/kg	19%
	Greater than 6	17	0.15 ng/kg	76 ng/kg	980 ng/kg	24%

Notes:

bgs = below ground surface

cPAHs = total carcinogenic polycyclic aromatic hydrocarbons

dioxins/furans = chlorinated dibenzo-p-dioxins and dibenzofurans

U = not detected at shown reporting limit

Values shown to two significant figures

Soil screening level for total cPAHs = 0.095 mg/kg

Soil screening level for total cPAHs = 9.8 ng/kg

[1] Samples in which the reporting limit exceeded the soil screening level, but no cPAH consistuents were detected, were not considered exceedances.

Table 11. Benzo(a)pyrene and Total cPAHs Soil Concentrations Observed at Nearby Sites, in Background Studies, and Accepted by State Regulatory Agencies

Data Category	Description of Data Source	Location	Number of Samples	Benzo(a)pyrene				Total cPAHs TEQ[1]			
				Minimum Detected Concentration (mg/kg)	Average Concentration (mg/kg)	90th Percentile (mg/kg)	Maximum Concentration (mg/kg)	Minimum Concentration (mg/kg)	Average Concentration (mg/kg)	90th Percentile (mg/kg)	Maximum Concentration (mg/kg)
Nearby Site Data	East Bay Redevelopment Site Remedial Investigation Data	Olympia, WA	123	0.00072	0.081	0.19	0.82	0.0013	0.11	0.26	1.1
	LOTT Expansion Site Data (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a)	Olympia, WA	47	0.0081	0.049	0.041	1.3	0.0092	0.071	0.063	1.9
	318 State Avenue Data (GeoEngineers 2009)	Olympia, WA	64	0.00072	0.12	0.055	4.2	0.0015	0.15	0.083	4.9
	Downtown Safeway Grid Data (Brown and Caldwell 2009b)	Olympia, WA	51	0.03	0.34	1.5	6.4	0.015	0.57	3.5	12
	Washington State Department of Ecology Review of Statewide Data in EIM Database (Ecology 2010a)	Washington	1456	0.00024	1.8	2.6	120	N/A	N/A	N/A	N/A
Urban Background Studies	Background soil concentrations of PAHs in urban soil (ATSDR 1995)	Canada, USA and UK	N/A	0.17	N/A	N/A	0.22	2.5[2]	N/A	N/A	21[2]
	Soil samples collected at a depth of 0 to 6 inches from areas that were considered unaffected by industrial sites. Locations included along roads and side walks, in parks, and open lots (Bradley *et al* 1994)	New England Area, USA	60	0.040	1.3	1.8[3]	13	0.26[3]	2.4[3]	3.3[3]	21[3]
	Surface soil samples were collected at a depth of 0-6 inches from locations without known or suspected PAH releases within randomly selected population centers[4] in three states. Locations where samples were collected were defined as rights of way, recreational, municipal, residential etc (Mauro 2006)	USA	308	N/A	0.37	1.6[5]	12	N/A	N/A	N/A	N/A
	Right-of-Way Background Soil Contaminant Assessment (Camp Dresser & McKee 1995)[6]	Massachusetts	873	0.031	0.3	7.4	230	0.022	1.5	42	1200
	Licensed Site Professional Association Anthropogenic Fills Soils Project (LSPA 2001)[6]	Massachusetts	489	N/A	N/A	N/A	222	N/A	N/A	N/A	N/A
	Three case studies in Florida of soil samples taken from urban road sides, neighborhoods, and former retail center (Teaf 2008)	Florida	N/A	N/A	N/A	N/A	N/A	1.1[7]	N/A	N/A	2.1[7]
	Benzo(a)pyrene equivalent values for ambient data sets from Northern California (California DTSC 2009)	California	86	N/A	N/A	N/A	N/A	N/A	0.21[8]	0.90[9]	2.8[8]
	Benzo(a)pyrene equivalent values for ambient data sets from Southern California (California DTSC 2009)	California	185	N/A	N/A	N/A	N/A	N/A	0.16[8]	0.61[9]	4.0[8]
	Old urban parkland surface soil data (top 5 cm) presented as accepted background values in Canadian Soil Quality Guidelines (CCME 2008)	Ontario, Canada	65	0.22[10]	N/A	N/A	0.37[10]	0.32[10]	N/A	N/A	0.54[10]

Data Category	Description of Data Source	State	Number of Samples	Agency Accepted Background Level (mg/kg)	Agency Accepted Background Level (mg/kg)
Background Concentrations Set by State Regulatory Agencies	Massachusetts identified background levels in natural soil based on multiple datasets (MADEP 1992)	Massachusetts	N/A	2	2.7
	Massachusetts identified background level in soil containing coal ash or wood ash associated with fill material based on multiple datasets (MADEP 1992)	Massachusetts	N/A	7.0	10
	Illinois background concentration for urban areas within Chicago that was incorporated into the Illinois EPA's cleanup standards (IEPA 2010)	Illinois	N/A	1.3	1.7[11]
	Illinois background concentration for urban areas excluding Chicago that was incorporated into the Illinois EPA's cleanup standards (IEPA 2010)	Illinois	N/A	0.98	1.3[11]
	Acceptable range of cPAH concentrations in historic fill. Derived from the average and maximum of samples from the historic fill database presented in Appendix D of the New Jersey Administrative Code - Technical Requirements for Site Remediation (NJAC 2010)	New Jersey	431	0.020 - 120	0.039 - 188[12]

Notes:

Concentrations are generally shown to two significant figures.
cPAHs = carcinogenic polycyclic aromatic hydrocarbons including benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fl uoranthene, chrysene, dibenzo(a,h)anthracene, and ideno(1,2,3-cd)pyrene
EIMS = Environmental Information Management System
LOTT = LOTT Clean Water Alliance
TEQ = toxic equivalency factor
[1]If compound totals were included in the report, those values were recorded here. If not they were calculated by multiplying the minimum and/or maximum result of each congener by their toxic equivalency factor (TEQ), listed in MTCA Table 708-2 under WAC 173-340-708(e), and adding them together. Non-detects were given a value of half the reporting limit.
[2]Dibenzo(a,h)anthracene was not listed in the results of this study so a value of zero was assigned to dibenzo(a,h)anthracene for compound totaling.
[3]Compound totaling values were taken from the study, different TEQ values were used for chrysene (0.001) and dibenzo(a,h)anthracene (1.0). The value shown for 90th percentile is actually the upper 95% confidence interval.
[4]Population centers were defined by the study as an area with greater than 10,000 persons and a density of > 1000 persons per square mile (similar to downtown Olympia).
[5]This is the 95th percentile not the 90th percentile.
[6]Datasets from these studies are referenced to and are used to determine Massachusetts Department of Environmental Protection agency cPAH background levels. The Camp, Dresser, & McKee 1995 report could not be found and the LPSA results were referenced as personal communication.
[7]These values are reported as the maximum total benzo(a)pyrene equivalent concentrations.
[8]These values are reported as the mean and maximum total benzo(a)pyrene equivalent concentrations and a different TEF was used for dibenzo(a,h)anthracene (0.34).
[9]This is actually the 95th percentile benzo(a)pyrene equivalent value.
[10]Lower confidence limits (LCL) and upper confidence limits (UCL) were reported for each cPAH. The total cPAH values were calculated from the LCL and UCL.
[11]Total cPAHs is calculated from the 95th percentile of the individual cPAHs.
[12]Chrysene was not listed in the results of this study so a value of zero was assigned to chrysene for compound totaling.

Table 12. Soil Types for Total Dioxins/Furans Screening Level Exceedances

Site ID	Sample Depth Range (ft bgs)	Total Dioxins/Furans Concentration (ng/kg) (1)	Qualifier	Sample Description from Boring Log	Lithologic Interpretation Based on Boring Log
MW24S	6.5-8	980		Black-stained decomposing wood with sand	Treated wood piling?
TP02	2-2.5	650	J	Brown to gray silty fine to coarse sand with occassional gravel and brick debris	Pre-1982 fill with debris
TP01	2-2.5	430	J	Brown to gray silty fine to coarse sand with gravel and occassional debris (wood, brick, and rock)	Pre-1982 fill with debris (including wood debris)
DP42	7-8	160		Wood chunks and sawdust-sized wood debris with coarse gravel and lean clay	Wood debris within pre-1982 fill
TP04	1.5-2	85		Dark brown to black fine to coarse sand with silt, gravel, and debris (wood, ceramic, and brick)	Pre-1982 fill with debris (including wood debris)
MW24S	9-10	79	J	Dark brown to black silty lean clay with wood debris	Disturbed native sediment (likely near top of former sediment layer) with treated wood piling debris?
TP03	3.5-4	57	J	Dark brown to black fine to coarse sand with gravel, silt, and debris (concrete, brick, glass)	Pre-1982 fill with debris
DP30	7-7.5	56	J	Gray to black clayey silt with some fine sand	Disturbed native sediment (likely near top of former sediment layer) with wood debris immediately beneath
DP26	1-2	45		Brown to gray silty fine to coarse gravel with variety of sand sizes	Pre-1982 fill?
DP42	1-2	31		Gray to brown sandy gravel with silt	Pre-1982 fill?
DP39	3-5	17	J	Brown to dark brown silty medium to coarse sand with fine gravel	Pre-1982 fill with wood debris immediately beneath

Notes:

(1) Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Dioxins/Furans, all congeners have been detected at least once in soil.
J = value below calibration range

ft bgs = feet below ground surface

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FIGURES

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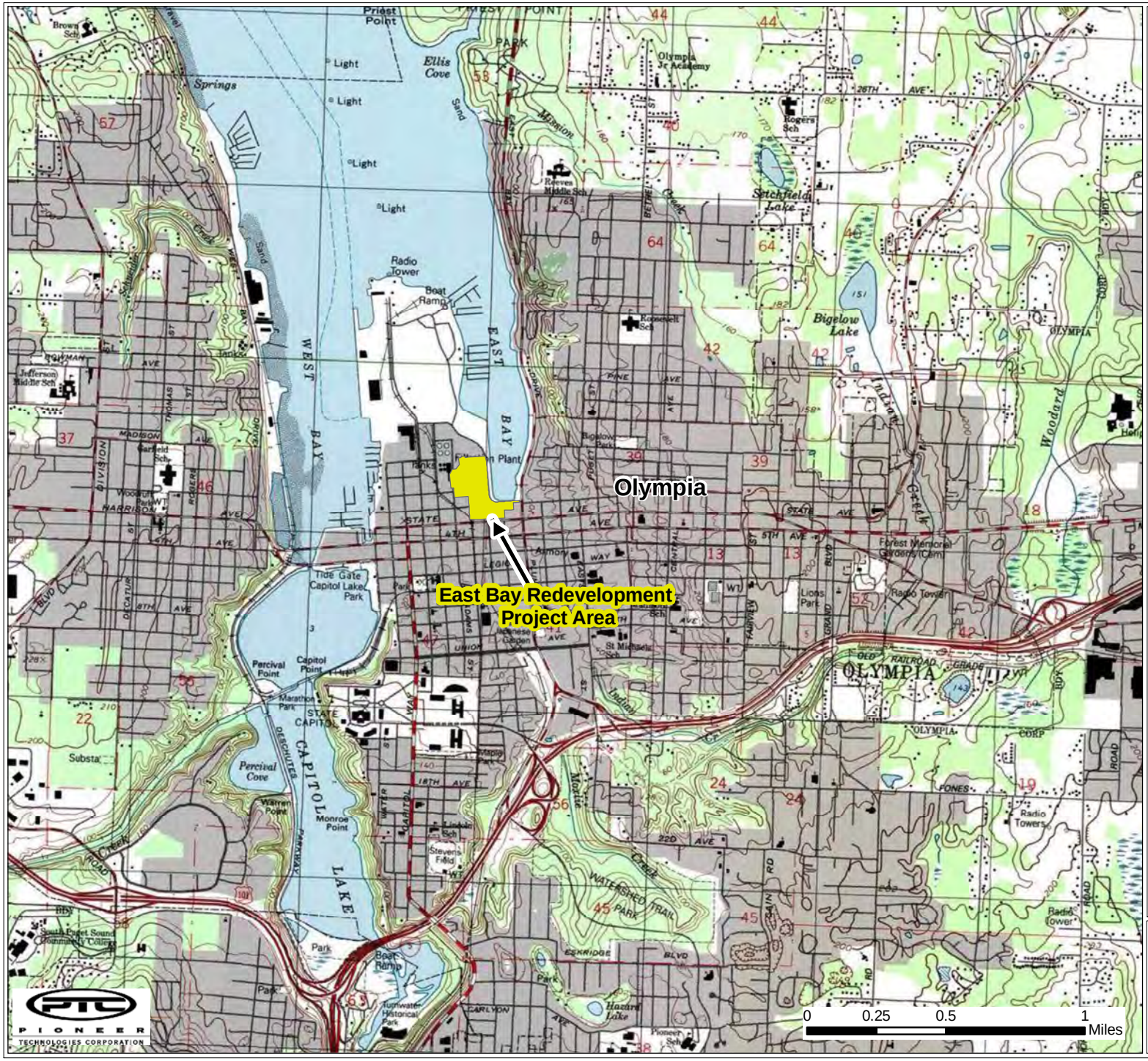


Vicinity Map
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 1

Legend

- Current Site Boundary
- Parcel Boundaries
- LOTT Expansion Site
- Roads Paved During Infrastructure Interim Action

Ownership

- Port of Olympia
- City of Olympia
- LOTT Clean Water Alliance

N
W E
S

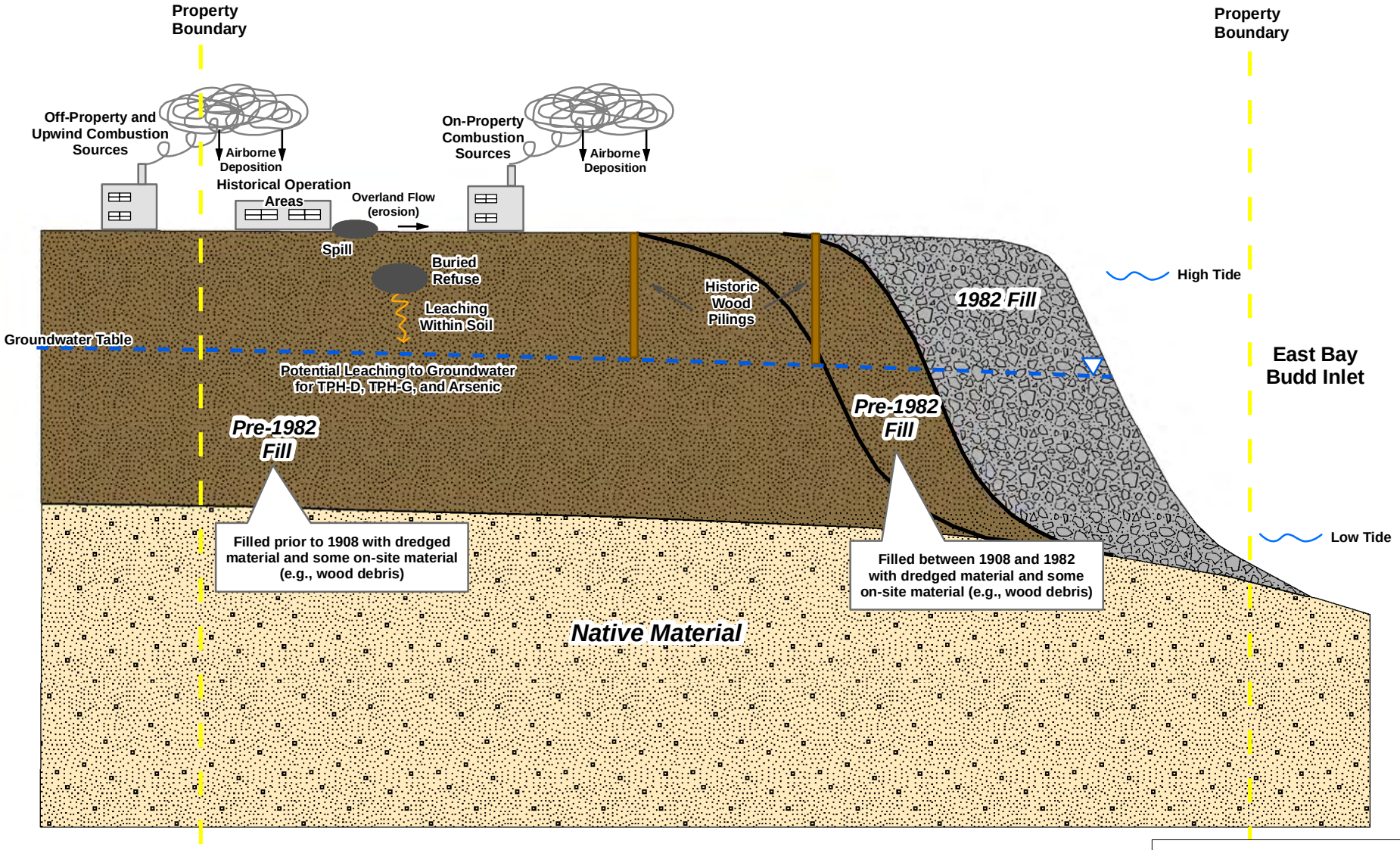
0 50 100 200 Feet

Parcel Locations and Ownership
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 2

PIONEER TECHNOLOGIES CORPORATION



Conceptual Site Fate and Transport Model
East Bay Site Boundary
Technical Memorandum

Port of Olympia
November 2010

Figure 3

PIONEER TECHNOLOGIES CORPORATION

Legend

- Current Site Boundary
- Original Predevelopment Shoreline (Pre-1888)

Notes:

Original predevelopment shoreline shapefile was provided by the Thurston Regional Planning Council.

N
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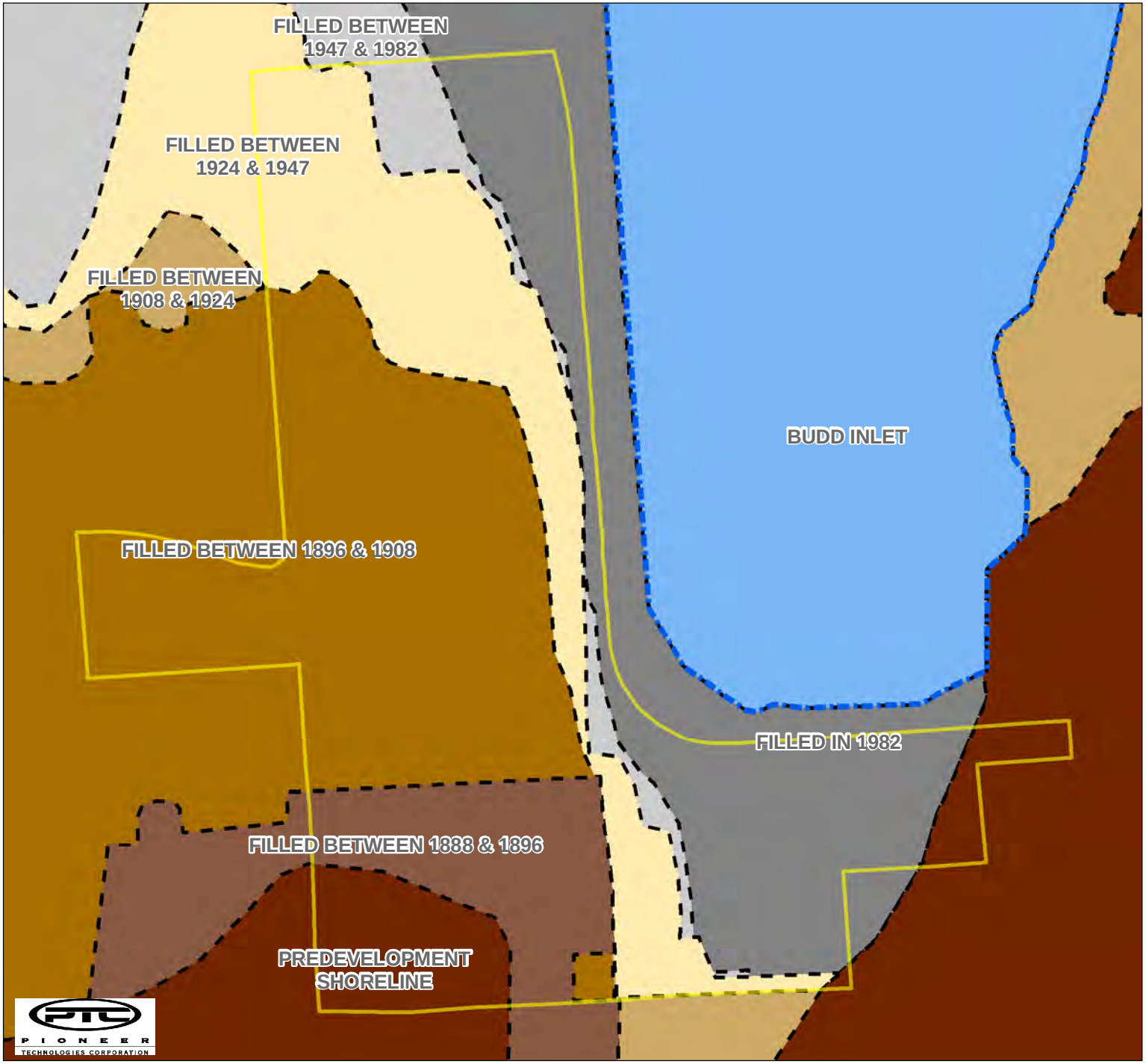
0 250 500 1,000 Feet

PIONEER TECHNOLOGIES CORPORATION

Original Predevelopment Shoreline
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 4



Legend

- Current Site Boundary
- Approximate Current Shoreline
- Budd Inlet

Historic Shoreline

- Predevelopment Shoreline
- 1888 - 1896
- 1896 - 1908
- 1908 - 1924
- 1924 - 1947
- 1947 - 1982
- Post-1982

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Feet

Site Fill History
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 5

Legend

- Current Site Boundary
- Parcel Boundaries
- LOTT Expansion Site
- Roads Paved During Infrastructure Interim Action

On-Site Historic Operations

- H.G. Richardson's Shingle Mill
- Olympia Door Co. Sash and Door Factory
- Olympia Veneer Co.
- Olympia Planning Mill & Sawmill
- St. Paul and Tacoma Lumber Co.

Off-Site Historic Operations

- Hyak Lumber Co.
- Olympia Door Co. Sawmill
- Springer Sawmill

Notes:

The locations of historic operations are approximate.

Source: GeoEngineers and PIONEER 2008

N W E S

0 50 100 200 Feet

Extent of Historic Operations
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure 6

AOC ID	Description of Historic Features
AOC 02	Panel Oiling
AOC 03	Spray Paints
AOC 04	Propane Lift Truck Fueling Shed
AOC 09	Oil House
AOC 10	Engine Room
AOC 11	Unidentified Structure
AOC 12	Machine Shop
AOC 13	Blacksmith Shop
AOC 14	Tar Dipping Tank North
AOC 15	Tar Dipping Tank South
AOC 16	Oiled Cooled Transformer on Concrete Pad
AOC 17	Boiler House
AOC 18	Fuel Bin
AOC 19	Flammable Liquids
AOC 20	Hog Fuel Pile on Ground
AOC 21	Oil House
AOC 24	Power House
AOC 25	Unknown Shop
AOC 26	Pipe Shop
AOC 27	Fuel Bin
AOC 28	Transformer Vault
AOC 29	Oil House
AOC 30	Fenced Electrical Enclosure
AOC 31	Jitney Shop
AOC 32	Electronic Shop
AOC 33	Machine Shop
AOC 34	Welding Shop
AOC 35	Engine (Type Unknown)
AOC 36	Engine (Type Unknown)
AOC 37	Repair Shop
AOC 38	Blacksmith Shop
AOC 39	Logway
AOC 40	Glue House
AOC 41	Blacksmith Shop
AOC 42	Machine Shop
AOC 52	Diesel Fuel Release
AOC 53	Sawmill
AOC 54	Planing Mill

Legend

- Areas of Concern (AOC)
- Current Site Boundary
- LOTT Expansion Site
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries

Notes:

The locations of AOCs and historic operation areas features are approximate.

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0 50 100 200
Feet

Areas of Concern
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 7

AOC ID	Description of Historic Features
AOC 02	Panel Oiling
AOC 03	Spray Paints
AOC 04	Propane Lift Truck Fueling Shed
AOC 09	Oil House
AOC 10	Engine Room
AOC 11	Unidentified Structure
AOC 12	Machine Shop
AOC 13	Blacksmith Shop
AOC 14	Tar Dipping Tank North
AOC 15	Tar Dipping Tank South
AOC 16	Oiled Cooled Transformer on Concrete Pad
AOC 17	Boiler House
AOC 18	Fuel Bin
AOC 19	Flammable Liquids
AOC 20	Hog Fuel Pile on Ground
AOC 21	Oil House
AOC 24	Power House
AOC 25	Unknown Shop
AOC 26	Pipe Shop
AOC 27	Fuel Bin
AOC 28	Transformer Vault
AOC 29	Oil House
AOC 30	Fenced Electrical Enclosure
AOC 31	Jitney Shop
AOC 32	Electronic Shop
AOC 33	Machine Shop
AOC 34	Welding Shop
AOC 35	Engine (Type Unknown)
AOC 36	Engine (Type Unknown)
AOC 37	Repair Shop
AOC 38	Blacksmith Shop
AOC 39	Logway
AOC 40	Glue House
AOC 41	Blacksmith Shop
AOC 42	Machine Shop
AOC 52	Diesel Fuel Release
AOC 53	Sawmill
AOC 54	Planing Mill

Legend

- Historic Operations Areas
- Areas of Concern (AOC)
- Current Site Boundary
- Parcel Boundaries
- Roads Paved During Infrastructure Interim Action
- LOTT Expansion Site

Notes:

The locations of AOCs and historic operation areas features are approximate.

Historic operation area footprints and potential constituents potentially associated with each historical operation area are as presented in the Remedial Investigation Work Plan (GeoEngineers and PIONEER 2008), with the following modifications:
1. PAHs were added as potential constituents for all locations with TPH listed as a potential constituent.
2. Historic operation areas were created for AOC 20 (hog fuel pile on ground), AOC 52 (diesel fuel release), and AOC 4 (truck fueling shed) with TPHs and PAHs as potential constituents.
3. Each historic operation area was extended 25 feet beyond the boundary of the AOC (or group of AOCs).

D/F = dioxins/furans
Metals = total or dissolved metals
PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
TPH = total petroleum hydrocarbons
VOCs = volatile organic compounds

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0 50 100 200 Feet

Historic Operation Areas
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 8

PIONEER TECHNOLOGIES CORPORATION

Legend

- Soil Sampling Locations
- Groundwater Monitoring Well Locations
- Current Site Boundary
- LOTT Expansion Site
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries

Note:

Only on-site soil sample locations are displayed.

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0 50 100 200 Feet

Sampling Locations
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 9

Legend

- GMWs with replicated surface water screening level exceedance
- On-site MW with at least one unqualified dissolved arsenic, TPH-D or TPH-HO surface water screening level exceedance
- Monitoring Well
- Groundwater Delineation
- Groundwater Elevation Contours
- Current Site Boundary
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- LOTT Expansion Site

Notes:

GWM - groundwater monitoring

N
W E
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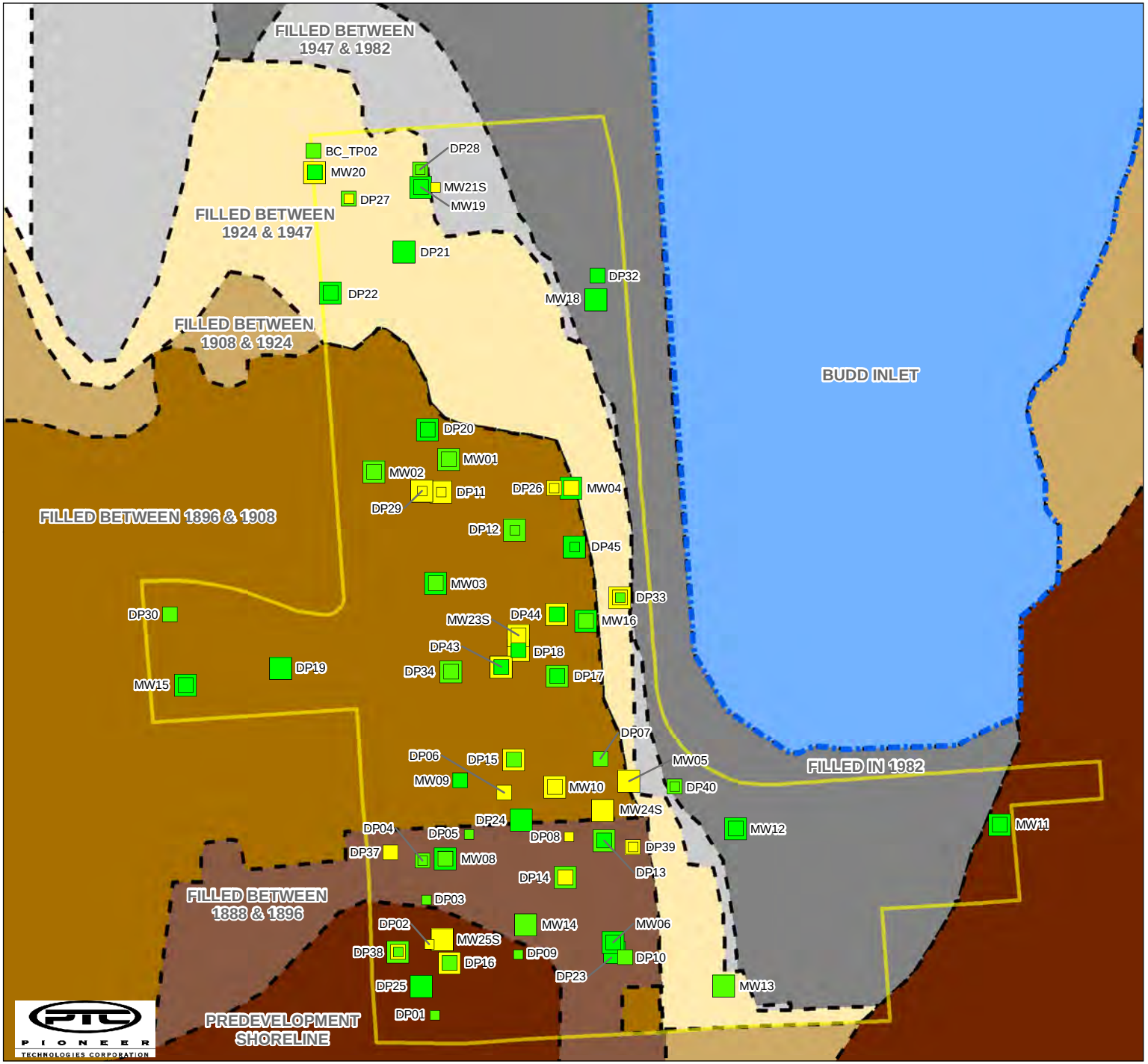
0 50 100 200 Feet

Locations of Groundwater Exceedances
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure 10

PIONEER TECHNOLOGIES CORPORATION



Legend

- Current Site Boundary
- Approximate Current Shoreline
- Budd Inlet

Soil Data

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Historic Shoreline

- Predevelopment Shoreline
- 1888-1896
- 1896 - 1908
- 1908-1924
- 1924-1947
- 1947 - 1982
- Post-1982

Notes:

The smallest squares show data from 0-2' bgs
The medium squares show data from 2-6' bgs
The largest squares show data >= 6' bgs

bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs SL = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level

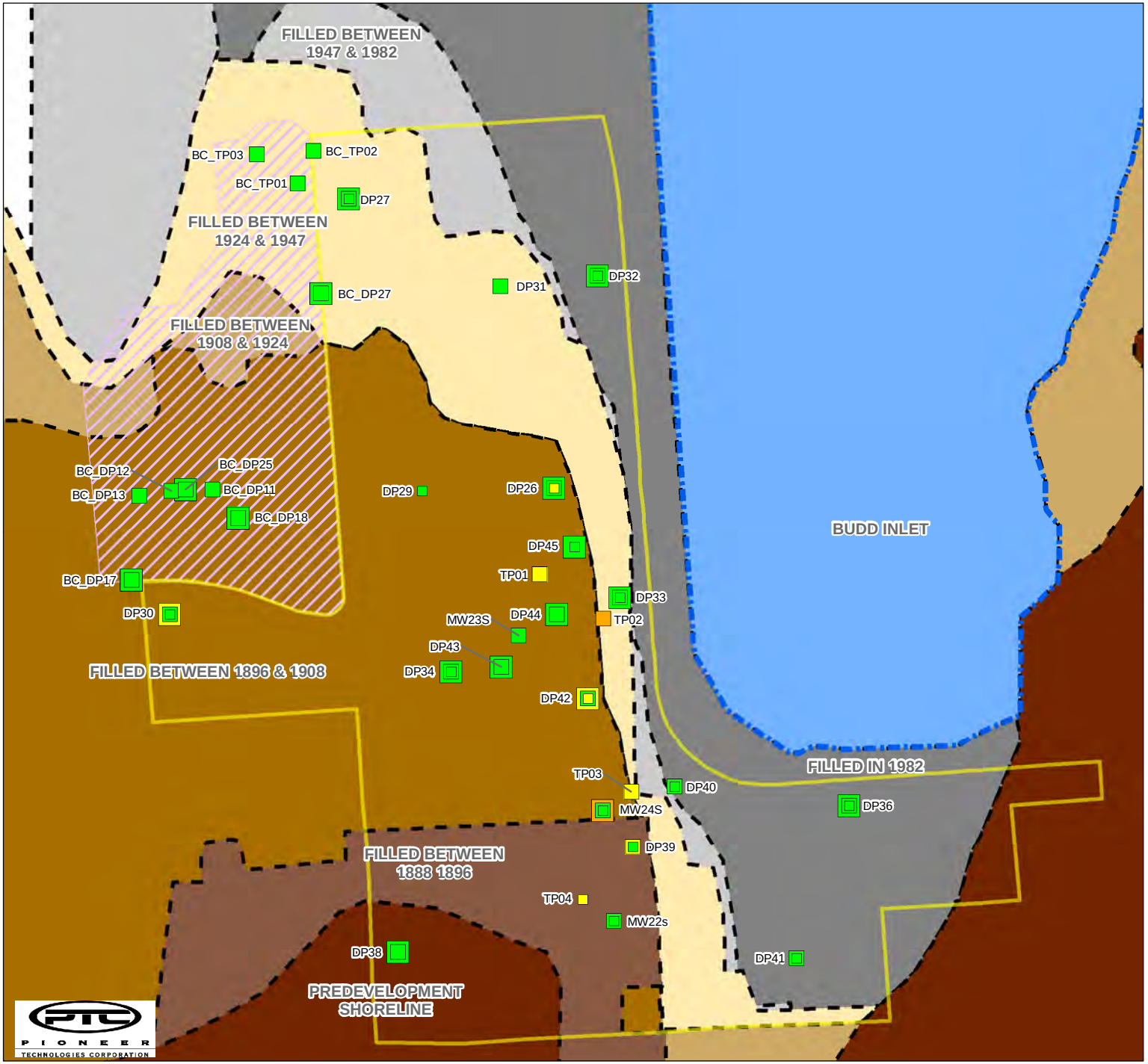
1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

-Non-detected values greater than the SL are not shown as exceedances.
-Sample depth breakouts are based on sample top.

PIONEER TECHNOLOGIES CORPORATION

Comparison of Fill History with Total cPAHs Soil Results
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure 11



Legend

- Current Site Boundary
- Approximate Current Shoreline
- Budd Inlet
- LOTT Expansion Site

Soil Data

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Historic Shoreline

- Predevelopment Shoreline
- 1888-1896
- 1896 - 1908
- 1908-1924
- 1924-1947
- 1947 - 1982
- Post-1982

Notes:

The smallest squares show data from 0-2' bgs
The medium squares show data from 2-6' bgs
The largest squares show data >= 6' bgs

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 ng/kg
SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, 2009a).
-Sample depth breakouts are based on sample top.

N
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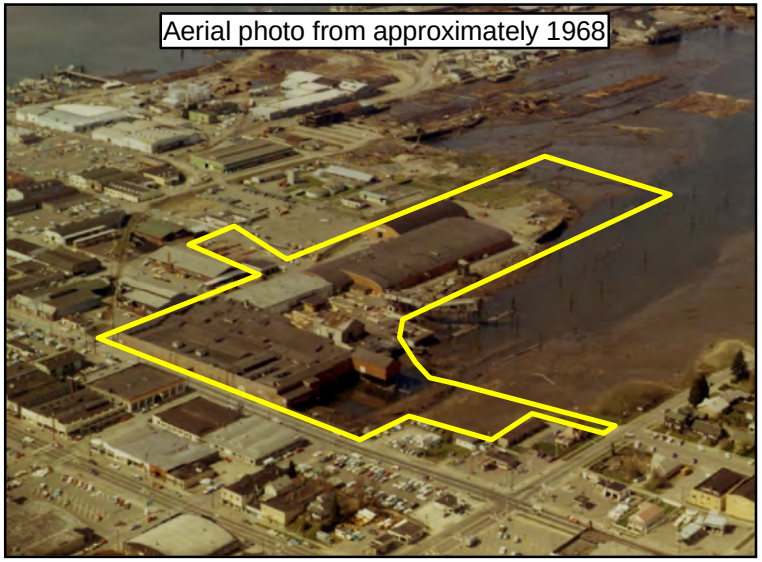
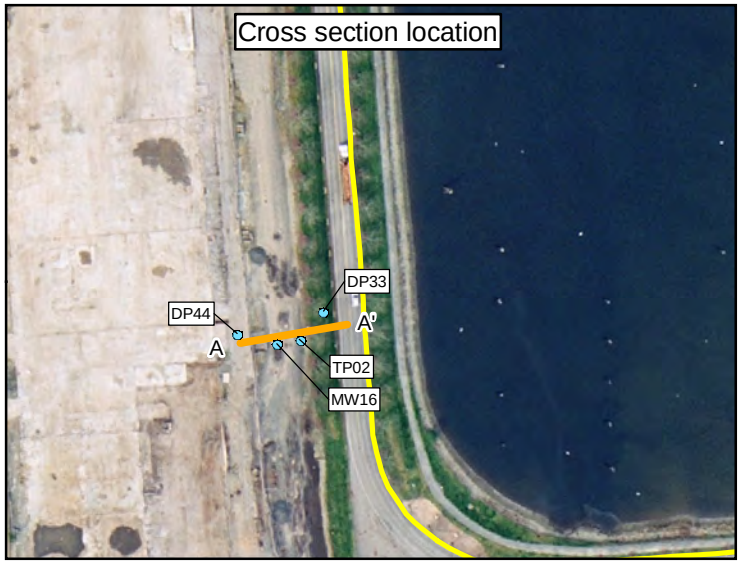
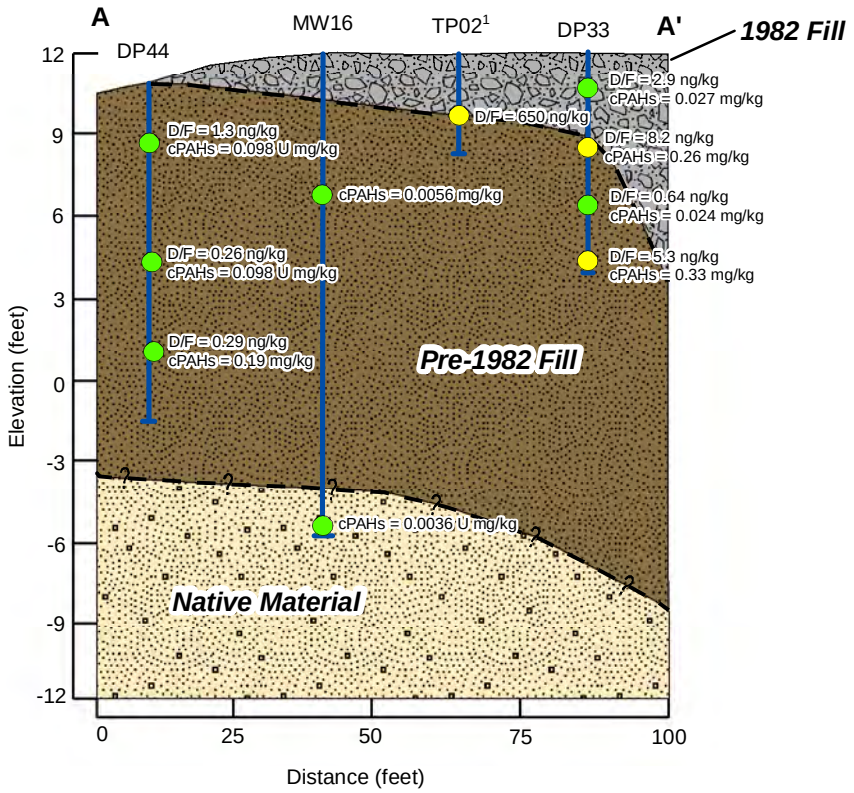
0 50 100 200 Feet

Comparison of Fill History with Total Dioxins/Furans Soil Results
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure 12







Legend

Sample Location

- D/F and cPAHs Result <= SSL
- D/F or cPAHs Result > SSL
- Boring Location
- 1982 Fill
- Pre-1982 Fill
- Native Material
- Current Site Boundary
- Cross Section

Notes:

cPAHs = total carcinogenic polycyclic aromatic hydrocarbons
D/F = total dioxins/furans
SSL = soil screening level

Total cPAHs SSL = 0.095 mg/kg
Total Dioxins/Furans SSL = 9.8 ng/kg

The inferred interface between pre-1982 fill and 1982 fill was generated using boring logs, with support from a 1979 survey of the surface topography prior to the 1982 fill event.

1. The TP02 sample is shown near the interface between the two fills based on the assumption that the top four feet of soil encountered in MW16 is 1982 gravel fill (as opposed to some later localized fill). However, the 1979 surface topography survey, the DP33 boring log, and the TP02 log itself indicate that the TP02 sample was collected from pre-1982 fill.

Cross Section A-A' (Boiler House Area)
East Bay Site Boundary Technical Memorandum

Port of Olympia
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Figure 13

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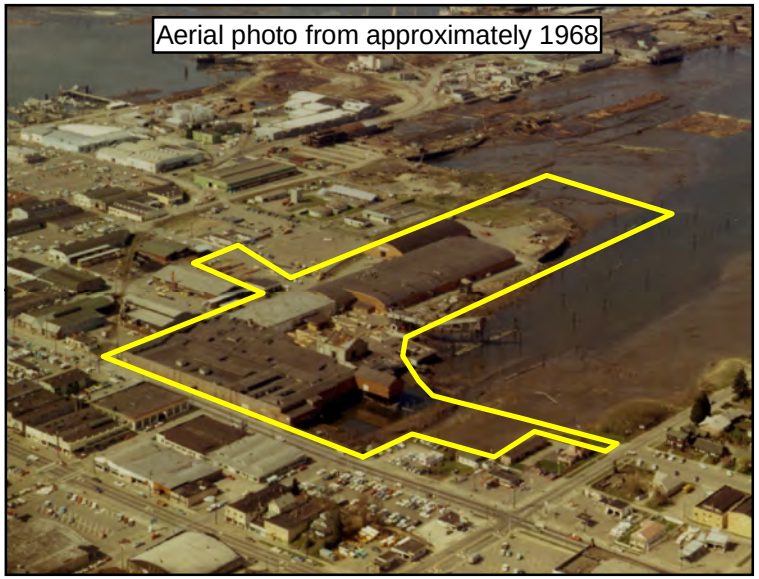
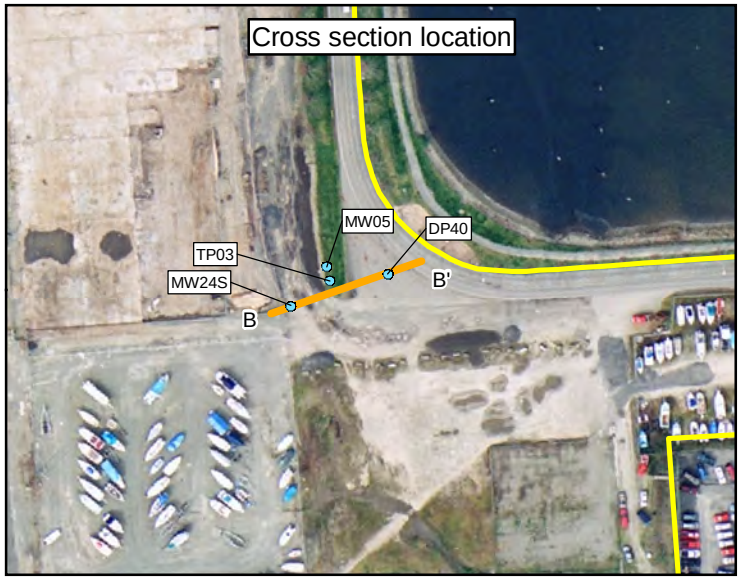
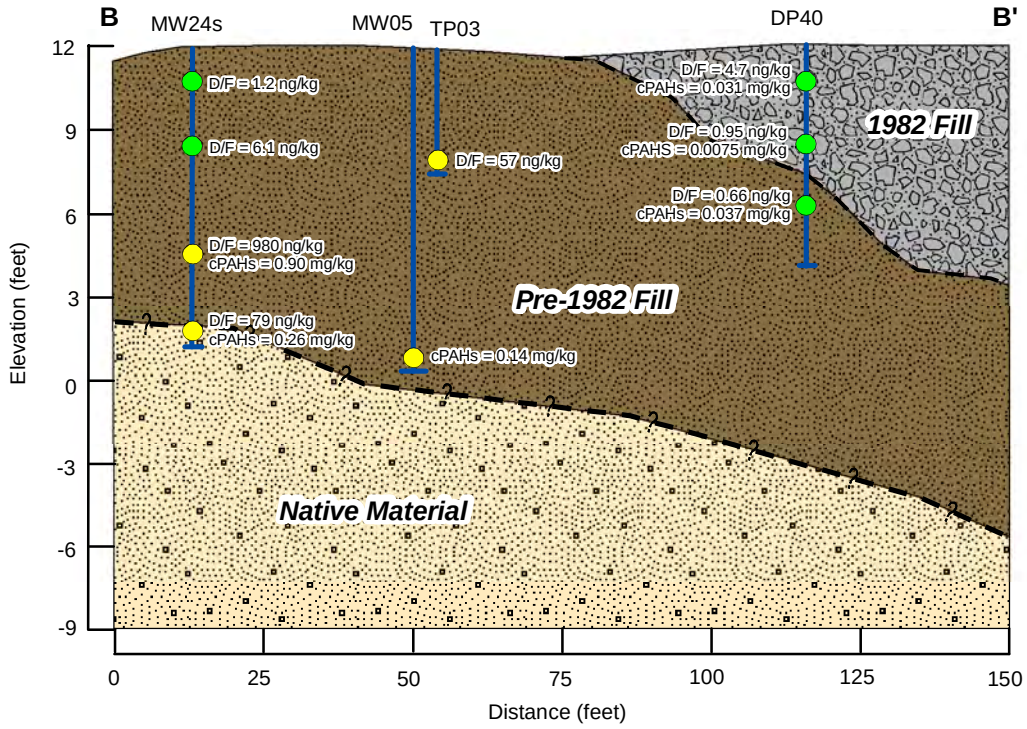




Legend

Sample Location

- D/F and cPAHs <= SSL
- D/F or cPAHs > SSL
- Boring
- 1982 Fill
- Pre-1982 Fill
- Native Material
- Current Site Boundary
- Cross Section



Notes:

cPAHs = total carcinogenic polycyclic aromatic hydrocarbons
D/F = total dioxins/furans
SSL = soil screening level

Total cPAHs SSL = 0.095 mg/kg
Total Dioxins/Furans SSL = 9.8 ng/kg

The inferred interface between pre-1982 fill and 1982 fill was generated using boring logs, with support from a 1979 survey of the surface topography prior to the 1982 fill event.

Cross Section B-B' (Power House Area)
East Bay Site Boundary Technical Memorandum

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Figure 14

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Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL
- Historic Operations Areas
- Current Site Boundary

Notes:

Arsenic SL = 20 mg/kg
Possible Arsenic RL[1] = 20 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a) and soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER, 2010b).

Sample depth breakouts are based on sample top.

N
W E
S

0 50 100 200 Feet

Comparison of Historic Operation Areas with Arsenic Soil Results
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 15

Legend

Soil Data (0-2' bgs)

- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL
- Historic Operations Areas
- Current Site Boundary

Notes:

Lead SL = 250 mg/kg
Possible Lead RL[1] = 250 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

Sample depth breakouts are based on sample top.

N
W E
S

0 50 100 200
Feet

Comparison of Historic Operation Areas with Lead Soil Results
East Bay Site Boundary Technical Memorandum

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November 2010

Figure 16

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Historic Operations Areas
- Current Site Boundary

Notes:

TPH-G SL = 100 mg/kg
Possible TPH-G RL[1] = 150,000 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
TPH-G = total petroleum hydrocarbons, gasoline

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

Sample depth breakouts are based on sample top.

N
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0 50 100 200 Feet

Comparison of Historic Operation Areas with TPH-G Soil Results
East Bay Site Boundary Technical Memorandum
Port of Olympia
November 2010

Figure 17

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Historic Operations Areas
- Current Site Boundary

Notes:

TPH-D SL = 3,000 mg/kg
Possible TPH-D RL[1] = 39,000 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
TPH-D = total petroleum hydrocarbons, diesel

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a) and soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER, 2010b).

Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200 Feet

Comparison of Historic Operation Areas with TPH-D Soil Results
East Bay Site Boundary Technical Memorandum
Port of Olympia
November 2010

Figure 18

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Historic Operations Areas
- Current Site Boundary

Notes:

TPH-HO SL = 3,000 mg/kg
Possible TPH-HO RL[1] = 39,000 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
TPH-HO = total petroleum hydrocarbons, heavy oil

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a) and soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER, 2010b).

Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200 Feet

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Comparison of Historic Operation Areas with TPH-HO Soil Results
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 19

Legend

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- Soil Concentration > RL
- Constituent Delineation
- Historic Operations Areas
- Current Site Boundary

Notes:

Arsenic SL = 20 mg/kg
Possible Arsenic RL[1] = 20 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a) and soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER, 2010b).

Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200 Feet

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Delineation of Arsenic Soil Screening Level Exceedances
East Bay Site Boundary Technical Memorandum
Port of Olympia
November 2010 Figure 20

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL and RL
- Soil Concentration > SL and RL
- Constituent Delineation
- Historic Operations Areas
- Current Site Boundary

Notes:

Lead SL = 250 mg/kg
Possible Lead RL[1] = 250 mg/kg

SL = cleanup level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

Sample depth breakouts are based on sample top.

N
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0 50 100 200 Feet

Delineation of Lead Soil Screening Level Exceedances
East Bay Site Boundary Technical Memorandum
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Figure 21

PIONEER TECHNOLOGIES CORPORATION

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Constituent Delineation
- Historic Operations Areas
- Current Site Boundary

Notes:

TPH-G SL = 100 mg/kg
Possible TPH-G RL[1] = 150,000 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
TPH-G = total petroleum hydrocarbons, gasoline

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200
Feet

Delineation of TPH-G Soil Screening Level Exceedances
East Bay Site Boundary Technical Memorandum
Port of Olympia
November 2010 Figure 22

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Historic Operations Areas
- Current Site Boundary

Notes:

TPH-D SL = 3,000 mg/kg
Possible TPH-D RL[1] = 39,000 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
TPH-D = total petroleum hydrocarbons, diesel

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a) and soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER, 2010b).

Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200 Feet

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Delineation of TPH-D Soil Screening Level Exceedances
East Bay Site Boundary Technical Memorandum

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November 2010

Figure 23

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Constituent Delineation
- Historic Operations Areas
- Current Site Boundary

Notes:

TPH-HO SL = 3,000 mg/kg
Possible TPH-HO RL[1] = 39,000 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
TPH-HO = total petroleum hydrocarbons, heavy oil

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a) and soil concentrations protective of potential migration to surface water via groundwater pursuant to the soil-to-surface water empirical evaluation (PIONEER, 2010b).

Sample depth breakouts are based on sample top.

N
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0 50 100 200
Feet

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Delineation of TPH-HO Soil Screening Level Exceedances
East Bay Site Boundary Technical Memorandum
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Figure 24

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

- Historic Combustion Source Operation Areas
- Historic Non-Combustion Source Operations Areas
- Current Site Boundary

Notes:
bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs SL = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

-Non-detected values greater than the SL are not shown as exceedances.
-Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200
Feet

Comparison of Historic Operation Areas withTotal cPAH Soil Results
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 25

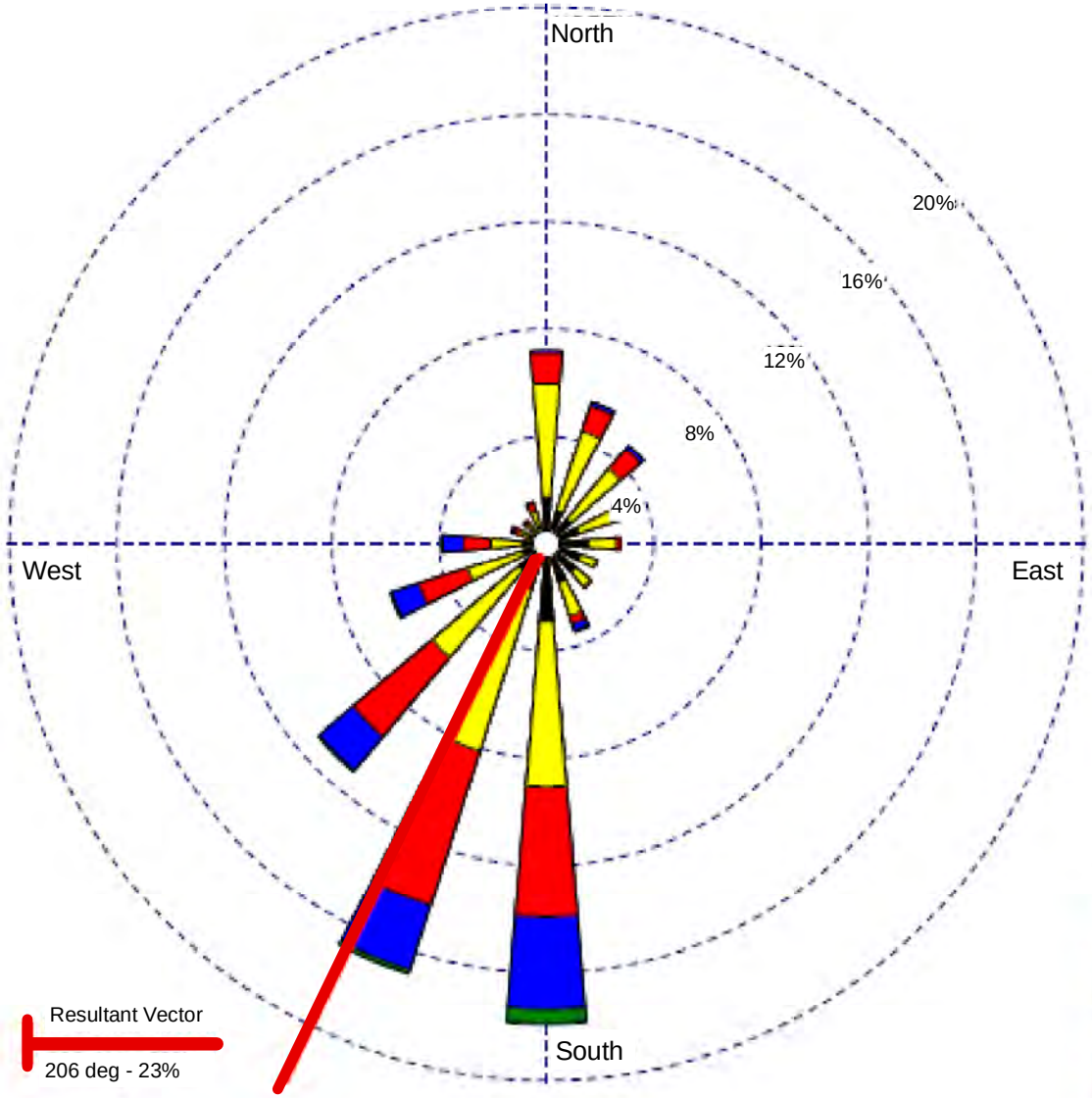
PIONEER TECHNOLOGIES CORPORATION

Notes:

Wind rose was obtained from the Office of Washington State Climatologist

Shows the direction from which the wind is blowing from.

Average Wind Speed: 6.35 knots



Wind Speed (Knots)

- >= 22
- 17 - 22
- 11 - 17
- 7 - 11
- 4-7
- 1-4

Calms: 8.56%

Wind Rose for Olympia Washington
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure 26

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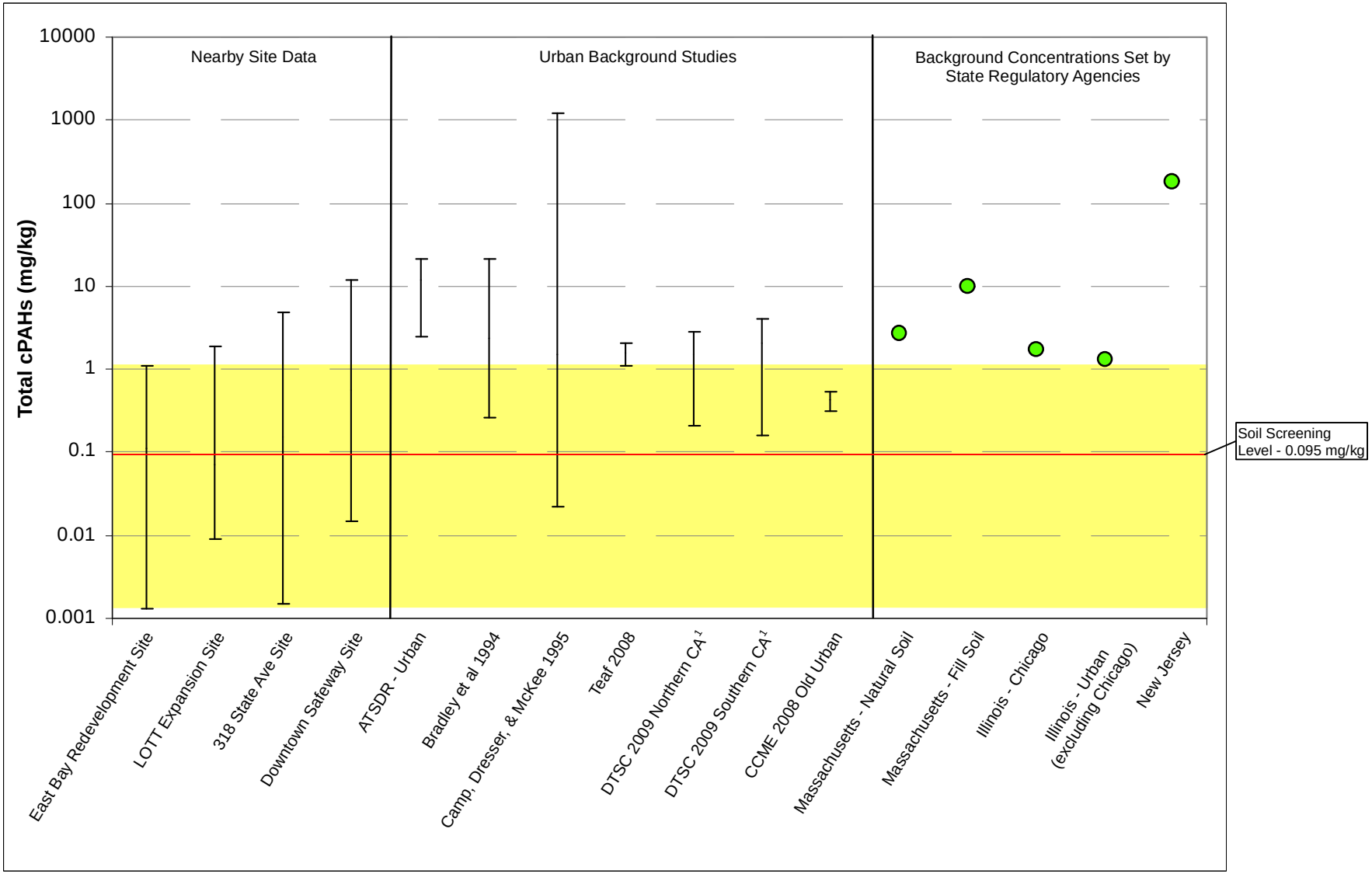
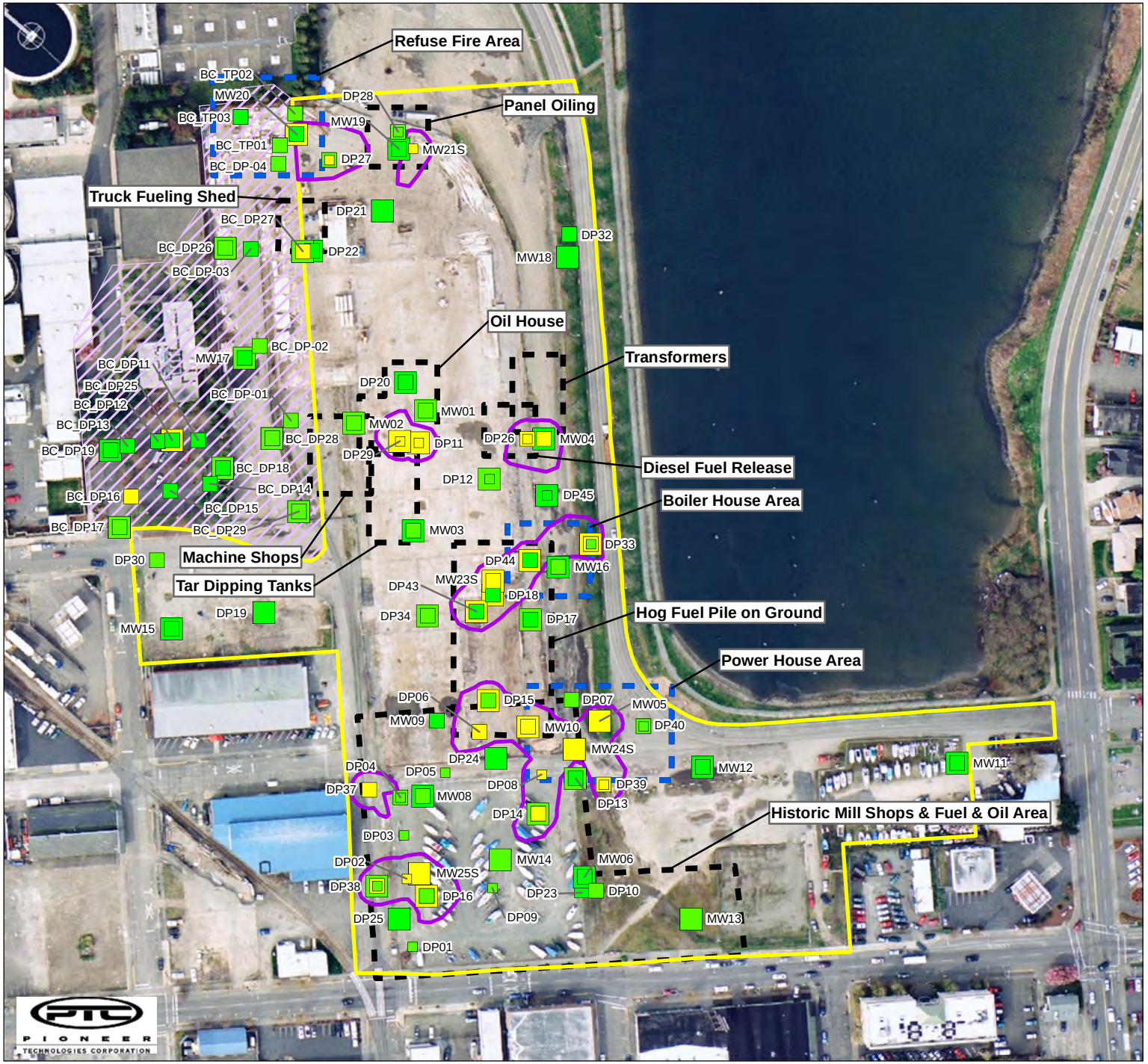
Figure 27. Ranges of Total cPAHs Soil Concentrations Observed at Nearby Sites, in Background Studies, and Accepted by State Regulatory Agencies



Notes:

= only one number reported - see Table 9.
= range of East Bay Redevelopment Site Data
= cPAHs Soil Screening Level (0.095 mg/kg)
See Table 9 for information on each study.
[1]The results of this study did not report the minimum, therefore the range shown here is the average to the maximum.



Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

- Constituent Delineation
- Current Site Boundary
- Historic Combustion Source Operation Areas
- Historic Non-Combustion Source Operations Areas
- LOTT Expansion Site

Notes:

bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs SL = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Non-detected values greater than the SL are not shown as exceedances.
-Sample breakout depths are based on sample top.

N
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0 50 100 200
Feet

Delineation of Total cPAHs Screening Level Exceedances
East Bay Site Boundary Technical Memorandum
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November 2010

Figure 28

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Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Historic Operations Areas
- Current Site Boundary
- LOTT Expansion Site

Notes:

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 ng/kg

SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

Data from LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, 2009a).

Sample depth breakouts are based on sample top.

N W E S

0 50 100 200 Feet

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Comparison of Historic Operation Areas with Total Dioxins/Furans Soil Results
East Bay Site Boundary Technical Memorandum

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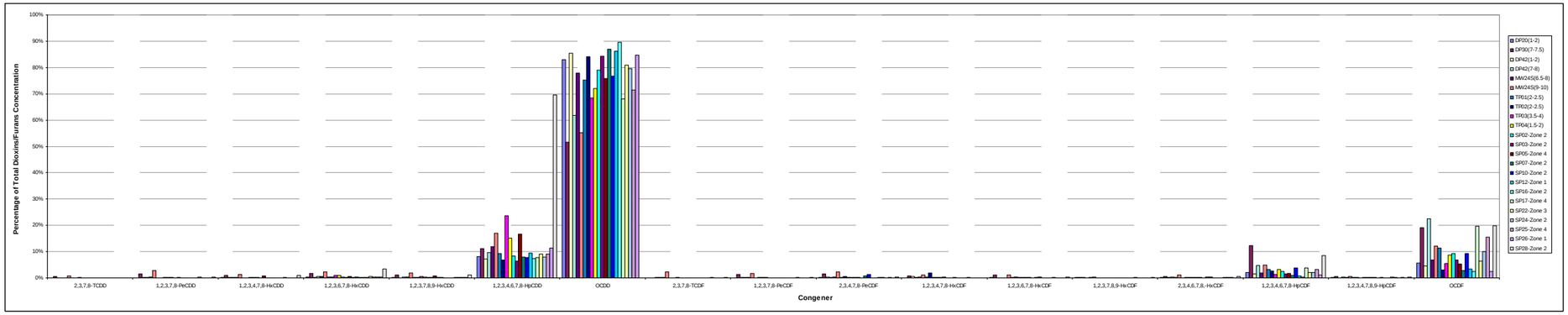
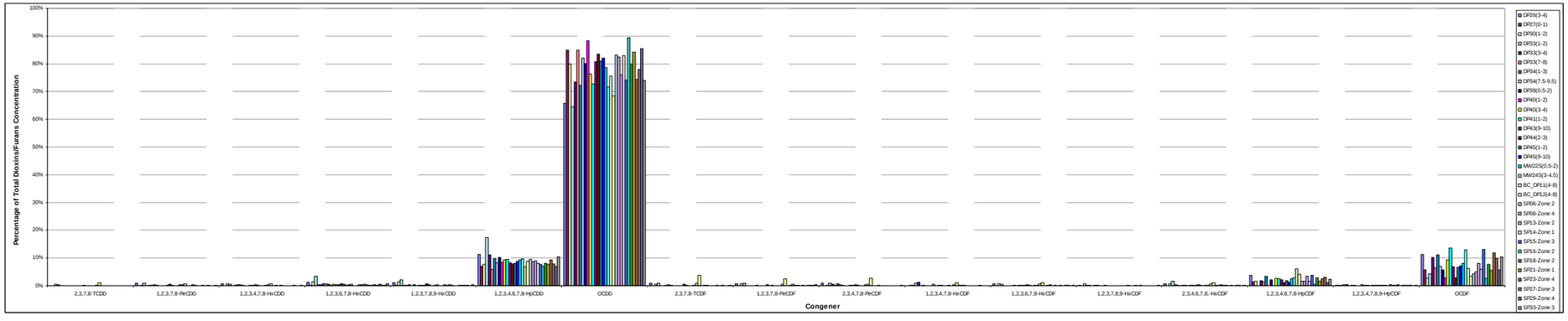
November 2010

Figure 29

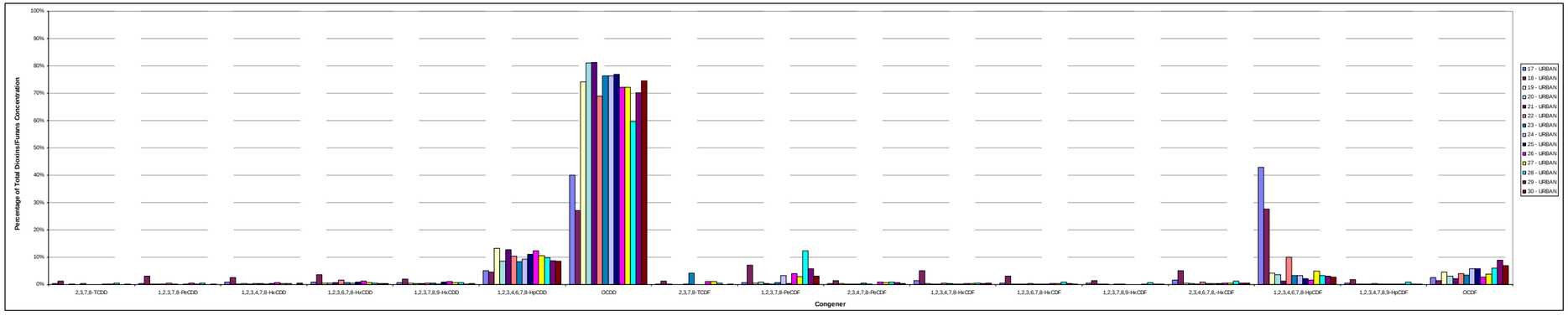
RI and IA Soil Data with Total Dioxins/Furans TEQ Concentration > 9.8 mg/kg



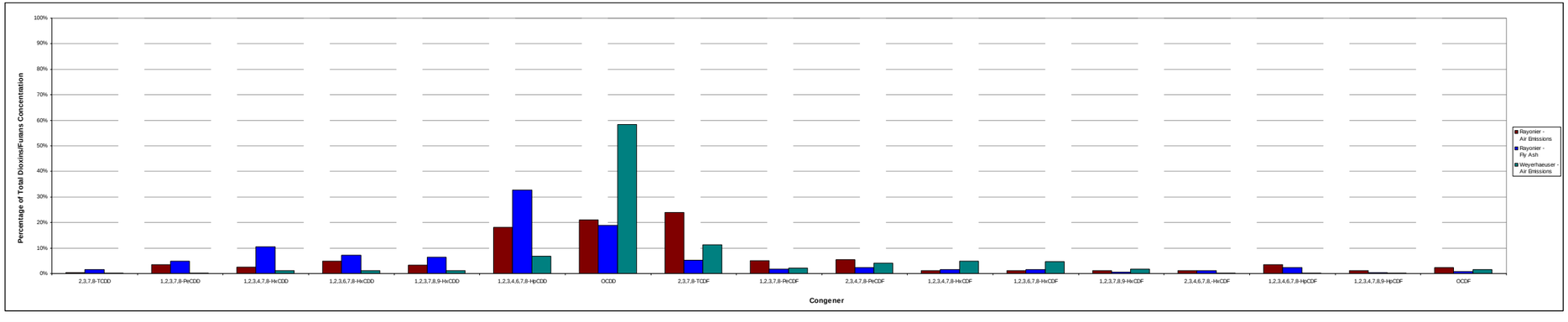
RI and IA Soil Data with Total Dioxins/Furans TEQ Concentration < 9.8 mg/kg



Ecology Urban Background Data (Ecology 1999a, 1999b, 1999c)



Hog Fuel Burner Air Emission and Fly Ash Data (Ecology 1999a, 1998b)



Notes:

IA = interim action
RI = remedial investigation
TEQ = Toxic Equivalency

PIONEER TECHNOLOGIES CORPORATION

Comparison of Dioxins/Furans Congener Profiles
East Bay Site Boundary Technical Memorandum
Port of Olympia
November 2010

Figure 30

Legend

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- Constituent Delineation
- Historic Operations Areas
- Current Site Boundary
- LOTT Expansion Site

Notes:

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 ng/kg
SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a).

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, 2009a).
-Sample depth breakouts are based on sample top.

N
W E
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0 50 100 200 Feet

Delineation of Total Dioxins/Furans Screening Level Exceedances
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 31

Legend

- Former Site Boundary
- Parcel Boundaries
- Groundwater Delineation

Constituent Delineations

- Arsenic and Lead
- TPHs
- cPAHs
- Dioxins/Furans

Past or Potential Future Soil Reuse Areas

- Infrastructure Corridor
- Parcel 4/5 Buildings or Hardscape
- Future Development

Notes:

cPAHs = total carcinogenic polycyclic aromatic hydrocarbons
D/F = Dioxins/Furans
TPH-D = total petroleum hydrocarbons diesel
TPH-G = total petroleum hydrocarbons gasoline
TPH-HO = total petroleum hydrocarbons heavy oil

N
W E
S

0 50 100 200 Feet

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Summary of Site Boundary Delineation Inputs
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure 32

Legend

- Resulting Site Boundary
- Former Site Boundary
- Parcel Boundaries
- Roads Paved During Infrastructure Interim Action

N
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0 50 100 200 Feet

Resulting Site Boundary
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure 33

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APPENDIX A

SELECT BORING LOGS AND RELEVANT SURVEY INFORMATION

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LOG OF BORING DP26

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634419.47193
Sampling Method	: Split-Spoon	Easting Coord.	: 1043177.48953

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Brown to gray silty, fine to coarse GRAVEL with variety of sand sizes, loose, dry						
1				0	1-2	09:00	
2	Brown silty fine SAND with fine to coarse Gravel, loose, dry to moist						
3				0	3-4	09:05	
4							
5	Light brown fine SAND with clay, loose to medium dense, wet		▼	0	5-6	09:10	No visual indications of contamination, odor, or sheens were detected in any interval. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7	Dark gray to black fine SAND with clay, shell pieces, medium dense, wet			0	7-8	09:15	
8				0	8-9	09:20	
9	Tan to orange to black WOOD chunks, loose to medium dense, moist to wet						
10							
11							
12	Total Depth = 12 Feet						

LOG OF BORING DP30

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634254.60094
Sampling Method	: Split-Spoon	Easting Coord.	: 1042676.90312

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Gray silty fine SAND with occasional coarse gravel, moist to wet						
1				0	1-2	13:50	
2							
3				0	3-4	14:00	
4				0	4-5	14:10	No visual indications of contamination, odor, or sheens were detected in any interval.
5			▼				Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7	Gray to black clayey SILT with some fine sand, medium stiff, moist			0	7-7.5	14:20	
	Reddish brown fine shredded WOOD debris						
8	Total Depth = 8 Feet						

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LOG OF BORING DP32

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634696.22837
Sampling Method	: Split-Spoon	Easting Coord.	: 1043234.78262

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dark brown sandy SILT loam						
	Gray, brown, and black silty GRAVEL with fine and medium sand, loose to medium dense, moist to wet						
1				0	1-2	09:00	
2							
3							
4				0	4-5	09:05	No visual indications of contamination, odor, or sheens were detected in any interval.
5							Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7							
8				0	8-9	09:10	
9			▼				
10	Total Depth = 10 Feet						

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LOG OF BORING DP33

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634276.63140
Sampling Method	: Split-Spoon	Easting Coord.	: 1043263.91444

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dark brown sandy SILT loam						
	Gray to brown (fines) silty GRAVEL with occasional fine sand, medium dense, dry to moist						
1				0	1-2	09:50	
2							
3	Brown silty medium SAND with frequent whiteish gray or black gravels, medium dense, moist			0	3-4	09:55	No visual indications of contamination, odor, or sheens were detected in any interval.
4							Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5				0	5-6	10:00	
6							
7	Dark brown to black silty coarse SAND and fine gravel, loose, moist to wet, with some wood debris		▼	0	7-8	10:05	
8	Total Depth = 8 Feet						

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LOG OF BORING DP36

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634004.81571
Sampling Method	: Split-Spoon	Easting Coord.	: 1043562.94294

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Gray to brown (fines) silty GRAVEL with fine to medium sand, loose to medium dense, dry to wet						
1				0	1-2	11:50	
2							
3				0	3-4	12:00	
4							No visual indications of contamination, odor, or sheens were detected in any interval.
5				0	5-6	12:10	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7				0	7-8	12:20	
8				0	8-9	12:30	
9			▼				
10	Total Depth = 10 Feet						

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LOG OF BORING DP39

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633951.44462
Sampling Method	: Split-Spoon	Easting Coord.	: 1043280.93889

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Dark brown sandy SILT loam						
	Gray to light brown sandy fine to coarse GRAVEL with silt, loose to medium dense, dry			0	0.5-2	13:40	
1							
2	Brown to dark brown, silty medium to coarse SAND, with fine gravel, medium dense, moist to wet		▼				
3				0	3-5	13:50	No visual indications of contamination, odor, or sheens were detected in any interval. Boring was approximately 20 feet north of ponded water and two feet higher in elevation than ponded water, so groundwater depth is likely reflective of ponded water. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
4							
5	Weathered brown WOOD chunks, wet to dry						
6							
7							
8	Total Depth = 8 Feet						

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LOG OF BORING DP40

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 11/4/2008	Logged By	: T. Bussey (PTC)
Date Completed	: 11/4/2008	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634029.91253
Sampling Method	: Split-Spoon	Easting Coord.	: 1043335.07223

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Asphalt with minimal basecourse						
	Gray to brown (fines) silty gravel with fine and medium sand, loose to medium dense, dry to moist						
1				0	1-2	11:10	
2							
3				0	3-4	11:15	No visual indications of contamination, odor, or sheens were detected in any interval.
4							Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5	Brown silty fine and medium SAND with occasional gray or black coarse gravel, loose to medium dense, moist to wet			0	5-6	11:20	
6							
7			▼	0	7-8	11:25	
8	Total Depth = 8 Feet						

11-22-2010 P:\Port of Olympia\East Bay\RI Tasks\RI Report\General Tables & Figs\Boring Logs\Part 1\Boring Files\DP40.bor

LOG OF BORING DP41

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633805.88365
Sampling Method	: Split-Spoon	Easting Coord.	: 1043493.80755

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Light gray to brown sandy fine to coarse GRAVEL with silt, loose to medium dense, dry to wet						
1				0	1-2	14:20	
2							
3				1.9	3-4	14:25	
4							No visual indications of contamination, odor, or sheens were detected in any interval.
5				0	5-6	14:30	Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6							
7			▼				
8	Total Depth = 8 Feet						

11-22-2010 P:\Port of Olympia\East Bay\RI Tasks\RI Report\General Tables & Figs\Boring Logs\Part 1\Boring Files\DP41.bor

LOG OF BORING DP42

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/10/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/10/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 634144.85883
Sampling Method	: Split-Spoon	Easting Coord.	: 1043221.73673

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Gray to brown sandy GRAVEL with silt, loose to medium dense, dry						
1				0	1-2	13:00	
2							
3	Light gray to light brown silty fine SAND, occasional fine gravel, loose to medium dense, moist			0	3-4	13:05	
4							
5	Dark brown silty fine to coarse SAND with gravel and wood debris, medium dense, moist to wet			0.3	5-6	13:10	No visual indications of contamination, odor, or sheens were detected in any interval. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
6			▼				
7	Orange to brown WOOD chunks and sawdust-sized wood debris with coarse gravel and lean clay, medium dense, wet			0.5	7-8	13:15	
8							
9							
10							
11							
12	Total Depth = 12 Feet						

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BROWN AND CALDWELL

BORING LOG

Project Name: East Bay Parcel 4 and 5 Well Number: DP44

Soil Boring [X] Monitoring Well [ ] Project Number: 138130 Sheet 1 of 1

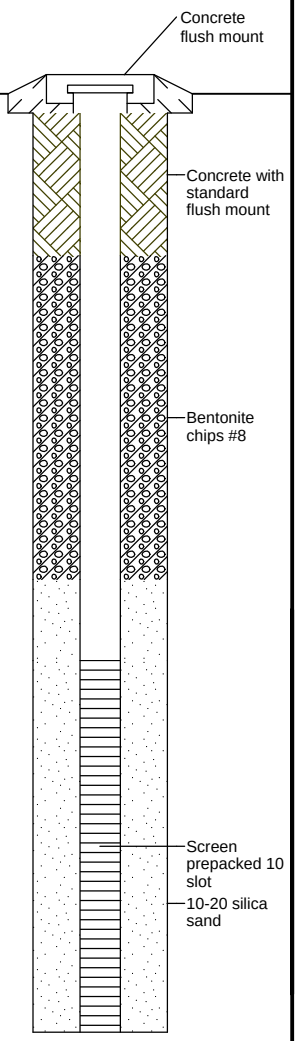
Boring Location: Parcel 4 / Parcel 5		Elevation:	
Drilling Contractor: ESN Northwest	Driller: Marty	Date Started: 090916	Date Finished: 090916
Drilling Equipment: Geoprobe	Borehole Diameter: 2"	Depth: 12'	Water Depth: 7'
Sampling Method: Soil from acetate sleeve		Well Casing (type, diam.): NA	
Drilling Method: Direct Push	Drilling Fluid: NA	Well Screen (type,diam.): NA	
Backfill Material: Bentonite	Well Seal: NA	Slot Size: NA	Filter Material: NA
Logged By: **Brown and Caldwell**	Checked By:	Development Method: NA	

Depht (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings (ppm)	Remarks
		Conc to 6" / Sand with pebbles		20					Concrete surface, penetrated by core drill
5		Sand with Pebbles		60					
		Wood							
		Sand		90					
10		Wood							

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	11.59	Top of Casing Elevation (ft)	101.66	Groundwater Elevation (ft)	97.45
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126252.22 24078.30508

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		30		1			TS	Grass and topsoil		0.0
								SM	Brown to gray fine to coarse sand with gravel and silt (moist)		
	5		32		2			ML	Brown to black silty fine to coarse sand with gravel (wet)	SS	0.0
			14		3			SM	Dark brown to black silty fine to coarse sand with gravel (wet)	SS	0.0
	10					CA					
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-05

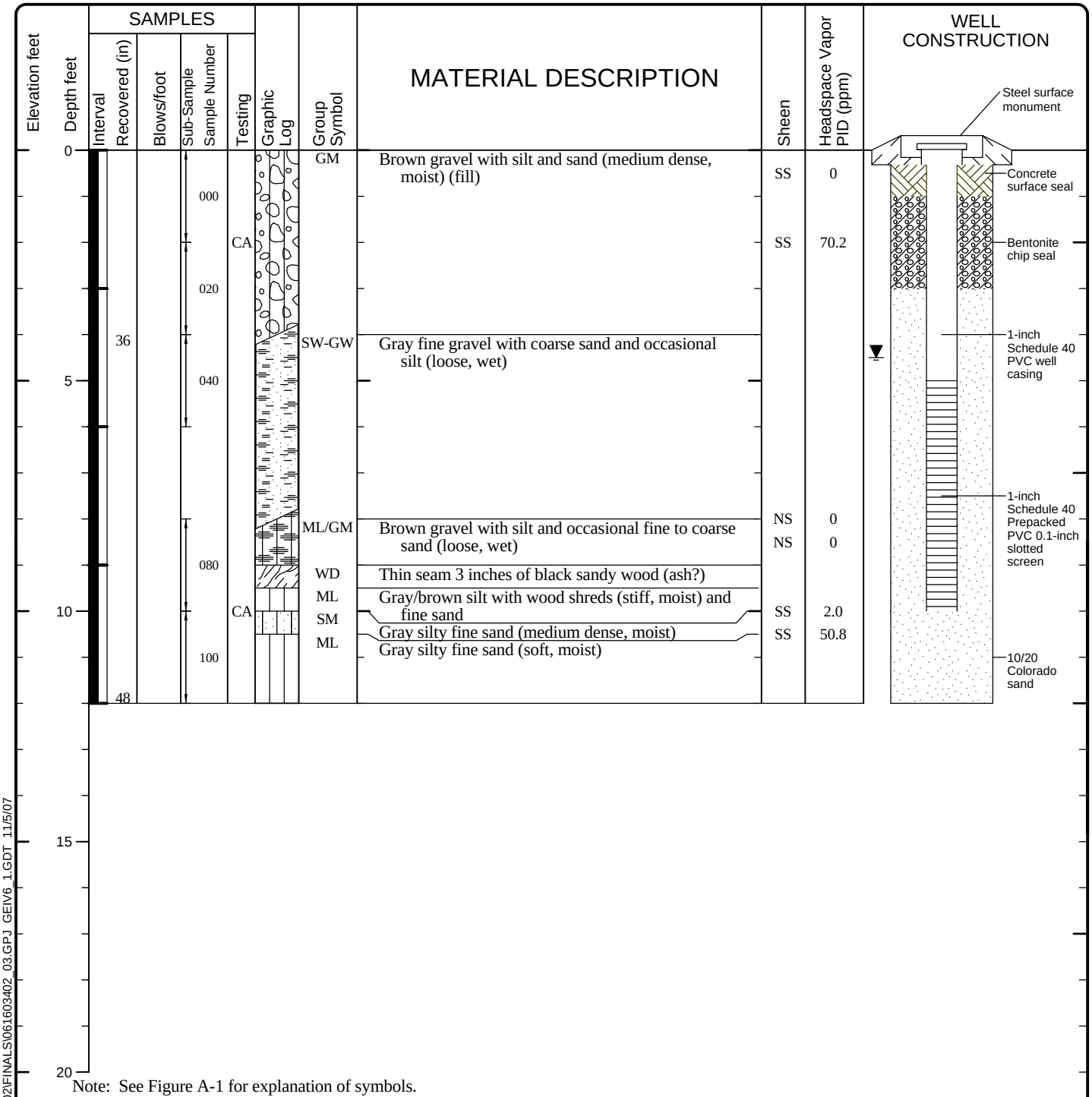
GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-6
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	7.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126736.65701 24022.2700981



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-11

GeoEngineers

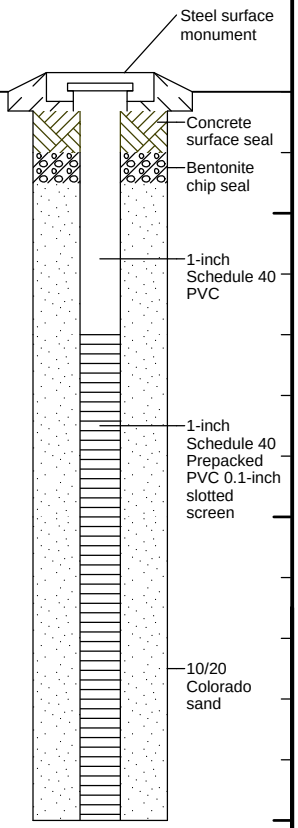
Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-11
Sheet 1 of 1

Date(s) Drilled	08/01/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126391.2635 24014.473978

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0				000			GW	Brown fine gravel with fine to coarse sand and silt (dense, moist to dry)	NS	16.9
					020			SW	Brown fine to coarse sand with occasional gravel and silt (dense, moist to dry)	NS	81
			48			CA					
	5				040					NS	0
								SW	Brown fine to coarse sand with occasional gravel and trace silt (medium dense, wet)		
					060			SW	Brown coarse sand with occasional gravel and trace silt (medium dense, wet) circular rock, possible clay	NS	0
			36								1.6
					080						
	10					CA				SS	1.0
					100					NS	
			30								
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-12

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

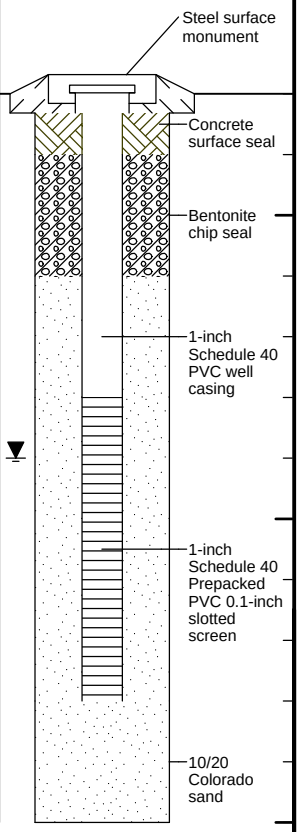
Figure A-12
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/01/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126377.54827 23808.4551652

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							SOD	6 inches topsoil and sod		
					000			GW	Brown gravel with fine to coarse sand and occasional silt (medium dense, moist)	NS	2.0
											85.5
					020			SW	Brown fine to coarse sand with gravel and silt (medium dense, moist) potential historic working surface	SS	1.0
			40								
	5				040						
						CA		SW	Gray coarse sand with occasional gravel (medium dense, wet)		
					060			SM	Black sand with silt and occasional shredded wood (medium dense, moist to wet)	NS	0
			36					SW	Gray coarse sand with occasional gravel (medium dense, wet)		
								ML	Black sandy silt with occasional shreds of wood (medium stiff, moist)	NS	75
					080						
	10					CA		ML	Brown silt with occasional fine sand and trace shreds of wood (very stiff, moist)	NS	0
					100			SW	Gray fine to medium sand with trace silt (medium dense, moist)	NS	0
			36								
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-13

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

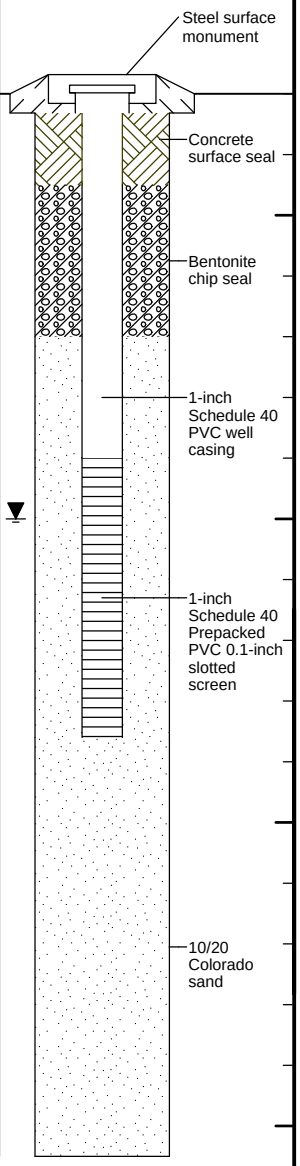
Figure A-13
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	07/31/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	17.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126199.16148 24288.4074665

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	21	1			GW	Brown fine to coarse gravel with sand, trace silt (dense, moist)	SS	0
								GW	Brown fine to coarse gravel with sand, trace silt (medium dense, moist)	NS	0
	2		12		2						
	5		6	7	3	CA		SW	Gray fine to medium sand with trace silt and small chunks of wood (loose, moist)		
			5							SS	0
			12	5	4			SW	Gray fine to medium sand with trace silt (loose, wet)	NS	0
										NS	0
			15	52	5			WD	Light brown silt, in mostly solid wood chunks (whole tube) looked like rotting wood	SS	0
	10		3	15	6			SW	Gray fine to medium sand with trace silt and wood chunks		
										SS	0
			5	10	7						
			13			CA				SS	0
			2	3	8						
	15					CA					
			18	2/18"	9			ML	Gray fine sandy silt with shells and occasional wood bits (stiff, moist)		
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-16

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

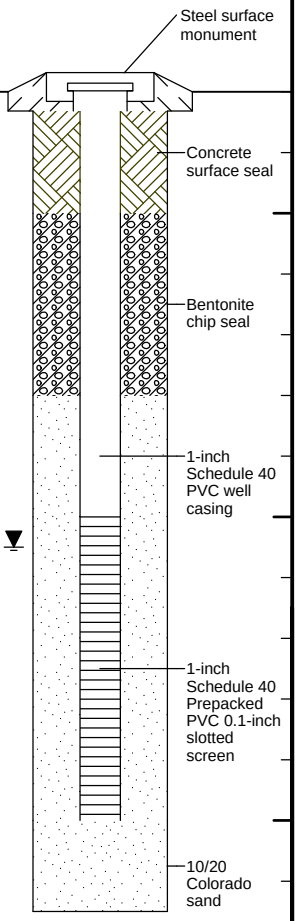
Figure A-16
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	13.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	4.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126205.92375 24712.3138997

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	26	1			TS	Topsoil		
								GM	Brown fine gravel with silt and sand (medium dense, moist)	NS	13.4
			8	27	2	CA			Grades to dense	NS	0.8
			5	48	3					SS	7.1
	5								Grades to very dense		
			8	66	4					NS	18.5
			3	20	5			GW	Gray gravel with sand and trace silt (medium dense, wet)	SS	47.3
	10		3	15	6	CA					
			2	4	7			GW	Gray fine gravel with sand trace silt (loose, wet)	NS	10.8
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-18

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-18
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

LOG OF BORING MW24S

PIONEER TECHNOLOGIES CORPORATION

Port of Olympia
East Bay Redevelopment Site
Olympia, WA

Date Started	: 6/12/2009	Logged By	: T. Bussey (PTC)
Date Completed	: 6/12/2009	Drilling Firm	: ESN
Drilling Method	: Direct-push	Northing Coord.	: 633999.13000
Sampling Method	: Split-Spoon	Easting Coord.	: 1043241.52000

Depth in Feet	DESCRIPTION	GRAPHIC	Water Level	Sample PID (ppm)	Sample Interval	Time	Notes
0	Gray to brown sandy fine to coarse GRAVEL, medium dense, dry to wet						
1							
2				0	1-2.5	11:40	
3							
4				0	3-4.5	11:50	Slight sheen, possible odor and black staining in 6.5-8 foot interval, (difficult to tell vursus decomposing wood). No visual indications of contamination, odor, or sheens were detected in any other interval. Not all containerized samples were submitted to the laboratory, and not all samples submitted to the laboratory were analyzed.
5							
6							
7	Black-stained decomposing WOOD with sand			0	6.5-8	12:00	
8	Gray to brown sandy fine to coarse GRAVEL, medium dense, wet						
9	Dark brown to black silty lean CLAY, with wood debris, wet			0.4	9-10	12:10	
10	Total Depth = 10 Feet						

11-22-2010 P:\Port of Olympia\East Bay\RI Tasks\RI Report\General Tables & Figs\Boring Logs\Part 1\Boring Files\MW24S.bor

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist)			
			CA		SM	Brown to gray silty fine to coarse sand with gravel (medium dense, moist) occasional wood, brick and rock debris			
						Test pit completed at 3 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP01

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-2
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist)			
			CA		SM	Brown to gray silty fine to coarse sand with gravel (medium dense, moist) (occasional gravel and brick debris			
						Test pit completed at 4 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP02

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-3
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist)			
	X		CA		SW	Dark brown to black fine to coarse sand with gavel and silt (medium dense, moist) concrete brick and glass debris			
						Test pit completed at 4 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP03

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-4
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Date Excavated: 10/04/07 Logged by: JCD

Equipment: Kubota 121 Excavator Surface Elevation (ft): ~11

Elevation feet / Depth feet	Sample	Sample Number	Analytical Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor ()	OTHER TESTS AND NOTES
0					SW	Brown fine to coarse sand with gravel and silt (medium dense, moist) occasional concrete and brick debris			
	X		CA		SW	Dark brown to black fine to coarse sand with silt and gravel (medium dense, wet) wood ceramic and brick debris			
						Test pit completed at 2 feet on 10/04/07 No groundwater seepage observed No caving observed			
5									

Notes: See Figure A-1 for explanation of symbols.
The depths on the test pit logs are based on an average of measurements across the test pit and should be considered accurate to 0.5 foot.

LOG OF TEST PIT TP04

GeoEngineers

Project: Port of Olympia
Project Location: Olympia, Washington
Project Number: 0615-034-01

Figure A-5
Sheet 1 of 1

V6_ENVTPIT P:\0\0615034\01\FINALS\061503401.GPJ GEIV6_1.GDT 11/7/07

Legend

- 1979 Surface Elevation Contours
- Cross Section Location
- Roads Paved During Infrastructure Interim Action
- Current Site Boundary
- Parcel Boundaries

Note:

MLLW = mean lower low water

N
W E
S

0 50 100 200
Feet

1979 Surface Elevation Contours
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure A-1

PIONEER TECHNOLOGIES CORPORATION

Legend

- Current Surface Elevation Contours
- Cross Section Location
- Roads Paved During Infrastructure Interim Action
- Current Site Boundary
- Parcel Boundaries

N
W E
S

0 50 100 200
Feet

PIONEER TECHNOLOGIES CORPORATION

Current Surface Elevation Contours
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure A-2

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APPENDIX B

HISTORICAL PHOTOGRAPHS

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Notes:

This photo is not of the East Bay Site but of the former Washington Veneer Company which was about 1000 feet northwest of the Site.

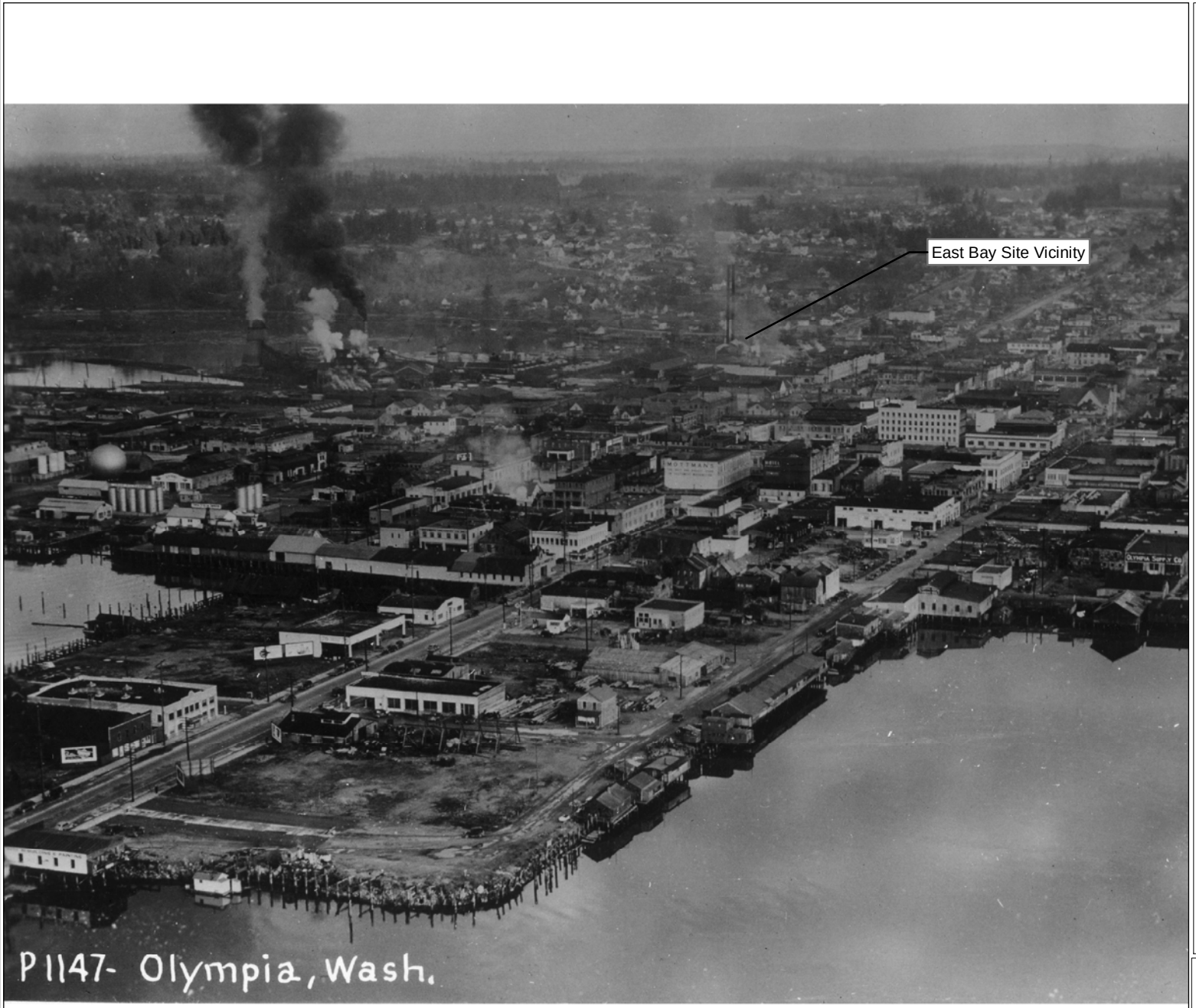
Photo from the Washington State Archives.

Historical Aerial Photograph of Site Vicinity Looking Northwest
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure B-1

PIONEER TECHNOLOGIES CORPORATION



PIONEER TECHNOLOGIES CORPORATION

Notes:

Photo from the Washington State Archives

Historical Aerial Photograph of Site Vicinity Looking Northeast
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure B-2

PIONEER TECHNOLOGIES CORPORATION

Notes:

Photo from the Washington State Archives.

Historical Aerial Photograph of Site Vicinity Looking Southeast
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure B-3

Notes:

The East Bay Site is not in this photo. It is located about 1000 ft to the southeast.

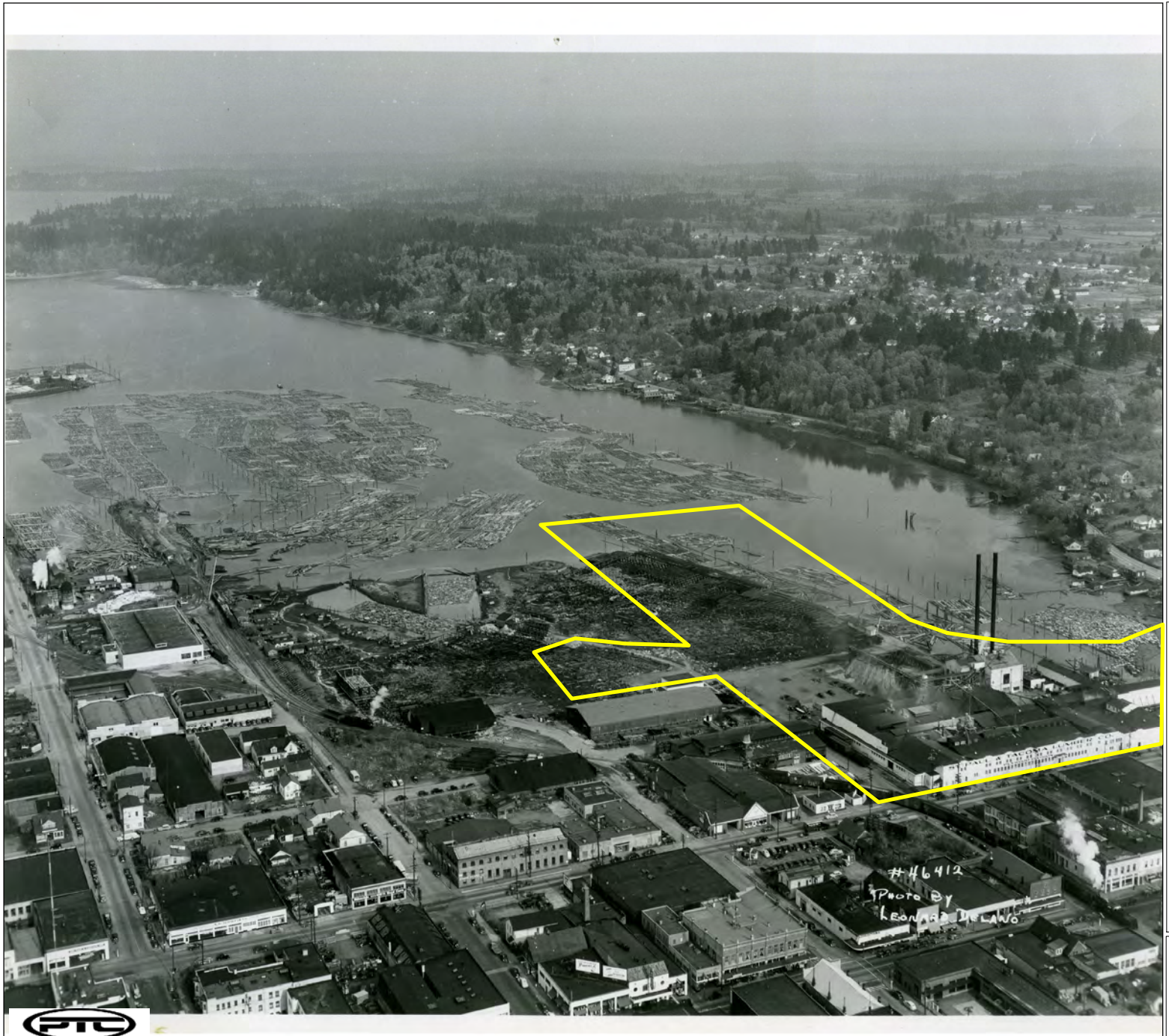
Photo is from the Washington State Archives.

Historical Aerial Photograph of Site Vicinity Looking East
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure B-4

PIONEER TECHNOLOGIES CORPORATION



PIONEER TECHNOLOGIES CORPORATION

Legend

Approximate Current Site Boundary

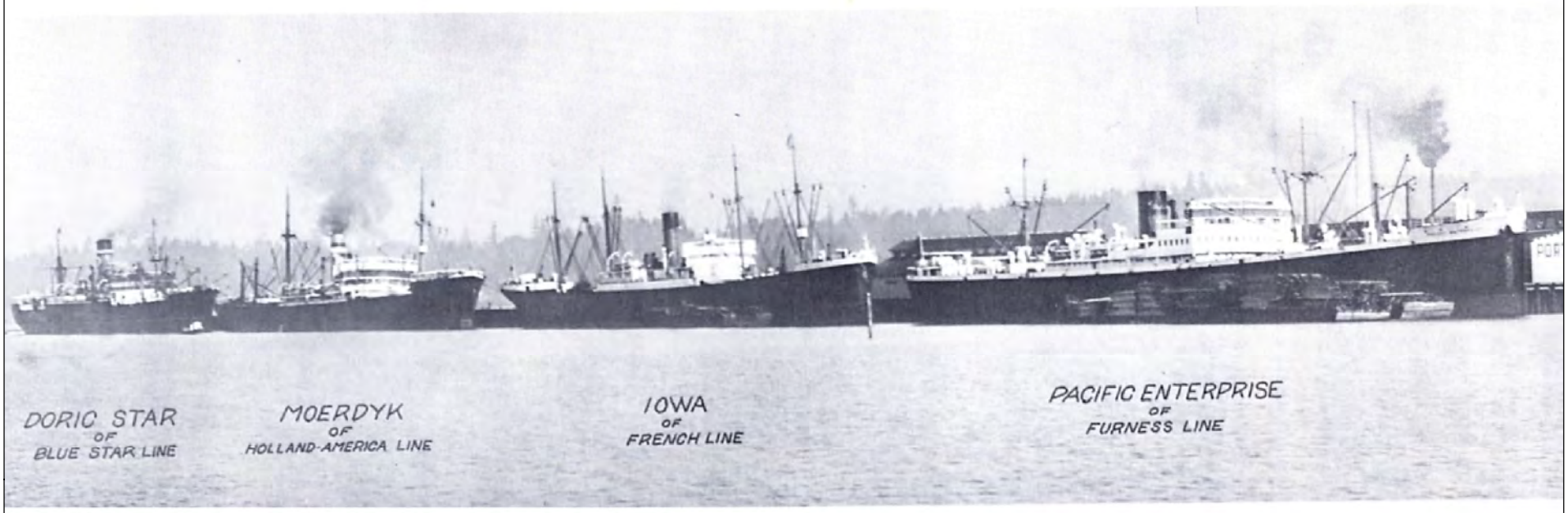
Notes:

Photo from the Washington State Archives.

Historical Aerial Photograph
of Site
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010

Figure B-5



Notes:

Photo from Stevenson 1982

Historical Aerial Photograph
of Ships at Port
East Bay Site Boundary Technical Memorandum

Port of Olympia
November 2010 Figure B-6

PIONEER TECHNOLOGIES CORPORATION

COMMENTS AND RESPONSES ON NOVEMBER 2010 SITE BOUNDARY TECHNICAL MEMORANDUM

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

December 14, 2010

Ms. Joanne Snarski
Environmental Program & Project Manager
Port of Olympia
915 Washington Street NE
Olympia, WA 98501

Re: **Request for Data Gap Work Plan and Transmittal of Ecology Comments on the *Site Boundary Memorandum for the East Bay Redevelopment Site,* Prepared for the Port of Olympia by Pioneer Technologies Corporation, November 2010; East Bay Redevelopment Site, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE7830.**

Dear Ms. Snarski:

Thank you for submitting the above-referenced Site Boundary Memorandum report for our review. **We have reviewed this document and find that the Site Boundary has not been adequately defined and further work is necessary. Therefore, as per Section VII.B. of the Agreed Order, this letter is Ecology's written request to the Port of Olympia (Port) to submit a Data Gap Work Plan and schedule within 60 days of the date of this letter.**

Specific locations where data gaps exist are listed below:

1. Locations where additional carcinogenic polycyclic aromatic hydrocarbons (cPAHs) samples are needed:

    a. North and east of MW-21S
    b. West of DP-37 and -38
    c. Northeast of MW-5
    d. East of DP-33
    e. East of MW-4
    f. Northeast and northwest of MW-20

    The samples at locations a, c, d, and e, above, need to include the historic sediments below the 1982 fill.

    Vertical delineation is a data gap that may also need to be addressed. For example, there are 27 locations in Table 7 where cPAH concentrations or reporting limits exceed the 0.095 milligrams per kilogram (mg/kg) screening level. However, the vertical depth of contamination is only defined at six of the 27 locations.

2. Locations where additional dioxins/furans samples are needed:

    a. North, south, east, and west of DP-30
    b. East of DP-26
    c. East of TP-2
    d. East of DP-42
    e. Northeast of TP-3
    f. West of MW-24S
    g. West of TP-4

    The samples at locations b, c, d, and e, above, need to include the historic sediments below the 1982 fill.

    Vertical delineation is a data gap that may also need to be addressed. For example, there are nine locations in Table 8 where dioxin/furan concentrations exceed the 9.8 nanograms per kilogram (ng/kg) screening level. However, the vertical depth of contamination is only defined at one of these locations.

Ecology's comments on the Site Boundary Memorandum are listed below. These comments shall be incorporated into the Draft Remedial Investigation/Feasibility Study Report when it is prepared.

1. Section 1.4 and Figure 3: Contaminated fill is a potential source area that needs to be considered in the framework and illustrated in Figure 3.

2. Section 3.1: Ecology is currently reviewing the revised soil-to-surface water empirical evaluation report. Therefore, this comment letter will not include comments pertaining to the empirical evaluation.

3. Section 3.3, footnote 16; Tables 1 through 11: Ecology does not agree that data from soil stockpiles can be excluded in the evaluation. Stockpile zones were specifically defined in the interim action work plan so that these data could be used to provide general information on the distribution of contamination.

4. Section 3.3, footnote 17: This footnote simply lists the exceptions where Interim Action soil data were not consistent with Remedial Investigation soil data without providing any further explanation or discussion. Such explanation and discussion should have been included.

5. Section 4.1: A personal communication with a Port staff member does not seem to be adequate documentation that the 1982 fill was from a "clean, upland borrow source." Additional documentation should be provided such as the name and location of the pit and other documentation (such as invoices). Also, how can a "personal communication" provide documentation of "a 1979 survey of surface topography prior to the 1982 fill event"?

6. Section 4.2: The suggestion that arsenic was released from the hog fuel pile does not seem likely. For this possibility to be seriously considered, examples of sites where this has occurred should be presented.

7. Section 4.2: Missing from the discussion of total petroleum hydrocarbons (TPH) in this section was the buried structure found during the artesian well search in the southwest corner of Parcel 3. This structure appeared to be a former hoist and had visual evidence of contamination. The contamination associated with this structure has not been characterized. Contamination from hoists can include polychlorinated biphenyls (PCBs).

8. Section 4.2, 2nd paragraph and Section 4.4, last paragraph: Ecology does not agree with the assumption of a distance of 25 feet for the extent of contamination in situations where there are no samples within 100 feet of a particular exceedance. In such cases, additional samples need to be collected to define the extent. Regarding footnote 20, item (3) it should be noted that the constituents analyzed in the Parcel 4/5 confirmation samples do not include TPH. Also, regarding the "less than 10 feet" lateral distance mentioned in the footnote, recent data shows that this statement is not accurate.

9. Section 4.3: This section focuses on Figure 25 for the definition of cPAH source areas. This figure is incomplete in that it does not include treated pilings and railroad tracks as cPAH source areas. Because of the widespread distribution of pilings at the Site, they are probably a significant source of cPAH concentrations in soil. The former railroad tracks along Jefferson Street may be the cause of the elevated cPAH concentrations seen in the stockpile samples from Zones 1 and 2. Samples from these zones had Interim Action Cleanup Level exceedance frequencies of 40% and 42%, respectively, compared to a maximum of 25% for the other two zones. Also, sample SP24-2, Zone 2 showed the maximum cPAH concentration for the Site (10.6 mg/kg); this concentration is greater than 100 times the screening level.

10. Section 4.3, page 14, 1st paragraph, last sentence: Ecology does not agree that the on-property total cPAH exceedances can be attributable to "urban background." Background would need to be determined using procedures consistent with WAC 173-340-709.

11. Section 4.4, 1st bullet: Ecology does not agree with the use of the referenced screening levels from the Agency for Toxic Substances and Disease Registry (ATSDR).

12. Section 4.4, 2nd paragraph, 1st bullet: This bullet includes a statement that no dioxin/furan soil exceedances in the boiler house or power house area were from the top 2 feet of soil. More recent data from the Hands On Children's Museum Interim Action shows that this statement is no longer true.

13. Section 4.4, 5th paragraph: This paragraph suggests that historic total dioxin/furan concentrations in Budd Inlet surface sediment may have been elevated due to "historic, regional anthropogenic activities" and references the 2008 Budd Inlet Sediment Characterization Report. The Cascade Pole Site should also be mentioned as a source of elevated dioxin/furan and cPAH concentrations in Budd Inlet sediment as well as potentially for the East Bay Redevelopment Site. Sediment data from the Budd Inlet report should have been included in the congener profiles in Figure 30 (such as samples BI-C5, -S7, and –S-30). Ecology recommends that congener profiles include normalized bulk concentration and normalized toxic equivalent concentration.

14. Section 4.4, page 16, 4th bullet: The 1999 Ecology report referenced here was not designed to provide conclusions about urban background for dioxins and furans. This is the subject of a current study by Ecology. Also, it should be noted that the data set in the 1999 report does not include any samples from the Olympia area.

15. Figure 6: This figure also needs to show that the historic operation area included Budd Inlet.

If you have any questions about any of the information presented in this letter, please contact me at (360) 407-6247 or via e-mail at stee461@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:Comments Site Boundary Memo 121310

By certified mail: (7009 2820 0001 7155 7051)

cc: Mr. Troy Bussey, PIONEER Technologies Corporation
Mr. Tom Morrill – City Attorney
Mr. Chris Cleveland, Brown and Caldwell
LOTT Clean Water Alliance, c/o Mr. Eric Hielema, Senior Wastewater Engineer
Ms. Karla Fowler, LOTT Clean Water Alliance
City of Olympia, c/o Jay Burney, Assistant City Manager – Special Projects
Mr. Michael D. Strub, LOTT Alliance
Maggie Yowell, FOSTER PEPPER PLLC
Ms. Kimberly Seely, Coastline Law Group PLLC
Rebecca Lawson - Department of Ecology
Scott Rose – Department of Ecology
Ivy Anderson – Office of the Attorney General
Meg Bommarito, Department of Ecology

Port of Olympia

December 30, 2010

Mr. Steve Teel
Washington State Department of Ecology
Toxics Cleanup Program
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Re: Ecology Review of Site Boundary Technical Memorandum for the East Bay Redevelopment Site, Ecology Facility/Site No. 5785176, Agreed Order DE7830.

Dear Mr. Teel:

This letter is in response to your letter dated December 14, 2010 about the Site Boundary Technical Memorandum. Pursuant to my phone conversation with you on December 16, 2010, it is my understanding that Ecology is still considering the site boundary information the Port presented at our meeting on December 15, 2010, and that the Port will not proceed with a Data Gap Work Plan until the issues discussed at the December 15th meeting are satisfactorily resolved. The Port looks forward to continue working with Ecology to make progress on cleanup at this site.

Sincerely,

Joanne Snarski
Environmental Program and Projects Manager

cc: Mr. Scott Rose, Washington State Department of Ecology
Ms. Rebecca Lawson, Washington State Department of Ecology
Ms. Meg Bommarito, Washington State Department of Ecology
Ms. Ivy Anderson, Office of the Attorney General
Mr. Jay Burney, City of Olympia
Mr. Tom Morrill, City of Olympia
Mr. Eric Hielema, LOTT Clean Water Alliance
Ms. Karla Fowler, LOTT Clean Water Alliance
Mr. Michael Strub, LOTT Clean Water Alliance
Ms. Maggie Yowell, Foster Pepper
Mr. Troy Bussey, PIONEER Technologies Corporation
Ms. Kimberly Seely, Coastline Law Group
Mr. Chris Cleveland, Brown and Caldwell

Port of Olympia

February 18, 2011

Mr. Steve Teel
Washington State Department of Ecology
Toxics Cleanup Program
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Re: Response to Ecology's December 14, 2010 comment letter on the November 2010 draft Site Boundary Technical Memorandum for the East Bay Redevelopment Site

Dear Mr. Teel:

Thank you for your comments on the draft Site Boundary Technical Memorandum. The Port of Olympia's response to your December 14, 2010 comment letter is attached.

Please note that the Port of Olympia is proposing to collect additional data gap soil samples per your direction. The Port of Olympia will prepare a Data Gap Work Plan for your review and approval as soon as possible (but no longer than 60 days) upon receipt of your approval of this response to comment letter.

Sincerely,

Joanne Snarski
Environmental Program and Projects Manager

cc: Mr. Scott Rose, Washington State Department of Ecology
Ms. Rebecca Lawson, Washington State Department of Ecology
Ms. Ivy Anderson, Office of the Attorney General
Ms. Meg Bommarito, Washington State Department of Ecology
Mr. Jay Burney, City of Olympia
Mr. Tom Morrill, City of Olympia
Mr. Eric Hielema, LOTT Clean Water Alliance
Ms. Maggie Yowell, Foster Pepper
Mr. Josh Johnson, Brown and Caldwell
Ms. Kim Seely, Coastline Law Group
Mr. Chris Waldron, PIONEER Technologies Corporation
Mr. Troy Bussey, PIONEER Technologies Corporation

Document reviewed by Ecology was *Site Boundary Memorandum for the East Bay Redevelopment Site*, Prepared for the Port of Olympia by PIONEER Technologies Corporation, November 2010. Ecology comments provided in letter from Steve Teel to Joanne Snarski dated December 14, 2010.

Specific locations where data gaps exist are listed below:

1. Locations where additional carcinogenic polycyclic aromatic hydrocarbons (cPAHs) samples are needed:

    a. North and east of MW-21S
    b. West of DP-37 and -38
    c. Northeast of MW-05
    d. East of DP-33
    e. East of MW-4
    f. Northeast and northwest of MW-20

    The samples at locations a, c, d, and e, above, need to include the historic sediments below the 1982 fill.

Response: Even though the Port stands by the evaluation approach and conclusions presented in the draft Site Boundary Technical Memorandum, additional data gap samples for cPAHs and dioxins/furans will be collected as directed by Ecology. See Table 1, Figure 1, and Figure 2 for the proposed sampling design for cPAHs and dioxins/furans. It should be noted that samples cannot be collected beneath the 1982 fill as requested in Comments 1a, 1e, 2b, and 2d because the 1982 fill is not present in the sample locations proposed to address these comments. If possible, samples will be collected beneath the 1982 fill as described in Table 1 for sample locations proposed to address Comments 1c, 1d, 2c, and 2e.

The Port would like to state for the record that it believes it is important to define clear data quality objectives and data evaluation decision criteria in the Data Gap Work Plan. Factors unique to this site that the Port believes should be considered when evaluating the investigation data include:

- How could a release from an on-property source have impacted the proposed sampling locations? Given (1) the plausible on-property release mechanisms (e.g., a variety of localized spills/buried refuse, treated wood pilings), (2) the physiochemical properties of cPAHs and dioxins/furans (e.g., they strongly bind to soil and have low water solubilities), and (3) the distance of the proposed samples from the on-property areas of concern (AOCs), it seems unlikely to the Port that an on-property release of cPAHs and dioxins/furans could have impacted the proposed sampling locations. A recent example of the limited extent of the individual exceedances is the replicate confirmation soil sample collected from the TP02 excavation during the Parcel 4/5 Interim Action. The dioxins/furans concentration in TP02 confirmation soil sample CNF-3-17-3.5 was 2,200 ng/kg, but the dioxins/furans concentration in a replicate sample collected from the same location approximately six weeks later was only 0.69 ng/kg.
- Unlike most MTCA/CERCLA sites, it may not be possible to delineate all soil screening level exceedances to concentrations less than soil screening levels

at this site because there does not appear to be a major spill, plume, or similar point-source release to "chase" AND there are potential urban background contributions for cPAHs and dioxins/furans.

- As discussed in the draft memorandum, there is generally a good correlation between historic operations, plausible release mechanisms, and localized soil screening level exceedances for cPAHs and dioxins/furans at concentrations that are greater than approximately five times the soil screening level (e.g., greater than approximately 0.5 mg/kg for cPAHs and approximately 50 ng/kg for dioxins/furans). However, the distribution of cPAHs and dioxins/furans at concentrations between the soil screening levels and approximately five times the soil screening levels appear to be random, which would be expected if there was some contribution due to urban background and regional fill. For instance, the maximum total cPAH concentration in six of the seven existing sample locations where additional cPAH step-out samples are required (i.e., MW21S, DP37, DP38, MW05, DP33, and MW04) is only 0.33 mg/kg, which is less than concentrations that have been attributed to urban background in the literature.
- If concentrations of cPAHs or dioxins/furans in samples collected off-property exceed concentrations at adjacent on-property locations, then the on-property AOCs would not appear to be responsible for the off-property impacts since there is no evidence of a major spill or release that could have affected the off-property locations. If the exceedance frequency and concentration range of cPAHs or dioxins/furans in samples collected off-property are similar to on-property data, these results would appear to indicate that there are urban background, treated wood, regional fill, or similar non-point sources unrelated to the East Bay Redevelopment Site that are responsible for the off-property impacts.

Vertical delineation is a data gap that may also need to be addressed. For example, there are 27 locations in Table 7 where cPAH concentrations or reporting limits exceed the 0.095 milligrams per kilogram (mg/kg) screening level. However, the vertical depth of contamination is only defined at six of the 27 locations.

Response: In the Port's opinion, vertical delineation of cPAHs and dioxins/furans soil screening level exceedances is not necessary since (1) leaching from soil to groundwater is not a concern for cPAHs or dioxins/furans, and (2) it will need to be assumed when evaluating the three feasible remedial technologies (i.e., institutional controls, soil cap/cover, and soil removal) in the FS that the remedy will extend all the way to the point of compliance depth given the random distribution of low-level cPAHs and dioxins/furans exceedances, as discussed in the previous response. Furthermore, vertical delineation of all cPAHs and dioxins/furans soil screening level exceedances is likely not possible given the likely urban background and non-point source contributions discussed in the previous response.

2. Locations where additional dioxins/furans samples are needed:

   a. North, south, east, and west of DP-30
   b. East of DP-26
   c. East of TP-2
   d. East of DP-42
   e. Northeast of TP-3

f. West of MW-24S
g. West of TP-4

The samples at locations b, c, d, and e, above, need to include the historic sediments below the 1982 fill.

Response: See response to data gap comment #1.

Vertical delineation is a data gap that may also need to be addressed. For example, there are nine locations in Table 8 where dioxin/furan concentrations exceed the 9.8 nanograms per kilogram (ng/kg) screening level. However, the vertical depth of contamination is only defined at one of these locations.

Response: See response to data gap comment #1.

Ecology's comments on the Site Boundary Memorandum are listed below. These comments shall be incorporated into the Draft Remedial Investigation/Feasibility Study Report when it is prepared.

1. Section 1.4 and Figure 3: Contaminated fill is a potential source area that needs to be considered in the framework and illustrated in Figure 3.

   Response: Contaminated fill is a potential contaminant source that was considered in Section 1.4 and Figure 3. The revised memorandum will further clarify this.

2. Section 3.1: Ecology is currently reviewing the revised soil-to-surface water empirical evaluation report. Therefore, this comment letter will not include comments pertaining to the empirical evaluation.

   Response: Comment noted.

3. Section 3.3, footnote 16; Tables 1 through 11: Ecology does not agree that data from soil stockpiles can be excluded in the evaluation. Stockpile zones were specifically defined in the interim action work plan so that these data could be used to provide general information on the distribution of contamination.

   Response: Even though it will not affect the COPC list, the Infrastructure Interim Action data will be included when determining soil COPCs in the revised Section 3.3.

   For the record, it should be noted that soil stockpile data from the Infrastructure Interim Action was not disregarded when determining the site boundary. Rather, the soil stockpile data was used as a supplemental line of evidence to compare with the RI data as appropriate. With the exception of the anomalous detection of total cPAHs (which is already a COPC) at 10.6 mg/kg in a sample collected from Stockpile SP24-2, all of the constituent concentrations in stockpile samples were within the range of concentrations observed in RI soil samples. The Port believes that the stockpile zone data has no additional value for the site boundary determination (beyond use in helping to determine COPCs and as a supplemental line of evidence) since (1) stockpile data is consistent with the RI data, (2) there were no statistically significant trends or conclusions that could be drawn from the different stockpile zones (with the possible exception that the general lack of exceedances in Zone 3 might be

attributable to the fact that most of Zone 3 is comprised of 1982 fill), and (3) the stockpile data cannot be linked to a specific location. It should also be noted that use of stockpile zones was Ecology's idea and was required by Ecology prior to approval of the Interim Action Work Plan. See also response to memorandum comments #4 and #9.

4. Section 3.3, footnote 17: This footnote simply lists the exceptions where Interim Action soil data were not consistent with Remedial Investigation soil data without providing any further explanation or discussion. Such explanation and discussion should have been included.

   Response: See response to memorandum comment #3. The interim action data was further discussed in footnote 19 on page 12, footnote 22 on page 13, and footnote 37 on page 17 of the draft memorandum.

5. Section 4.1: A personal communication with a Port staff member does not seem to be adequate documentation that the 1982 fill was from a "clean, upland borrow source." Additional documentation should be provided such as the name and location of the pit and other documentation (such as invoices). Also, how can a "personal communication" provide documentation of "a 1979 survey of surface topography prior to the 1982 fill event"?

   Response: The Port has obtained from archives the engineering specifications and plans used for the 1982 fill event. While this documentation does not list the name and location of the borrow pit, the specifications demonstrate the requirements for the type of fill that was required and the plans show where the fill was placed. This documentation will be included as an appendix to the revised memorandum. If Ecology would like additional information about the 1982 fill event, it is recommended that Ecology talk with Port employee Eric Egge, who was directly involved with the 1982 fill event. Regarding the 1979 survey of surface topography, Eric Egge emailed Troy Bussey an AutoCAD file that contained the surface elevations from the 1979 survey. Since this information was not previously documented in a formal report and the file was emailed, personal communication seemed like the best way to cite the reference. For transparency, the 1979 surface elevations are shown in Figure A-1 of Appendix A in the draft Site Boundary Technical Memorandum.

6. Section 4.2: The suggestion that arsenic was released from the hog fuel pile does not seem likely. For this possibility to be seriously considered, examples of sites where this has occurred should be presented.

   Response: The sentence will be deleted in the revised memorandum.

7. Section 4.2: Missing from the discussion of total petroleum hydrocarbons (TPH) in this section was the buried structure found during the artesian well search in the southwest corner of Parcel 3. This structure appeared to be a former hoist and had visual evidence of contamination. The contamination associated with this structure has not been characterized. Contamination from hoists can include polychlorinated biphenyls (PCBs).

   Response: A limited attempt will be made to remove the buried feature in the southwest corner of Parcel 3, which was identified as anomaly P-1 in the May 20,

2009 Greylock Consulting memorandum, since visual evidence of petroleum impacted soil was observed at that location in 2009. Confirmation soil samples will be collected and analyzed for TPH-D, TPH-HO, PAHs, and PCBs following removal of the structure and associated impacted soil. See Table 1 and Figure 1 for additional details about the proposed sampling design. It should be noted that the Port is not aware of any documentation that identifies this buried feature as a hoist.

8. Section 4.2, 2nd paragraph and Section 4.4, last paragraph: Ecology does not agree with the assumption of a distance of 25 feet for the extent of contamination in situations where there are no samples within 100 feet of a particular exceedance. In such cases, additional samples need to be collected to define the extent. Regarding footnote 20, item (3) it should be noted that the constituents analyzed in the Parcel 4/5 confirmation samples do not include TPH. Also, regarding the "less than 10 feet" lateral distance mentioned in the footnote, recent data shows that this statement is not accurate.

   Response: The distance assumption of 25 feet will be deleted or revised as necessary based on data obtained from proposed samples listed in Table 1 and from Parcel 4/5 confirmation sample results obtained subsequent to preparation of the draft Site Boundary Technical Memorandum.

   For the record, the Port still believes 25 feet is a conservative delineation distance for the couple of locations where this criterion was applied in the draft memorandum given (1) the plausible on-property release mechanisms (e.g., a variety of localized spills/buried refuse, treated wood pilings), (2) the physiochemical properties of cPAHs and dioxins/furans (e.g., they strongly bind to soil and have low water solubilities), (3) potential contributions from non-point sources as discussed previously, and (4) data obtained from the Parcel 4/5 Interim Action. Recent results from confirmation soil samples collected following removal of the five remediation level exceedances in Parcels 4 and 5 (i.e., DP11, DP17, DP18, DP21, and TP02) are discussed below. The remediation level exceedances at DP11, DP17, and DP18 were delineated to concentrations less than the soil screening levels within a distance of less than 10 feet (and contrary to Ecology's comment, TPH-G, TPH-D, and TPH-HO were analyzed in the confirmation soil samples collected from the DP18 excavation). The arsenic remediation level exceedance at DP21 was delineated to concentrations less than the soil screening level in 12 of 13 confirmation soil samples collected at a distance of less than or equal to 10 feet from the original DP21 exceedance (which was at a depth of 6-8 feet bgs). The DP21 excavation was expanded an additional 20 feet to the north (for a total distance of 30 feet from the original DP21 exceedance) based on the arsenic concentration in a single north sidewall confirmation sample, which was collected at a depth of 1.75 feet (i.e., CNF-2-5-1.75). Two important points should be made about the DP21 excavation. First, the 30 feet of excavation to the north is essentially the same distance as the proposed 25 feet delineation distance. Second, the arsenic exceedance in CNF2-5-1.75 at 1.75 feet is likely a separate localized release that is unrelated to the original DP21 exceedance at 6-8 feet given (1) the differences in sample depths, (2) differences in lithology, and (3) lack of any exceedances in samples collected beneath CNF-2-5-1.75 at depths of 5 feet bgs and 7 feet bgs. The dioxins/furans remediation level exceedance at TP02 was delineated to concentrations less than the remediation level within a distance of less than 10 to 15 feet. Although the TP02 confirmation soil samples were unable to completely delineate dioxins/furans to concentrations less than the soil screening level within 10

to 15 feet, a significant amount of individual wood pilings were encountered in the TP02 excavation. It does not appear to the Port that there is a single, continuous source of dioxins/furans in the TP02 area. Rather, it appears that each of the treated wood pilings in the TP02 area is a separate source, with a limited lateral distribution of dioxins/furans immediately surrounding each piling.

9. Section 4.3: This section focuses on Figure 25 for the definition of cPAH source areas. This figure is incomplete in that it does not include treated pilings and railroad tracks as cPAH source areas. Because of the widespread distribution of pilings at the Site, they are probably a significant source of cPAH concentrations in soil. The former railroad tracks along Jefferson Street may be the cause of the elevated cPAH concentrations seen in the stockpile samples from Zones 1 and 2. Samples from these zones had Interim Action Cleanup Level exceedance frequencies of 40% and 42%, respectively, compared to a maximum of 25% for the other two zones. Also, sample SP24-2, Zone 2 showed the maximum cPAH concentration for the Site (10.6 mg/kg); this concentration is greater than 100 times the screening level.

   Response: Treated wood pilings and railroad tracks will be included in the revised memorandum as potential sources of cPAHs. However, the following points should be noted:

   - Although cPAHs can be present in treated wood, the empirical data does not indicate that treated wood is a significant source of cPAHs at the site. Unlike the dioxins/furans exceedances, the cPAHs soil screening level exceedances are not well correlated with wood debris.
   - Any impacts from railroad activities on the railroad tracks would primarily be expected in shallow soil. Borings DP37 and DP38 were advanced immediately adjacent to the railroad tracks. Although there were slight exceedances of the 0.095 mg/kg soil screening level in DP37 at a depth of 2-3.5 feet (0.12 mg/kg) and in DP38 at a depth of 5-6 feet bgs (0.098 mg/kg), there was no evidence of impacted soil observed in the top two feet of either DP37 or DP38 (based on visual and olfactory observations, PID readings, and sheen tests), and the total cPAHs concentration in the sample collected from DP38 at 1-2 feet bgs was only 0.052 mg/kg.
   - The railroad tracks and soil beneath the railroad tracks were removed as part of the Infrastructure Interim Action.
   - The Port disagrees with Ecology's use of the stockpile zone data to conclude that the railroad tracks are a significant source of cPAHs. First, there are not enough data points in each zone to make statistically significant determinations. Second, the railroad tracks were not located within Zone 1. Thus, the exceedance frequency for a zone without railroad tracks (Zone 1) is the same as a zone with railroad tracks (Zone 3). Third, three of the Zone 4 stockpile samples (SP23, SP25-1, and SP25-3) had total cPAHs concentrations just barely below the 0.095 mg/kg soil screening level (0.089 mg/kg, 0.091 mg/kg, and 0.091 mg/kg). If the concentration in two of these three samples were slightly higher, then the Zone 4 exceedance frequency would be the same as Zone 2. Finally, Zone 3 may have had a lower exceedance frequency than any of the other zones because much of the soil removed in Zone 3 was 1982 fill.

10. Section 4.3, page 14, 1st paragraph, last sentence: Ecology does not agree that the on-property total cPAH exceedances can be attributable to "urban background." Background would need to be determined using procedures consistent with WAC 173-340-709.

    Response: Comment noted. Background concentrations were not proposed in the draft memorandum. The sentence in question was included solely to provide context about cPAH concentrations that have been attributed to urban background in the literature.

11. Section 4.4, 1st bullet: Ecology does not agree with the use of the referenced screening levels from the Agency for Toxic Substances and Disease Registry (ATSDR).

    Response: ATSDR screening levels were not used for any purpose in the draft memorandum other than providing context about what ATSDR uses as a soil screening level for dioxins/furans when evaluating protection of human health and the environment.

12. Section 4.4, 2nd paragraph, 1st bullet: This bullet includes a statement that no dioxin/furan soil exceedances in the boiler house or power house area were from the top 2 feet of soil. More recent data from the Hands On Children's Museum Interim Action shows that this statement is no longer true.

    Response: Confirmation soil sample results from the TP02 excavation during the Parcel 4/5 Interim Action has further supported the conclusion presented in the draft memorandum that dioxin/furan concentrations are generally higher in samples collected from deeper than 2 feet bgs than in samples collected from shallower than 2 feet bgs. The data from the TP02 excavation will be included in the revised memorandum to further illuminate this additional line of evidence. In addition, the sentence in question will be revised to clarify that two confirmation samples collected from depths of 1.5 feet bgs during the TP02 excavation (CNF-3-1-1.5 and CNF-3-3-1.5) exceeded the soil screening level.

13. Section 4.4, 5th paragraph: This paragraph suggests that historic total dioxin/furan concentrations in Budd Inlet surface sediment may have been elevated due to "historic, regional anthropogenic activities" and references the 2008 Budd Inlet Sediment Characterization Report. The Cascade Pole Site should also be mentioned as a source of elevated dioxin/furan and cPAH concentrations in Budd Inlet sediment as well as potentially for the East Bay Redevelopment Site. Sediment data from the Budd Inlet report should have been included in the congener profiles in Figure 30 (such as samples BI-C5, -S7, and -S-30). Ecology recommends that congener profiles include normalized bulk concentration and normalized toxic equivalent concentration.

    Response: The “historic, regional anthropogenic activities” phrase will be clarified in the revised memorandum by quoting the 2008 Budd Inlet Sediment Characterization Study, which states that “inner Budd Inlet has historically supported wood product industries, recreational marinas, and boat construction/repair facilities.”

This comment links the congener profiles in Figure 30 with the discussion presented in the 5th paragraph of Section 4.4. The congener profiles in Figure 30 are only used to support the logic presented in the 2nd paragraph of Section 4.4, and are not referenced in or relevant to the 5th paragraph of Section 4.4. The purpose of the 2nd paragraph is to evaluate if airborne deposition from potential on-property burning of hog fuel is responsible for elevated dioxins/furans concentrations in soil. Figure 30 supports the 2nd paragraph discussion by comparing congener profiles for on-site soil sampling locations that have dioxins/furans soil screening level exceedances with (1) two soil data sets that would generally be considered representative of background conditions, and (2) an Ecology data set for hog fuel burners. The purpose of the 5th paragraph of Section 4.4 is simply to note that delineation of dioxins/furans exceedances is likely complicated by the realization that some of the historic dredged materials used to fill most of the site likely contained elevated concentrations of dioxins/furans. The congener profiles of current sediment samples are not pertinent to the discussion in the 5th paragraph since (1) it is unknown where in Budd Inlet the dredged material used to fill this site originated, (2) the 2008 study is a snapshot of current sediment conditions rather than sediment conditions at the time of the historic dredging events, (3) Budd Inlet sediment has been impacted by a wide variety of point and non-point sources that are unrelated to the site, and (4) the specific sediment samples listed are co-located with releases that are unrelated to the site (i.e., Sample BI-C5 is located immediately west of the Port's Marine Terminal, Sample BI-S7 is located immediately northeast of Hardel Plywood, and Sample BI-S30 is located immediately north of the Moxlie Creek outfall).

The revised memorandum will present congener profiles that also show normalized toxic equivalent concentrations in addition to the existing congener profiles for normalized bulk concentrations.

14. Section 4.4, page 16, 4th bullet: The 1999 Ecology report referenced here was not designed to provide conclusions about urban background for dioxins and furans. This is the subject of a current study by Ecology. Also, it should be noted that the data set in the 1999 report does not include any samples from the Olympia area.

    Response: Text will be revised to clarify that the 1999 Ecology data was designed to "provide an initial assessment of typical concentrations of dioxins in Washington soils" as excerpted from the report and did not include any samples from the Olympia area.

15. Figure 6: This figure also needs to show that the historic operation area included Budd Inlet.

    Response: All known building footprints, AOCs, and historic operation areas are currently shown on Figures 6 through 8 of the draft memorandum. None of these areas are within Budd Inlet.

Table 1. Proposed Data Gap Soil Sampling Locations – East Bay Redevelopment Site

Ecology Comment #	Location Description [1]	Type of Data Gap [2]	Proposed Sampling Location [3]	Analytes	Rationale for Sample Depth Selection
1a	North of MW21S (0.5-1.5)	SB	DP46	cPAHs	• Since the MW21S exceedance was shallow and may have been influenced by asphalt, one soil sample will be collected at each proposed location at the same depth interval as the MW21S exceedance, as long as it is at least 0.5 feet beneath the bottom of asphalt.
1a	East of MW21S (0.5-1.5)	RI/FS	TP05	cPAHs	
1b	West of DP37 (2-3.5)	SB	DP47	cPAHs	• Proposed borings will be advanced to 15 feet bgs. • If there is visual evidence of stained soil or debris in a particular boring, a soil sample will be collected from the depth where stained soil was first encountered or immediately beneath the bottom of where debris was encountered. If there is no visual evidence of stained soil or debris, then a soil sample will be collected from the same depth(s) at which the nearby exceedance was located. • If the bottom of the 1982 fill is encountered (possible only for DP49 and DP50), a soil sample will also be collected from soil beneath the 1982 fill.
1b	West of DP38 (5-6)	SB	DP48	cPAHs	
1c	Northeast of MW05 (10-12)	SB	DP49	cPAHs [4]	
1d	East of DP33 (3-4, 7-8)	SB	DP50	cPAHs [4]	
1e	East of MW04 (2-4)	SB	DP51	cPAHs [4]	
1f	Northeast of MW20 (6-8)	RI/FS	DP52 [5]	cPAHs	
1f	Northwest of MW20 (6-8)	No sample proposed [5]			
2a	North of DP30 (7-7.5)	SB	DP53 [6]	D/F	• Proposed borings will be advanced to 15 feet bgs and proposed test pits will be advanced to 8 feet bgs. • If wood debris is encountered in a particular boring or test pit, a soil sample will be collected from immediately beneath the bottom of where the wood debris was encountered. If wood debris is not encountered, then a soil sample will be collected from the same depth(s) at which the nearby exceedance was located. • If the bottom of the 1982 fill is encountered (possible only for DP49 and DP50), a soil sample will also be collected from soil beneath the 1982 fill.
2a	South of DP30 (7-7.5)	SB	DP54 [6]	D/F	
2a	West of DP30 (7-7.5)	No sample proposed [6]			
2a	East of DP30 (7-7.5)	RI/FS	DP55 [6]	D/F	
2b	East of DP26 (1-2)	SB	DP51	D/F [4]	
2c	East of TP02 (2-2.5)	SB	DP50	D/F [4]	
2d	East of DP42 (1-2, 7-8)	SB	DP56	D/F	
2e	Northeast of TP03 (3.5-4)	SB	DP49	D/F [4]	
2f	West of MW24S (6.5-8, 9-10)	RI/FS	TP06	D/F	
2g	West of TP04 (1.5-2)	RI/FS	TP07	D/F	
7	Southwest corner of Parcel 3 (i.e., location of P-1 anomaly)	RI/FS	Not applicable	TPH-D, TPH-HO, PAHs, and PCBs	• A limited attempt will be made to remove the P-1 anomaly and associated impacted soil (e.g,. no more than 20 cubic yards combined between the anomaly and soil) and dispose of at the Weyerhaeuser Regional Landfill. • Collect five confirmation soil samples following removal (four sidewall samples and one bottom sample).

Notes:
bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
Dioxins/furans = chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans
DP = direct push
PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
RI/FS = Remedial Investigation / Feasibility Study
SB = site boundary
TP = test pit
TPH-D = total petroleum hydrocarbons in the diesel range
TPH-HO = total petroleum hydrocarbons in the heavy oil range

[1] The depth of soil screening level exceedance (in feet bgs) for the sample that was referenced in the Ecology comment (e.g., "MW21S") is shown in parenthesis.
[2] Sampling will be conducted in up to three phases. In the first phase, the samples that are proposed to address site boundary data gaps will be collected. If there are un-delineated soil screening level exceedances that could affect the site boundary following the first phase, the Port will consult with Ecology about whether or not step-out sampling locations are necessary during a second phase. Once the site boundary is approved, general RI/FS data gaps will be filled in the final phase.
[3] Most samples will be sampled using direct-push technology based on proximity to current surface features (e.g., roads, sidewalks, landscaping) and depth of sample collection. However, test pits will be used to collect soil samples where possible (i.e., locations within the middle of undeveloped parcels).
[4] Samples collected from these locations are being analyzed for both cPAHs and D/F. However, the sample depth selections within a given location may be different for cPAHs and D/F depending on what is encountered in the subsurface.
[5] No sample is proposed northwest of MW20 since (1) the MW20 exceedance has already been delineated to concentrations less than the soil screening level in the western and northern directions by BC_TP01 and BC_TP02 as shown on Figure 1, and (2) any cPAH issues west of MW20 would need to be addressed as part of the LOTT Expansion Site. Since the MW20 exceedance is already delineated to the north, an additional sample is proposed to the east rather than the northeast.
[6] No sample is proposed northwest of DP30 since the total D/F exceedance in DP30 has already been delineated to concentrations less than the soil screening level in the northwestern direction by BC_DP17. Since the DP30 exceedance has been delineated to the northwest, samples are proposed to the northeast, southwest, and southeast (rather than north, west, south, east).

AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 02	Panel Oiling
AOC 04	Propane Lift Truck Fueling Shed
AOC 09	Oil House
AOC 10	Engine Room
AOC 11	Unidentified Structure
AOC 12	Machine Shop
AOC 13	Blacksmith Shop
AOC 14	Tar Dipping Tank North
AOC 15	Tar Dipping Tank South
AOC 16	Oiled Cooled Transformer on Concrete Pad
AOC 17	Boiler House
AOC 18	Fuel Bin
AOC 19	Flammable Liquids
AOC 20	Hog Fuel Pile on Ground
AOC 21	Oil House
AOC 24	Power House
AOC 25	Unknown Shop
AOC 26	Pipe Shop
AOC 27	Fuel Bin
AOC 28	Transformer Vault
AOC 29	Oil House
AOC 30	Fenced Electrical Enclosure
AOC 31	Jitney Shop
AOC 32	Electronic Shop
AOC 33	Machine Shop
AOC 34	Welding Shop
AOC 35	Engine (Type Unknown)
AOC 36	Engine (Type Unknown)
AOC 37	Repair Shop
AOC 38	Blacksmith Shop
AOC 39	Logway
AOC 40	Glue House
AOC 41	Blacksmith Shop
AOC 42	Machine Shop
AOC 52	Diesel Fuel Release
AOC 53	Sawmill
AOC 54	Planing Mill

N
W E
S

Legend

- Sample No Longer in Place

Proposed Sample Location

- Site Boundary Data Gap
- RI/FS Data Gap

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions

- Soil Cap
- Soil Cover
- Soil Removal

Notes:

bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level
NLIP = no longer in place
RI/FS = Remedial Investigation/Feasability Study

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

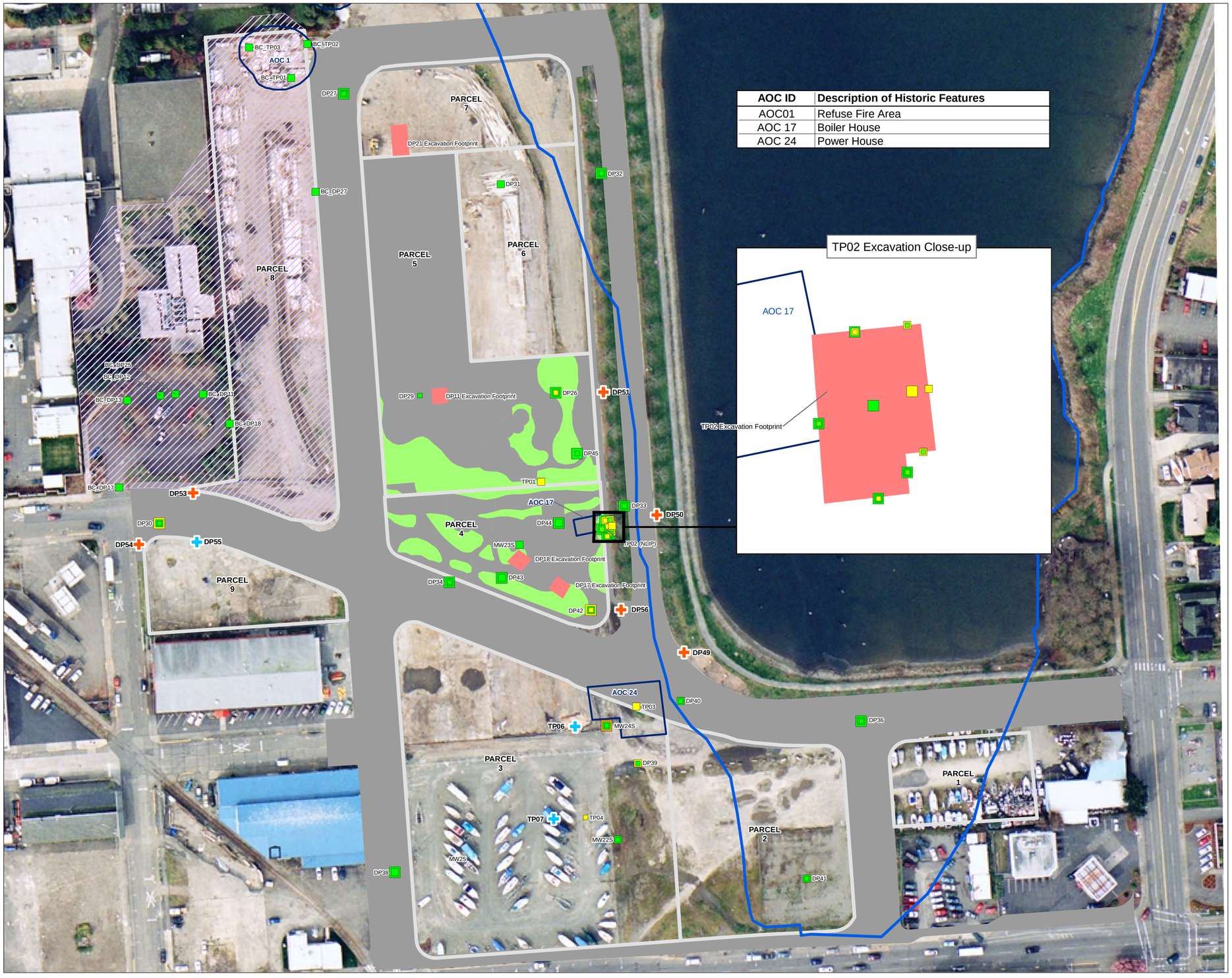
-Data from the LOTT Expansion Stie are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Non-detected values greater than the SL are not shown as exceedances.
-Sample breakout depths are based on samle top.

0 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing cPAHs Data and Proposed Sampling Locations
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
MF	
DATE:	FIGURE NO.:
February 2011	1



AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 17	Boiler House
AOC 24	Power House

TP02 Excavation Close-up

N
W E
S

Legend

- Sample No Longer in Place

Proposed Sample Location

- Site Boundary Data Gap Sample
- RI/FS Data Gap Sample

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions

- Soil Cap
- Soil Cover
- Soil Removal

Notes:

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
NLIP = no longer in place
RI/FS = Remedial Investigation/Feasability Study

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

-Data from the LOTT Expansion Stie are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Sample breakout depths are based on samle top.

0 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing Dioxins/Furans Data and Proposed Sampling Locations
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
MF	
DATE:	FIGURE NO.:
February 2011	2

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ENGINEERING SPECIFICATIONS FOR 1982 GRAVEL FILL EVENT

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SPECIFICATIONS

FOR EAST BAY MARINA, PHASE ONE

CONSTRUCTION OF RETENTION DIKES

FOR THE

PORT OF OLYMPIA

April 1981

Contract No. 186

SPECIFICATIONS
FOR EAST BAY MARINA, PHASE ONE
CONSTRUCTION OF RETENTION DIKES

TABLE OF CONTENTS

(Bidders, Note: This document is to be kept intact. The successful bidder will be furnished the required copies of this proposal or any part hereof.)

ISSUED BY
PORT OF OLYMPIA COMMISSION
915 NORTH WASHINGTON STREET
OLYMPIA, WASHINGTON

(Mailing address: P. O. Box 827, Olympia, Washington 98507)

Phone - 206/754-1650

April 1981

Questions relating to these documents should be directed to the following:

R. O. Malin, Port Engineer, Port of Olympia - 206/754-1659

John Gressitt, Swan Wooster Engineering, Inc. - 503/238-7050

Contract No. 186

INVITATION TO BID

EAST BAY MARINA, PHASE ONE
PORT OF OLYMPIA
OLYMPIA, WASHINGTON
CONTRACT #186

Sealed proposals for the construction of retention dikes, storm drainage and land-filling for East Bay Marina, Phase One, addressed to the Port of Olympia Commission will be received at the office of the Port of Olympia until 2 p.m., PDT, on Monday, May 18, 1981, and then will be publicly opened and read.

The major work items contemplated are as follows:

1. Mobilization, clearing and site preparation.
2. Clamshell dredging, side cast method, of unsuitable material from dike alignment, approximate quantity 120,000 c.y.
3. Construction of retention dikes with imported material, approximate quantity 750,000 tons.
4. Storm drain outfall extensions.
5. Miscellaneous landfilling behind dikes with imported material, approximate quantity 180,000 tons.

This work is located in East Bay, Budd Inlet, within the City of Olympia, Thurston County, Washington.

Each bid must be accompanied by a cashier's check, money order, certified check, or bid bond in an amount equal to 5% of the total amount bid, made payable to the Port of Olympia.

Plans, specifications, instructions and proposal forms may be obtained at the office of the Port of Olympia, 915 North Washington Street (P. O. Box 827), Olympia, Washington 98507. A $50 deposit is required for each set of documents. This deposit will be returned upon return of bid documents within 10 days of the bid closing date.

The Port of Olympia reserves the right to reject any or all proposals or to waive informalities in the bidding. The Port of Olympia further reserves the right to accept that proposal or combination of proposals which is to the best interest of the Port of Olympia.

Dated at Olympia, Washington, April 17, 1981.

Port of Olympia Commission
J. D. Wright, Secretary

INSTRUCTIONS TO BIDDERS

1. PROPOSAL

Sealed bids for this improvement or furnishing these supplies will be received by the Port of Olympia in its offices until such time as is stated in the attached "Notice to Bidders."

Plans, specifications, instructions and proposal forms may be obtained at the office of the Port of Olympia, 915 North Washington Street (P. O. Box 827), Olympia, Washington 98507.

Bids must be made upon the blank form provided therefor by the Port. They must not be detached from the advertisement, specifications, and form of contract; but the entire package must be unbroken and in good order and enclosed with the bid proposal deposit in a sealed envelope indicating the project for which the proposal is made in accordance with the title on these specifications and the time and date of the advertised bid opening. The advertisement and specifications will form a part of the contract.

Proposals shall be signed by an officer or duly authorized representative of the Bidder.

Prices in Bidder's proposal must be written and expressed in figures and, in the case of any discrepancy, written prices will be considered as governing.

If a Bidder wishes to withdraw his proposal, he may do so before the time fixed for the opening, without prejudice to himself by communicating his purpose in writing to the Port.

At the time and place above named, the bids will be publicly opened and read aloud. Bids received after the time set for opening cannot be considered. The Port of Olympia reserves the right to reject any or all proposals or to waive informalities in the bidding.

No Bidder may withdraw his bid after the hour set for the opening thereof or before award of contract unless such award is delayed for a period of 30 days.

2. PROPOSAL GUARANTY

Each bid must be accompanied by a proposal guaranty in the form of a certified check, cashier's check, cash, or proposal bond in an amount equal to at least 5% of the total amount bid, as prescribed in Section 2-1.14 of the Standard Specifications.

As soon as the bid prices have been compared, the Port will return the guaranty deposits accompanying such of the proposals as in its judgment would not be considered in making the award. All other proposal guarantees will be held until the contract has been executed, after which they will be returned to the respective Bidders whose proposals they accompany.

3. BASIS OF AWARD

The award will be made by the Port of Olympia in conformity with Section 3-1.01 of the Standard Specifications.

4. SPECIFICATIONS

Each Bidder shall be responsible for familiarizing himself with the "Standard Specifications for Municipal Public Works Construction," prepared by Washington State Chapter of American Public Works Association (APWA), and revisions and supplements thereto, as adopted by the Port of Olympia, which are the Standard Specifications for this contract and by reference are hereby made a part of these documents as if rewritten herein in their entirety, as well as the Special Provisions hereinafter attached. In case of conflict the "Special Provisions" shall govern.

5. LOCAL CONDITIONS

Bidders are notified that they must carefully examine the plans; special, supplemental and standard specifications; and annexed forms of Proposal, Contract and Bond, and familiarize themselves with all state, city and other laws pertaining to this improvement. They must also examine and judge for themselves as to the location and character of the proposed work, the amounts and quality of the materials required, the work to be done, and other features encountered. If there is any doubt or obscurity as to the meaning of any part of the plans and specifications, it shall be brought to the attention of the Engineer in order that the necessary explanations or corrections may be made before submitting the bid.

Bidders shall make their own investigations of soil conditions and make their own tests which they may consider necessary in order to determine foundation conditions or the character of material to be excavated, prior to bidding.

6. ESTIMATE OF QUANTITIES

The estimated quantities of work to be done are listed on the Proposal form. These quantities are approximate only and are given only as a basis of calculation for comparison of bids and award of contract. The Port reserves the right to increase or diminish the amount of any class of work or materials as prescribed in Section 4-1.03 of the Standard Specifications.

7. STATE SALES TAX

The payment of state sales tax, where applicable, will be made by the Port of Olympia to the Contractor in compliance with Section 7-1.09 of the Standard Specifications, and as further defined by current Tax Commission rules.

8. PAYMENTS

Progress estimates of the work done will be made by the Engineer, as prescribed in Section 9-1.05 of the Standard Specifications, on or about the end of each calendar month. Estimates will be acted upon by the Port Commission on or about the third Wednesday of the month and warrants will be issued by the Port for the estimate, less 10%, which shall be retained by the Port as provided in the Standard Specifications.

9. MINIMUM WAGE RATE

Unless a minimum wage rate is specified in the Special Provisions, the hourly minimum rate of wage shall be the prevailing rate of wage as defined in Section 7-1.07 of the Standard Specifications.

10. BOND AND INSURANCE

The successful Bidder shall furnish, at the time of execution of the contract, a corporate surety bond as prescribed in Section 3-1.07 of the Standard Specifications. Also, the Contractor shall obtain and maintain all insurance for the amounts and times prescribed in Section 3-1.07 of the Standard Specifications.

11. CONTRACT

The Bidder to whom the award is made will be required to enter into a written contract with the Port of Olympia with good and approved security in an amount equal to the full contract price within 10 days after being notified of the acceptance of his proposal. If he fails to enter into a contract and furnish the required bond within the time specified, his bid proposal deposit, cash, check, or the amount thereof, shall be forfeited to the Port, or the Port shall recover the amount of his surety bid bond. The contract, or contracts, must conform to the blank form attached hereto. Prospective Bidders are advised to acquaint themselves fully with the provisions of these contracts before submitting their bids.

Unless otherwise stated in the Special Provisions, the successful Bidder shall start construction on the project within 10 days from the date of notification of award of contract.

12. PERMITS AND LICENSES

The Contractor shall procure all necessary permits and licenses as prescribed in Section 7-1.10 of the Standard Specifications.

Corps of Engineers permits will be furnished by the Port.

CONTRACT

THIS AGREEMENT, made and entered into in duplicate, this _____ day of _____, 19____, by and between the Port of Olympia, hereinafter called the Owner, and _____

_____,

hereinafter called the Contractor,

WITNESSETH:

That in consideration of the terms and conditions contained herein and attached and made a part of this agreement, the parties hereto covenant and agree as follows:

I. The Contractor shall do all work and furnish all tools, materials, and equipment for _____

_____

as specified in Contract No. _____ in accordance with and as described in the attached plans and specifications and the Standard Specifications for Municipal Public Works Construction, which are by this reference incorporated herein and made a part hereof, and shall perform any alterations in or additions to the work provided under this contract and every part thereof.

Work shall start within the time specified and be completed in _____ (calendar, working) days.

If said work is not completed within the time specified, the Contractor agrees to pay the Owner the sum of _____ Dollars for each and every day said work remains uncompleted after the expiration of the specified time as liquidated damages.

The Contractor shall provide and bear the expense of all equipment, work and labor of any sort whatsoever that may be required for the transfer of materials and for constructing and completing the work provided for in this contract and every part thereof, except such as are mentioned in the specifications to be furnished by the Port of Olympia.

II. The Port of Olympia hereby promises and agrees with the Contractor to employ, and does employ the Contractor to provide the materials and to do and cause to be done the above described work and to complete and finish the same according to the attached plans and specifications and the terms and conditions herein contained and hereby contracts to pay for the same according to the attached specifications and the schedule of unit or itemized prices hereto attached, at the time and in the manner and upon the conditions provided for in this contract.

III. The Contractor for himself, and for his heirs, executors, administrators, successors, and assigns, does hereby agree to the full performance of all the covenants herein contained upon the part of the Contractor.

IV. It is further provided that no liability shall attach to the Port of Olympia by reason of entering into this contract, except as expressly provided herein.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed the day and year first hereinabove written.

_____ PORT OF OLYMPIA

Contractor

By _____ By _____

(Name and Title) Manager

PERFORMANCE BOND TO PORT OF OLYMPIA

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____

_____

as principal, and _____, a corporation organized and existing under the laws of the State of Washington, as a surety corporation, and qualified under the laws of Washington to become surety upon bonds of contractors with municipal corporations, as surety, are jointly and severally held and firmly bound to the Port of Olympia in the penal sum of $_____ for the payment of which sum on demand we bind ourselves and our successors, heirs, administrators or personal representatives, as the case may be.

This obligation is entered into in pursuance of the statutes of the State of Washington, and the resolutions of the Port of Olympia.

Dated at _____, Washington, this _____ day of _____, 19____.

Nevertheless, the conditions of the above obligation are such that:

WHEREAS, the Port of Olympia has let or is about to let to the said principal, a certain contract, the said contract being numbered _____ and providing for _____

_____

_____

(which contract is referred to herein and is made a part hereof as though attached hereto), and

WHEREAS, the said Principal has accepted, or is about to accept, the said contract, and undertake to perform the work therein provided for in the manner and within the time set forth;

NOW THEREFORE, if the said principal, shall faithfully perform all of the provisions of said contract in the manner and within the time therein set forth, or within such extensions of time as may be granted under said contract, and shall pay all laborers, mechanics, sub-contractors and material men, and all persons who shall supply said principal or sub-contractors with provisions and supplies for the carrying on of said work, and shall hold said Port of Olympia harmless from any loss or damage occasioned to any person or property by reason of any carelessness or negligence on the part of said principal, or any sub-contractor in the performance of said work, and shall indemnify and hold the Port of Olympia harmless from any damage or expense by reason of failure of performance as specified in said contract or from defects appearing or developing in the material or workmanship provided or performed under said contract within a period of one year after its acceptance thereof by the Port of Olympia then and in that event this obligation shall be void; but otherwise it shall be and remain in full force and effect.

Countersigned by: _____

_____ _____

(Agency or firm name) (Principal)

_____ _____

(Address) (Surety)

By _____ _____

(Attorney-in-Fact)

PROPOSAL FORMS

QUANTITIES AND PRICES

SCHEDULE 1

Item						
1.	Mobilization, Clearing and Site Preparation			Lump Sum	$	
2.	Dredging			Lump Sum	$	

Prices for machines used in extra work (not included in total).

Dredge	Rating	Cost per Hour
	c.y.	$
	c.y.	$

3.	Imported Borrow					
	Alternate 1 - Basic					
	a. East Dike, PI #3 to PI #12	500,000 T	@$	=	$	
	b. West Dike, PI #3 to PI #20	50,000 T	@$	=	$	
	c. West Dike, PI #20 to PI #9	45,000 T	@$	=	$	
	d. Zone "A" material	124,000 T	@$	=	$	
	Alternate 2 - Homogenous Dike					
	Imported Borrow					
	a. East Dike, PI #3 to PI #12	595,000 T	@$	=	$	
	b. West Dike, PI #3 to PI #20	59,000 T	@$	=	$	
	c. West Dike, PI #20 to PI #9	65,000 T	@$	=	$	
4.	Side Borrow (West Dike)	30,000c.y	@$	=	$	
5.	Quarry Rock for Dike Closure	7,500 T	@$	=	$	
6.	Riprap	4,000 T	@$	=	$	
7.	a. Gaging Stations	6	@$	=	$	
	b. Indicator Piles	11	@$	=	$	
8.	Culverts					
	a. 36"diameter	200 L.F.	@$	=	$	
	b. 24"diameter	140 L.F.	@$	=	$	
	c. Gates for 36" culvert	2	@$	=	$	
	d. Flap gates for 24" culvert	2	@$	=	$	

9. Furnish and Install Drainage System — Lump Sum $_____

10. Foundation Material (for Drainage System) — 120 T @$_____ = $_____

11. Embankment (for Drainage System) — 22,500 T @$_____ = $_____

TOTAL SCHEDULE 1 $_____

NOTE TO CONTRACTOR: Under Item 3, add total of either Alternate 1 or Alternate 2 into the total for Schedule 1. Do Not Add Both

SCHEDULE 2

Item

1. Mobilization, Clearing and Site Prep. — Lump Sum $_____

2. Furnish and Install Drainage System — Lump Sum $_____

3. Foundation Material — 15 T @ $_____ = $_____

4 .Embankment — 23,500 T @ $_____ = $_____

TOTAL SCHEDULE 2 $_____

SCHEDULE 3

Item

1. Mobilization, Clearing and Site Preparation — Lump Sum $_____

2. Dredging — None unless ordered by the Engineer

Prices for machines used in Extra Work

Dredge	Rating	Cost per Hour
_____	_____cy	$_____

2. Add new Schedule 1-A. In the event that only Schedule 1 is awarded, the following construction will be added to the Schedule 1 scope of work:

An additional 10,000 tons of homogeneous dike material (III.B.4 on page 8) would be placed along the west shore line of East Bay between P.I. No. 2 and P.I. No. 3 to form a haul road connecting State Avenue to P.I. No. 3. Details are shown on the attached drawings Nos. D7753-105-A & B.

Wood debris shall be placed in the disposal area and concrete rubble, etc., shall be pushed at least 4' below grade in the haul road fill area.

Page P-2 of proposal forms shall be deleted and replaced with page P-2 Rev. 5/13.

3. Imported Borrow

Alternate 1 - Basic

a.	East Dike, PI #1 to PI #3	80,000 T	@$_____	=	$_____
b.	Zone "A" material	25,000 T	@$_____	=	$_____

Alternate 2 - Homogenous Dike

a.	Imported Borrow	105,000T	@$_____	=	$_____

TOTAL SCHEDULE 3 $_____

NOTE TO CONTRACTOR: Under Item 3, add total of either Alternate 1 or Alternate 2 into the total for Schedule 4. Do Not Add Both

SCHEDULE 4

Item					
1.	Mobilization, Clearing and Site Prep.		Lump Sum	$	_____
2.	Imported Borrow				
	Embankment behind Dike	180,000 T	@$_____	=	$_____

TOTAL SCHEDULE 4 $_____

CONTRACT - If the undersigned be notified of the acceptance of this proposal within 30 days from the time set for opening of bids, he agrees:

(a) To execute a contract for the above work within 10 calendar days after being notified of such acceptance for the above stated sum, in the form found in the specifications.

(b) To give bond in like amount, as required by the specifications.

(c) To begin work after being notified of such acceptance, completing the contract within the time specified.

As a surety of the undersigned's intent to enter into a contract as above set forth, this proposal is accompanied by a cashier's check, certified check, money order, or bid bond in favor of the Port of Olympia in an amount not less than 5% of the total bid.

COMPLETION - The undersigned agrees to complete the work as delineated in paragraph IIB of Special Provisions.

SCALE OF WAGES - The undersigned further agrees that the wage paid on this work shall not be less than those generally prevailing for similar work in this area.

ADDENDA - Receipt of addenda numbered through _____ is hereby acknowledged.

CONTRACTOR_____

Address_____

By_____
Signature Title Phone

THIS PROPOSAL IS NOT TO BE REMOVED HEREFROM. THE WHOLE SPECIFICATION IS PART OF THE PROPOSAL.

SPECIAL CONDITIONS

I. Location of Work

In East Bay of Budd Inlet, in the city of Olympia, Washington, and on owner's property adjacent.

II. Schedule and Time for Completion

A. Schedules of Work

Schedule Nr.1: All dredging, culverts, and dike construction northerly of PI 3. This includes the entirety of West Dike and the East Dike from Station 13 + 39.36 to Station 51 + 64.12. Also: All storm drainage on west side of East Bay and northerly of Grid Line N634750.

Schedule Nr.2: Storm drainage West side, south of Grid Line N634750, including Chestnut Street Storm Drain extension.

Schedule Nr.3: All dike south of PI 3.

Schedule Nr.4: All fill South of PI 3, between Schedule Nr. 3 dike and shore.

Award of contract may be for Schedule Nr. 1 only, or Schedules 1 and 2, or Schedules 1 and 2 and 3, or for Schedules 1 and 2 and 3 and 4, at the option of the Owner. No combination other than those listed here will be awarded.

B. Time of Completion

Schedule		Item	Complete By
1.	a.	Predredging - East Dike	30 July 1981
	b.	East Dike, PI 3 to PI 9, up to Elevation +18.	11 December 1981
	c.	East Dike, PI 9 to PI 12, complete	11 DEcember 1981
	d.	East Dike, to Elevation +23	8 February 1982
	e.	West Dike, PI 3 to PI 20 up to Elevation +23	11 December 1981
	f.	West Dike, PI 20 to PI 9 up to Elevation +18	11 December 1981
	g.	West Dike, PI 20 to PI 9 complete to Elevation +23	8 February 1982
	h.	Storm Drainage, Complete	30 November 1981
2.		Schedule 2 Complete	8 February 1982

3. Schedule 3:
Start for Schedule 3: Schedule 3 work may not be advanced to impair existing drainage patterns prior to completion of Schedule 2 work. 30 May 1982

4. Schedule 4:
Embankment 31 December 1982

C. Contractors Schedule

Provide Engineer with detailed schedule of work showing units of equipment and methods of placement, within 1 week after date of Notice to Proceed.

III. LIQUIDATED DAMAGES are defined in the Standard Specifications of the Washington State Chapter of the American Public Works Association. The amount to be assessed for non-completion of the several parts of the project are as follows:

A. For work to be completed by 11 December 1981 (Schedule 1, parts b, c, e, and f) the sum of $1000 per day delay in completion of all or any portion of this work.

B. For work to be completed by 8 February 1982 (Schedule 1, parts d, and g) the sum of $1000 per day delay in completion of all or any portion of this work.

C. For work to be completed by 8 February 1982 (Schedule 2) the sum of $100 per day delay in completion.

D. For Schedule 3 the sum of $100 per day delay in completion.

E. For Schedule 4 the sum of $50 per day delay in completion.

IV. Acceptance of Site

In accordance with provisions of the specifications, the Contractor shall have examined the site and familiarized himself with all attendant conditions. He shall accept the site in its existing conditon at the time of award of contract.

V. Insurance

Contractor shall be required to furnish, prior to start of construction, evidence satisfactory to the Port Commission that insurance in the kinds and minimum amounts specified in Section 3-1.07 of the Standard Specifications, titled "Contractor's Insurance" has been secured.

VI. Use and Occupancy

It shall be the obligation of the Contractor to assure that adjoining Port of Olympia properties including plant and operations of Cascade Pole Co. will be protected against interference by work hereunder with their normal business operations and it shall further be the obligation of the Contractor to cooperate fully with such other Contractors or Port of Olympia personnel who may be doing work on the premises concurrently with this contract.

The Port of Olympia reserves the right to occupy or use the whole or any part of the premises or installations included under this contract and such use or occupancy by the Port of Olympia or its assignees shall not constitute completion or acceptance of the work as a whole or any part thereof.

VII. Wage Rates

A. In accordance with the requirements of Chapter 133, Laws of Extraordinary Session 1965, the Contractor and all sub-contractors shall be required to file a sworn Statement of Intent with the Port and with the Department of Labor and Industries of the State of Washington as to the prevailing wage rate, including fringe benefits, for each job classification to be utilized.

B. Each voucher claim submitted by the Contractor for payment on a project estimate shall state that prevailing wages have been paid in accordance with the prefiled Statement of Intent on file with the Department of Labor and Industries as approved by the industrial statistician.

C. At the conclusion of the project the Contractor and his sub-contractors shall submit Affidavits of Wages Paid to the Department of Labor and Industries for certification by the Director.

Final payment on the contract to be withheld until such certification has been received.

D. The prevailing rate of wages to be paid to all workmen, laborers, or mechanics employed in the performance of any part of this contract shall be in accordance with the rules and regulations of the Department of Labor and Industries. The rules and regulations of the Department of Labor and Industries and the schedule of prevailing wage rates for the locality or localities where this contract will be performed as determined by the industrial statistician of the Department of Labor and Industries are by reference made a part of this contract as though fully set forth herein.

Inasmuch as the Contractor will be held responsible for paying the prevailing wage, it is imperative that all contractors familiarize themselves with the current wage rates before submitting bids based on these specifications.

VIII. Permits

This work is to be performed in accord with permits issued by the U.S. Army Corps of Engineers, the State of Washington. All necessary permits are being acquired by the Owner and will be in hand prior to Notice to Proceed.

The Contractor will be required to obey all conditions of these permits. Basic requirements of these are included in letters from the Washington Department of Fisheries and the Washington Department of Ecology. Copies of these letters are attached to these Specifications as Appendix "A".

Particular attention is invited to the power of one or more governmental agencies to curtail or suspend work on the project because of a presence of fish or other reasons. Should this occur and the work be delayed beyond the control of the Contractor, it will be regarded as a changed conditon with respect to time of completion and liquidated damages.

IX. Standard Specifications

The Standard Specifications referred to in the following technical specifications are the "Standard Specifications for Municipal Public Works Construction", 1977 edition, as prepared by the Washington State Chapter, American Public Works Association. Unless otherwise amended, all construction terminology, methods and materials will comply with the provisions of these specifications.

X. Public Streets and Roads

Conduct hauling operations so as to avoid spillage or waste on public streets and roads. Promptly clean up any such spillage or waste that does occur.

XI. Surveying and Control

The Engineer will establish a Base Line and a Bench Mark within the project limits. The Contractor will protect these from any disturbance and will set all other necessary points and grades for performance of the work. The Engineer may review the Contractor's surveying procedures and the results of their use as he feels necessary.

I. Mobilization, Clearing and Site Preparation

A. Scope

Establish field office, move supervisory personnel to job and move major equipment to job.

Clear driftwood, loose debris, bark, and trash from construction site. Pull or break at the bottom of excavation any old piling. Remove old timber and piling found in the way of the project.

B. Construction Site

The area shown on the drawings whereon embankment will be placed, with or without predredging, and any other areas whereon construction operations are required.

C. Preservation

Schedule all work and conduct all operations to avoid damage to buildings, docks, piling, log decks, poles, fences, paving, culverts, and other existing improvements which are within or adjacent to the construction site and not particularly scheduled for removal or modification by the plans or these specifications. This particularly refers to Cascade Pole Co. log deck and plant.

D. Disposal

All material required by this chapter to be removed will become property of the Contractor and disposed away from the Construction Site on lands for which the Contractor holds all disposal permits.

E. Measurement and Payment

Full compensation for mobilization of all equipment required by this project will be included in the lump sum bid item "Mobilization, Clearing, and Site Preparation".

Furnish breakdown of mobilization lump sum assigned to major items of plant and equipment to be assigned to the project. Delivery to the site and rigging for work will constitute mobilization of any particular item. Payment will be made once only for any single item, regardless of how many times it may be moved to and from the site.

Clearing and site preparation required by this chapter will not be measured and full compensation for this will be included in payment for the several items of work.

II. Clamshell Dredging

A. Scope

Remove unsuitable material from dike alignment between the limits and to the lines shown on the plans, or as directed by the Engineer.

Marine Excavation as directed by the Engineer.

Some excavation of existing rubble and broken concrete is anticipated. Sunken logs, old piles and other similar debris should be expected.

B. Equipment and Methods

1. Dike Excavation. Use of a floating derrick with a 4 to 6 c.y. bucket is anticipated, although some variation in size is possible. Dispose material excavated by side casting as far into the future retention pond area as possible. Use of a suction dredge for this work is prohibited.

2. Excavation of unsuitable material (rubble and broken concrete). Excavate as directed by the Engineer. If permitted by the Engineer the material may be deposited in the area of the dikes; otherwise dispose as in paragraph 1 above.

3. Sunken logs, pile stubs and similar debris will be disposed to the areas designated on the drawing. Arrange material to avoid damage to Cascade Pole Co. installation.

C. Scheduling

Under terms of the State and Federal permits governing this project, dredging is permitted ONLY between 15 June 1981 and 30 July 1981.

D. Measurement and Payment

Completion of all work required by this chapter to the limits shown on the plans will be included in the Lump Sum bid for "Dredging".

Take sounding in the presence of the Engineer, along the layout line, prior to start of work to verify elevations given on the plans. Variation of one foot or less either up or down will not be grounds for

changes of Lump Sum price. Excavation to limits shown on the plans will be required; up to two feet of overdepth will be allowed, but no extra excavation cost will be paid. Overdepth in excess of two feet must be backfilled by the Contractor with imported borrow at his expense.

Should additional dredging beyond those limits be ordered by the Engineer, it will be paid for at the rates per hour bid for the several items of equipment, which rates include full compensation for use of the machine and all necessary labor, fuel and operating supplies, including tug power to move from site to site.

Rental will be paid for all hours worked at the site as directed by the Engineer. Time spent in moving or re-rigging will be paid if ordered by the Engineer for the good of the project. Down time, time spent moving or rerigging for the benefit of the Contractor and other non-productive time will not be compensated. Productive and non-productive time will be measured by the hour.

III. Dikes and Area Embankment

A. Scope

Construct dikes and other embankment to the lines and between the limits shown on the plans including the several zones of different materials, according to scheduling and other requirements of these specifications and the governing permits.

B. Materials

1. Submit each proposed source to the Engineer for approval prior to use.
2. Imported borrow.
   Clean, free-draining, granular material, natural or crushed. Smelter slag is prohibited. Maximum particle size should not exceed 18", at least 40% must be retained on a #4 sieve, and not more than 7% may pass a #200 sieve. Broken concrete, brickbats and similar construction debris are subject to Engineers approval as to material and placement.

Material in sections shown on the plans as "Zone A" must meet this further specification as to size:

U.S. Sieve	Minimum Cumulative Retention
3"	5%
1 1/2"	15%
3/4"	35%
3/8"	60%
#4	75%
#100	95%

3. Local borrow may be used to construct part or all of the West Dike from approximately Station 14 to Station 34, subject to approval of the Engineer. Excavate from borrow pit along side of dike. Pockets of bark, wood, chips, other organic matter will be avoided or wasted alongside and not used in dike construction.

4. Alternate construction. Instead of the typical sections shown with core material covered with surface layers of Zone A materials, the contractor may elect to construct the dike homogeneously with material derived from glacial outwash deposits, clean, free draining and granular, natural or crushed, with gradation meeting these limits:

U.S. Sieve	Minimum Cumulative Retention
3"	5%
1 1/2"	10%
3/4"	30%
3/8"	55%
#4	65%
#100	95%

Smelter slag is prohibited. Broken concrete, brickbats and similar construction debris are subject to Engineer's approval as to material and placement.

Scheduling and sequence of construction will not be varied by choice of this alternate. Use of quarry rock for dike closure and riprap where specified will not be varied by choice of this alternate.

C. Equipment

1. Construction of imported borrow dikes may be by clamshell or dragline, by end dumping, by scraper, or bull dozer or other similar methods.

2. Construction of dikes from side borrow may be by clamshell, dragline, bull dozer, or similar methods.

D. Scheduling

1. Stage construction of east dike: Construction stages 1, 2, and 3 are shown on the plans. From Point 7 to Point 9, Stage 2 is further subdivided into 2A and 2B. From Point 3 to Point 7, Stages 1 and 2 may be combined.

   During and after completion of these stages, settlement will be monitored by the Engineer. Embankment for the succeeding stages will not be placed until permitted by the Engineer. Anticipate delays between succeeding stages as follows:

From 1 to 2A	75 days
From 2A to 2B	60 days
From 2B to 3	20 days

   Where Stage 3 follows directly after Stage 1 without a Stage 2:

From 1 to 3	3 months

2. Required sequence of construction.

   a. Start stage 1 dike construction at P.I. 9.

   b. Do not start building from P.I. 9 toward P.I. 12 until stage 1 of east dike is complete from P.I. 9 to or beyond P.I. 8.

   c. Between P.I. 9 and P.I. 20, construction should proceed from each end with closure being made in the middle third and at low tide, and after completion from P.I. 9 to P.I. 12. Use of special methods and materials is not anticipated at this dike closure

3. Stage 1 construction from Pl 9 to Pl 7 must be complete by 30 July in order to make Stage 2 schedule. Maintain this sill at Elevation +9 by adding embankment material as necessary.

4. In all dike sections where Zone A material is required carry this material up simultaneously with placement of common Imported Borrow.

E. Dike Closure - Stage 2

1. Schedule dike closure in two lifts as shown on the plans, each during an ebb tide running from a high low tide to a low high tide and the adjacent slack tide period, or during flood tide running from a high low tide to a low high tide and adjacent slack tides. First week in November and first week in December are most typical periods for this.

Before making actual closure, fill entire dike section from each end up to Elevation +18 with Zone B or better material until water velocity through the remaining gap becomes excessive.

2. Make dike closure with quarry rock, well graded from 6" minimum to 24" maximum size. Soundness and durability tests of the material will not be made.

3. Mobilize sufficient material and equipment to make each closure within a six hour period.

4. Immediately after closure, complete the dike with embankment material up to the sections shown on the drawings.

5. Plans and scheduling must be submitted to the Engineer in detail for approval for the method chosen by the Contractor well in advance of the work.

F. Area Embankment (Schedule 4)

Material must be equal to or better than Imported Borrow per paragraph III B.2. above.

Place embankment by end dumping or other approved methods and spread with bulldozer. Make all fill from the completed dike toward shore and from the completed storm outfall pipe out equally on each side to avoid mud wave problems.

G. Measurement and Payment

1. Full compensation for all labor, materials and equipment necessary to complete all work required by this chapter will be included in the amounts paid for these items.

2. Imported borrow, of the several classes, will be measured by the ton inside the side slope lines shown on the cross sections. If imported by truck, furnish scale tickets showing both empty and loaded weight for each truck. If imported by barge, tonnage will be calculated from barge displacement measurements which will be made in the presence of the Engineer before and after unloading. Material placed by the Contractor outside the design cross section to facilitate equipment operation will be at his expense.

3. Side borrow will be measured in embankment by the cubic yard from cross sections taken before and after construction. The Contractor will make these cross sections in the presence of the Engineer and will furnish copies of cross section notes and all calculations to the Engineer for review and approval.

4. Rock fill for dike closure will be measured by the ton as described for imported borrow in paragraph G.2 above.

IV. Culverts (for Pond Drainage)

A. Scope

Furnish and install corrugated metal culverts of the sizes and at the locations that are shown on the plans. Furnish and install flap gates in accordance with the plans.

Note that storm drainage is NOT part of this chapter.

B. Materials

1. Culvert: Corrugated steel pipe, galvanized, with 2 2/3" x 1/2" corrugations, 14 gage, conforming to ASTM Specification A-444.

2. Connecting Bands: Designed to match the culvert furnished and of adequate size and strength to preserve pipe alignment and prevent pipe separation, and not less than 24" long.

3. Flap Gates: Armco model 20-C or approved equal, complete with all fittings necessary for a finishd installation.

4. Gates: Install end closures of metal or wood adequate to produce a tight seal to end of pipe and retain head as required by the location.

C. Execution

1. Install culverts at locations shown on the drawings. These locations are approximate and may be adjusted by the Engineer to suit the exigencies of the project.

2. Provide minimum of one foot of bedding beneath each culvert. Bedding material must equal or exceed the specification for Imported Borrow in Chapter III Section B-1.

3. Backfill to one foot over the pipe with same material as used for bedding. Compact in lifts of not more than 12" by hand tamping unless other methods are approved by the Engineer.

   Additional fill and backfill may be placed and compacted by mechanical methods subject to the Engineer's approval.

4. Install 36" culverts with gates per paragraph B-4 above at one end. Secure these gates to make and maintain a tight seal until removal is ordered by the Engineer. Method of removal must not damage culvert or dike.

5. Install 24" culverts with flap gates per paragraph B-3 above.

D. Measurement and Payment

1. Full compensation for all materials, equipment and labor necessary to complete all work required by this chapter (except furnishing of imported borrow) will be included in the amounts paid for these items. Note that removal of gates from culverts when ordered by the Engineer is part of this chapter.

2. Culverts: pipe actually installed will be paid for by the lineal foot, end to end, in final position.

3. Flap gates will be paid for per unit installed.

4. Gates: will be paid for per unit ordered and installed. The item will be considered complete only after removal has been effected.

V. Riprap

A. Scope

Furnish and install quarry rock riprap to the lines and dimensions shown on the drawings.

B. Materials

Quarry rock, sound, durable, hard, free of seams and laminations, and well graded from 200 lbs. to 20 lbs., with not over 10% sand and fines.

C. Construction

Place material carefully to avoid segregation of sizes, and leaving a neat and orderly appearance.

D. Measurement and Payment

Full compensation for all work required by this chapter will be included in the price paid for the bid item "Riprap".

Riprap will be measured by the ton. If delivered by truck, furnish scale weight tickets for each load showing both tare and loaded weights. If delivered by barge, measurement will be by barge displacement measured before and after discharge and in the presence of the Engineer.

VI. Gaging Stations and Indicator Piles

A. Scope

Furnish and install timber pile gaging stations and indicator piles as shown on the plans, and as directed by the Engineer. Installation of gaging equipment is NOT a part of this item, but will be done by others. Permit necessary access to the site by installation crews and carefully protect installed equipment against damage.

B. Materials

Piling may be treated or untreated. Sound used piles may be furnished, subject to the approval of the Engineer. Minimum top diameter 6" and taper to be 1" in 10'. Lengths as required by the plans.

Timber to be Hem-Fir, #1 Structural Joist and Plank graded per WCLIB rules #6.

C. Construction

Install piling in location and to top elevation according to the plans or as directed by the Engineer. Provide working platform 2' x3' on each pile, facing toward the dike. Place and maintain gangplank to shore.

D. Measurement and Payment

Full compensation for all work required by this chapter will be included in the price paid for the bid item "Gaging Stations" and "Indicator Piles".

Gaging Stations will be measured by the unit ordered and installed.

Indicator Piles will be measured by the unit ordered and installed.

VII. Furnish and Install Drainage Systems

A. Scope

This item covers the furnishing and installation of all pipe, manholes and/or other appurtenant structures, excavation, backfill, surface removal and replacement, connection to existing systems, plugging abandoned pipes and all other labor, equipment, or materials required to provide for a functional system complete in place.

Note that at each of three locations an outfall pipe is shown on the plans as a dashed line and marked "Phase II". Complete first all other work, including construction of designated embankment and temporary outfall. During and after embankment construction, settlement will be monitored by the Engineer. Anticipate 2 months delay at any given cross section before start of Phase II work. The completion dates in the contract include allowance for this settlement delay. Any increase in this delay that may be ordered by the Engineer will be regarded as a changed condition with regard to Time of Completion.

Placing and removing the temporary outfall and installation of an backfill over the Phase II pipe are all included in scope of this item.

B. Materials

Pipe used for this project will be galvanized corrugated metal with protective Treatment 3. The thickness (gage) shall be as shown on the plans. All bands and fittings will have the same protective coating as the pipe. Damage to the protective treatment shall be repaired with a coating compatible with the original.

C. Construction

Dewatering will be the sole responsibility of the Contractor and will be incidental to this lump sum bid item.

All surfacing and visible objects within the trench area will be the responsibility of the Contractor. Asphalt surfacing will be replaced with three inches (3") of Class B Asphalt, two inches (2") of crushed surfacing, top course, and twelve inches (12") of bank run gravel ballast.

Obstructions not visible from the surface such as logs, broken concrete, etc., will be dealt with in the following manner.

1. Those obstructions which lie entirely within the trench area (which is defined as being a width of 1.5 times the inside diameter of the pipe plus 18 inches, and from the ground surface to a point one (1) foot below the pipe invert) and which can be removed with a chain saw and the other equipment on the project site, will be removed and disposed of as an incidental part of this contract.

2. Obstructions which project into the trench area and which cannot be tunneled under, cut off at the trench wall or bottom, or which require excavation outside the trench area, or equipment not normally associated with sewer construction, will be removed at a negotiated price.

   The Contractor and Engineer will determine the type and extent of the additional work and equipment required and the method of payment to be used before additional work commences.

Through the area adjacent to the sludge lagoon, the Contractor will have the option of stock-piling the excavated material along the bay side of the dike and backfilling from this stock-pile, wasting the excavated material along the bay side of the dike and backfilling with imported material or transporting the excavated material around the lagoon for backfill. The remaining up-land trench excavation will be Class A.

The Contractor will conduct his trenching operation within the existing dike so that the trench walls do not collapse and allow either the sludge or the liquid to escape. The trench must be kept backfilled as close to the pipe laying operation as possible.

Sheeting, shoring or other trench bracing or boxes required to protect either workmen or existing improvements will be the sole responsibility of the Contractor.

Manholes of the type shown will be installed where shown on the plan. No channels will be required. Manhole steps (not ladders) will be required full depth. Knock-outs capable of accepting an 18-inch pipe will be cast into both sides of manholes 1N, 3N, 4N, and 5N.

Construction of outfalls in two stages is shown on the plans to permit settlement of the preloading embankment. Anticipate 3 months delay between embankment construction and Phase II of the outfall.

Flat slab manhole tops with 24-inch diameter openings will be provided. The top of the slab will be set at or near the existing ground surface. The top of the manhole rim will be set at, or not more than, six inches (6") above existing grade.

Compaction around the pipes will conform to Section 61-3.03D2 of the Standard Specifications. Mechanical compaction above this zone will be accomplished to a density such that settlement will not exceed two inches (2").

Line and grade will be provided by the Engineer.

D. Measurement and Payment

Furnish and Install Drainage System will be measured as a lump sum. The lump sum paid for this item will be full compensation for all materials, equipment and labor required by this chapter in the respective schedules.

VIII. Foundation Material

A. Scope

Foundation material will be required only in those areas where the Engineer determines the native material to be inadequate for pipe support or where the trench was over-excavated to remove an obstacle. Where the Engineer determines the native material to be inadequate, the Contractor shall excavate to one foot (1') below the pipe and backfill with foundation material. The additional material excavated will be incidental to this item.

B. Materials

Foundation materials will conform to the requirements of Section 61-3.03C5.

C. Measurement and Payment

Foundation material will be paid for by the ton. Provide tickets for each load delivered showing both tare and loaded weight.

The unit contract price per ton will be full compensation for excavating and wasting the native material and furnishing and placing the foundation material.

IX. Embankment

A. Scope

Construct preloading embankments as shown on the plans

B. Materials

Conform to Section III B-1 of these specifications.

Riprap used to protect the embankments at the points shown on the "Storm Drainage" drawings shall be light, loose riprap as defined in Section 9-13.1 (2) "Standard Specifications for Road and Bridge Construction", 1977 Edition; Washington State Department of Highways, except the maximum size will be 500 pounds.

C. Construction

The material is to be placed by dumping and spreading successive vehicle loads in a uniformly distributed layer of thickness not greater than necessary to support the vehicle while placing subsequent layers, after which the remainder of the embankment shall be constructed in layers and compacted.

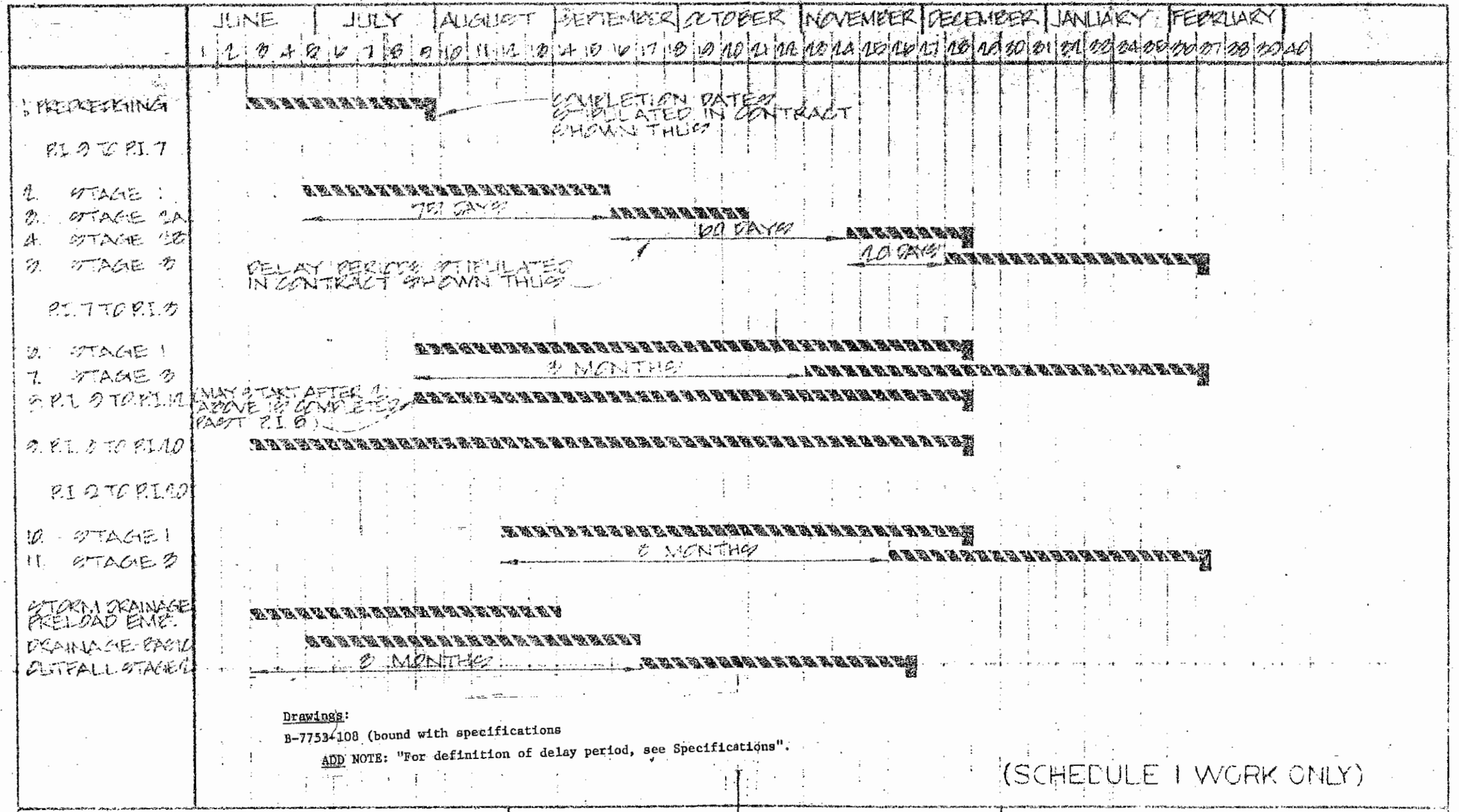
Riprap will be considered as incidental to embankment construction.

D. Measurement and Payment

Embankment will be measured by the ton. Provide scales at the borrow site and furnish tickets for each load delivered showing both tare and loaded weights.

The excavation and channel work including the temporary channel required at the 84-inch outfall will be incidental to this pay item.

The unit contract price per ton will be full compensation for furnishing, loading, hauling, placing, spreading, compacting and excavation required to construct the embankments complete in place and the lines and grades shown on the drawings and including the riprap.



Drawings:

B-7753-108 (bound with specifications

ADD NOTE: "For definition of delay period, see Specifications".

(SCHEDULE 1 WORK ONLY)

PORT OF OLYMPIA

EAST BAY MARINA

CONSTRUCTION SCHEDULE

SWAN WOOSTER ENGINEERING INC.

CONSULTING ENGINEERS PORTLAND OREGON

DESIGNED

DRAWN

CHECKED

APPROVED

B-7753-108

REV'D DATE REVISION BY CHK

APPENDIX "A"

STATE OF
WASHINGTON

Dixy Lee Ray
Governor

DEPARTMENT OF FISHERIES
115 General Administration Building, Olympia, Washington 98504

and

DEPARTMENT OF GAME
600 North Capitol Way, GJ-11 Olympia, Washington 98504

November 19, 1980

Mr. Dick Malin
Port of Olympia
P.O. Box 827
Olympia, Washington 98507

Colonel Leon Moraski
Seattle District, Corps of Engineers
P.O. Box C-3755
Seattle, Washington 98124

Attention Mr. Alan Coburn

Gentlemen:

East Bay Marina Budd Inlet
Various Sections, Township 18 North,
Range 2 West, W.M., in Thurston County
PN-NPSEN-PL-NC 79-1 and
PN-071-0YB-1-006165 WRIA C-13

We are pleased to receive a copy of the August 29, 1980 letter from the Environmental Protection Agency (EPA) to Colonel Moraski giving conditional approval to the project. The significant provision was the inclusion of a "properly designed and maintained aeration system which will maintain Class B water quality standards within the marina". Therefore, we are now modifying our December 1, 1975 letter of approval for the project as follows:

1. Delete general Provision (1) as it is no longer applicable because of the assurance that Class B water quality standards for dissolved oxygen will be maintained within the marina.

2. General Provision (2) requiring on-site mechanical flushing devices during construction is deleted since specific timing provisions are included below for the protection of fish runs.

3. General Provision (4) requiring mechanical flushing devices after construction is changed to read: Applicable State Class B water quality standards should be maintained within the marina basin at all times to preclude fish kills. We believe this will require installation of the properly designed and maintained aeration system referenced in the letter from EPA.

The December 1, 1975 approval also indicated that we would have additional specific condition requirements once studies and plans were completed. These specific provisions are as follows:

a. Time Limitation: Work activities may begin on June 15, 1981 and shall be completed by March 15, 1982 unless the juvenile chinook in Percival Cove have to be released prematurely. Commencement of dredging for the berm may begin on June 15, 1981 provided the results of a fish monitoring program indicate the absence of juvenile salmonids within the area and shall be completed by July 30, 1981. Hydraulic dredging of the entrance channel and the marina basin may begin as early as September 15, 1981 if it is determined that the dissolved oxygen levels of lower Budd Inlet meet Department of Ecology Water Quality Criteria for Class B waters (Interstate) and indications are that they will remain above that level. It should be noted that operations may be suspended if large numbers of herring and smelt enter and reside in Olympia Harbor as they have the last two years. During 1979 they were reported throughout Budd Inlet from January to mid-March but may have been present earlier. Dredging operations may be suspended until such time as the herring and smelt have vacated the area. The project sponsors should conduct a monitoring program approved by the Department of Fisheries to determine the presence or absence of baitfish. Because of the possibility of herring and smelt residing in Budd Inlet for a period of time and the chance of an early release of juvenile chinook from Percival Cove, we strongly recommend condensing the dredging and filling into as short a time period as possible. A time extension for any work beyond March 15, 1982 will be reviewed on a case-by-case basis.

b. A dissolved oxygen monitoring program should be conducted during any on-going dredging operations between June 15 and November 1. The following is the recommendation for dissolved oxygen:

Allowable dredging	5.0 mg/l DO or over
Cease dredging	under 5.0 mg/l DO

c. If at any time there should be fish in distress, a fish kill, or water quality problems as a result of this project, the operations shall be stopped immediately.

d. Dredging operations shall be conducted at all times in such a manner as to cause little or no disturbance or siltation to the adjacent waters.

e. A hydraulic dredge may be used to dredge the entrance channel and the marina basin. The hydraulic dredge is to be operated with the intake on or below the surface of the material being removed during all periods of the operation. Reverse purging of the hydraulic dredge intake line shall be held to an absolute minimum. Should purging become necessary, the intake end is not to be raised more than three feet (3') above the bed material.

f. A floating clamshell may be used for dredging the trench for the berm. Each pass of the clamshell bucket shall be complete, and the dredge spoils may be sidecast into the disposal area along the berm alignment.

g. The berm should be constructed in such a manner as to avoid the entrapment of fish. In addition, appropriate steps shall be taken prior to closing the diked area off from the remainder of East Bay to insure that there are no fish stranded within the diked area.

h. The waterward slope of the east berm should be sloped no steeper than 1 foot vertical to each 1.5 feet horizontal.

i. Forms for the concrete boat ramp shall be poured at low tide when the area is dewatered, and shall be allowed a minimum curing time of two (2) hours prior to coming in contact with state waters. Forms for the boat ramp shall be constructed in such a way to prevent leaching of wet concrete into state waters. Immediately after pouring the concrete, plastic or polyethylene sheeting shall be placed over any exposed concrete not lined with the wooden forms. The forms and sheeting shall remain secured for a minimum of seven (7) days.

j. No deleterious materials shall be allowed to enter state waters as a result of this project.

k. Any debris resulting from this construction project shall be removed from the water and disposed of or placed in such a manner to prevent its being washed back into the water by high water or wave action.

l. Water quality is not to be degraded to the detriment of fish life as a result of this project. Compliance with the quality limits set forth in the Washington State Water Quality Regulations shall be maintained throughout the life of the project.

m. These provisions should be closely followed by the contractor(s) and the equipment operator(s) and should be on the job site at all times.

SEPA: Final EIS 1975.

This letter does not obviate the requirement to obtain approval from all other state, federal or local agencies for the activity authorized herein.

The Department of Fisheries and the Department of Game reserve the right to make further restrictions if deemed necessary for the protection of fish life. This letter is written in the interest of fishery protection only, and these departments cannot be held liable for any property damage which might occur as a result of this project.

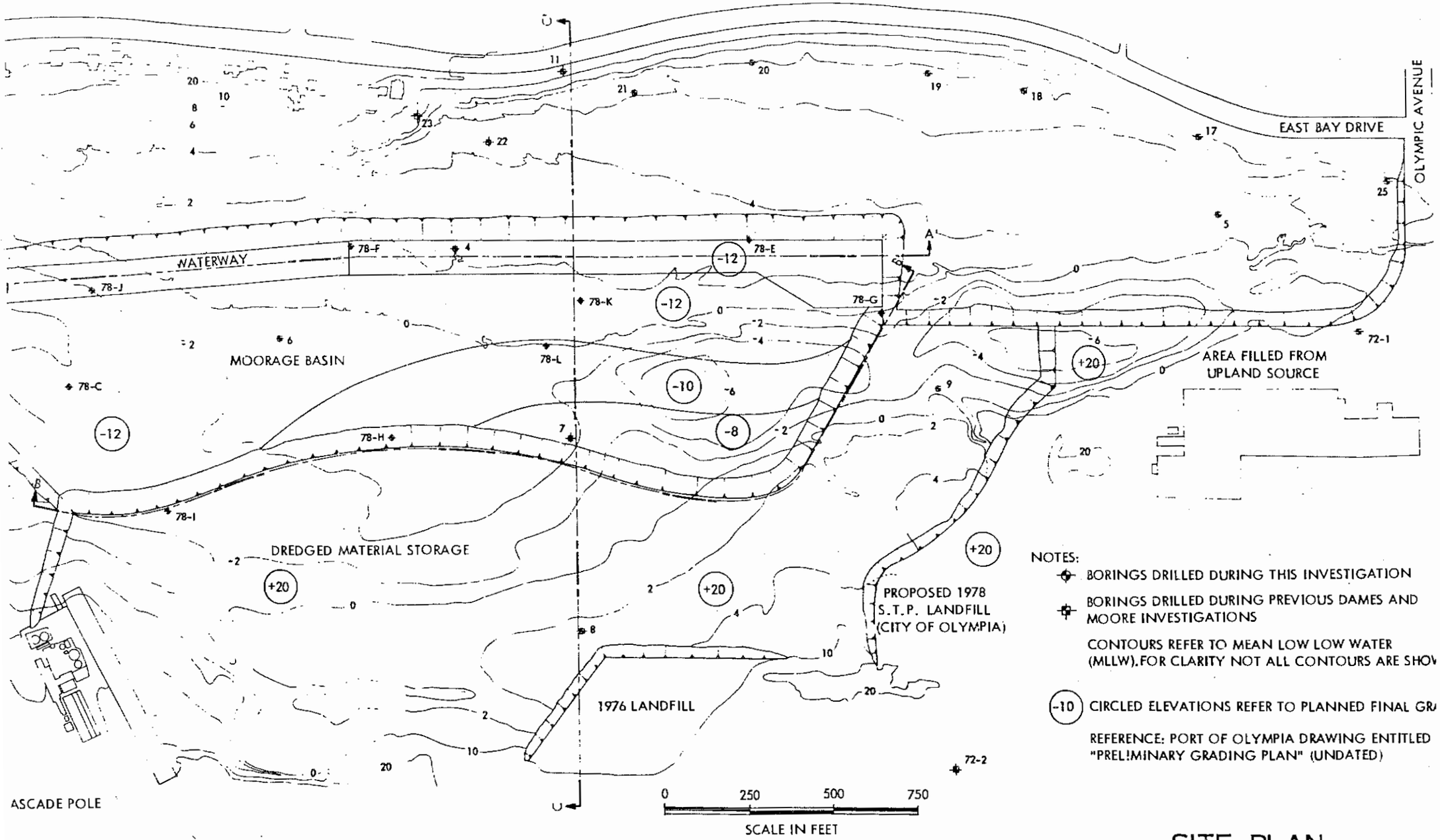
We appreciate your cooperation in our collective efforts to protect, perpetuate and manage the fishery resources of the State of Washington. If you have any questions or need additional information, please contact Curtis Dahlgren at (206) 753-2908.

Sincerely,

Gordon Sandison, Director
DEPARTMENT OF FISHERIES

Jack Wayland, Interim Director
DEPARTMENT OF GAME

APPENDIX "B"



NOTES:

- BORINGS DRILLED DURING THIS INVESTIGATION
- BORINGS DRILLED DURING PREVIOUS DAMES AND MOORE INVESTIGATIONS

CONTOURS REFER TO MEAN LOW LOW WATER (MLLW). FOR CLARITY NOT ALL CONTOURS ARE SHOV

(-10) CIRCLED ELEVATIONS REFER TO PLANNED FINAL GR

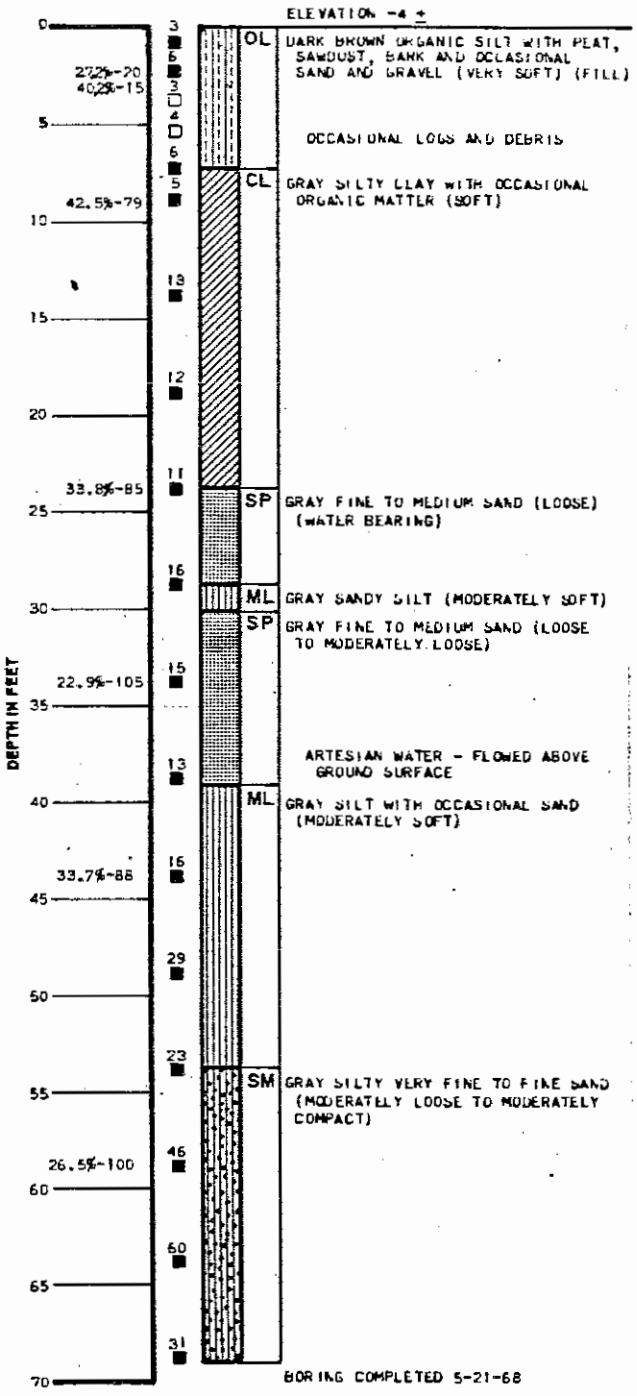
REFERENCE: PORT OF OLYMPIA DRAWING ENTITLED "PRELIMINARY GRADING PLAN" (UNDATED)

SITE PLAN

Appendix B

DAMES &

BORING 25



KEY:

MOISTURE CONTENT / DRY DENSITY IN PCF — 32.9%-89

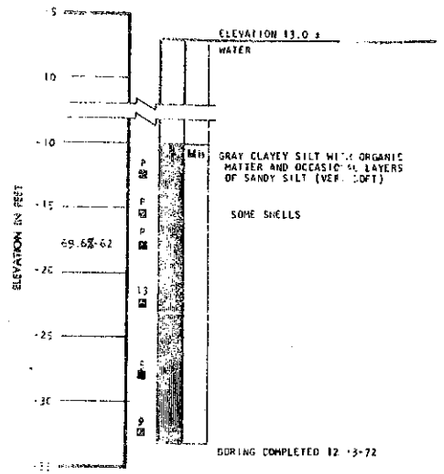
- BLOWS REQUIRED TO DRIVE SAMPLER ONE FOOT WEIGHT= 140LBS., STROKE= 30 INCHES. (12(*) - BLOW COUNT NOT REPRESENTATIVE)
- ■ INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED.
- ⊠ INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.
- □ INDICATES DEPTH OF SAMPLING ATTEMPT WITH NO RECOVERY.

NOTES:

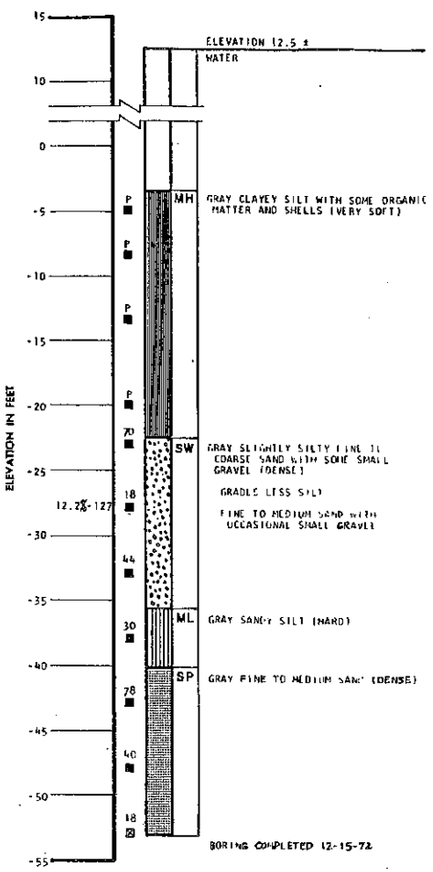
1. THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
2. SOIL CONDITIONS ARE DESCRIBED ONLY AT BORING LOCATIONS. SOME VARIABILITY IN ACTUAL CONDITIONS FROM THOSE SHOWN SHOULD BE ANTICIPATED.
3. THE ELEVATIONS OF INTERFACES BETWEEN DIFFERENT SOIL MATERIALS ARE APPROXIMATE, THE TRANSITIONS BETWEEN MATERIALS MAY BE GRADUAL.
4. INTERPRETATION AND EXTRAPOLATION SHOULD BE DONE BY A GEOTECHNICAL ENGINEER.

LOG OF BORING

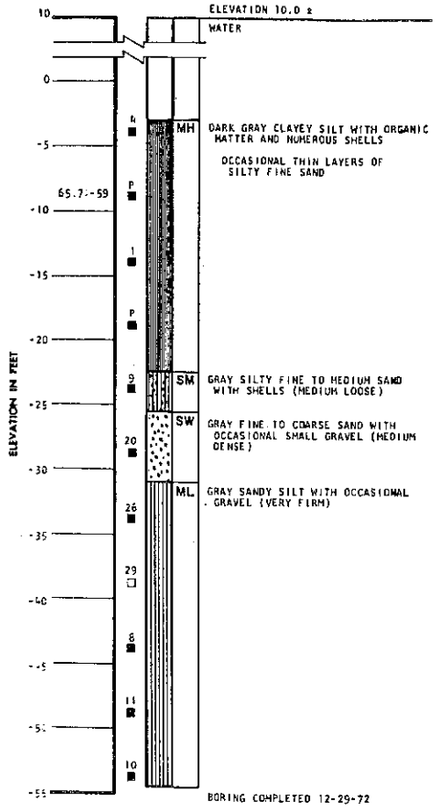
BORING 1



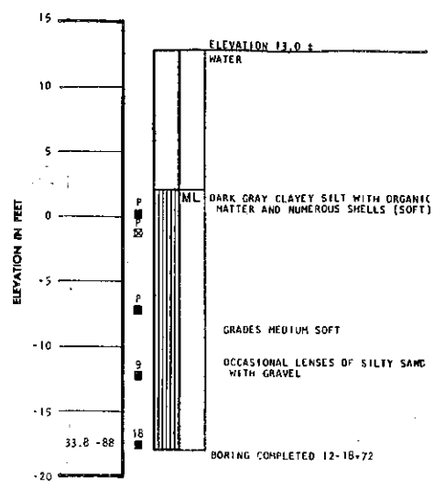
BORING 2



BORING 3



BORING 4



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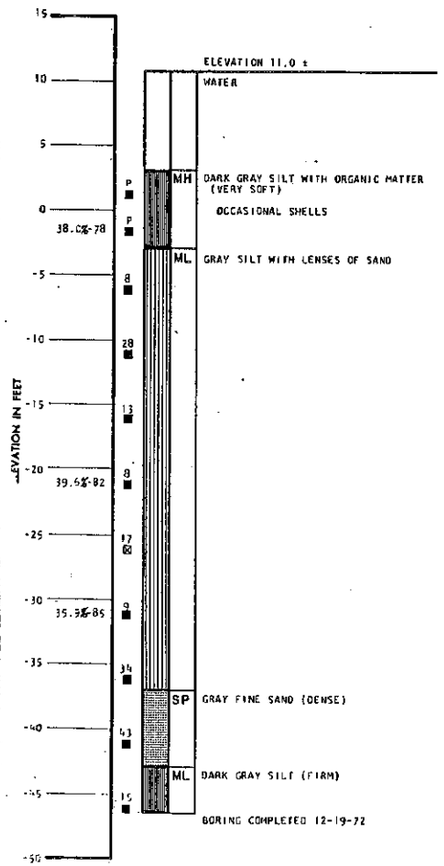
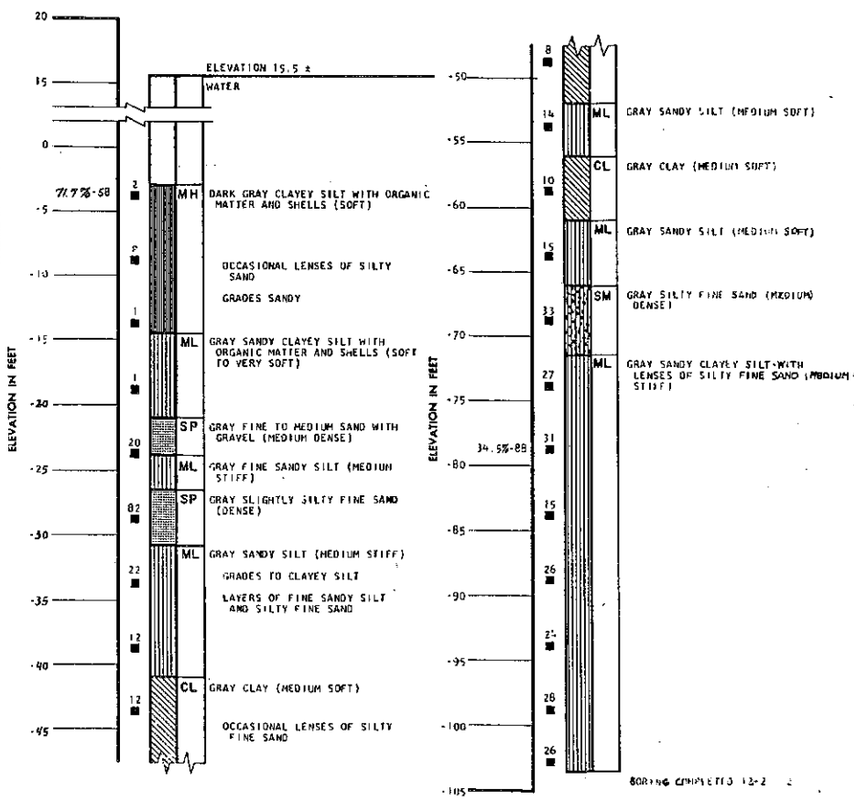
LOG OF BORINGS

DAMES & MOORE

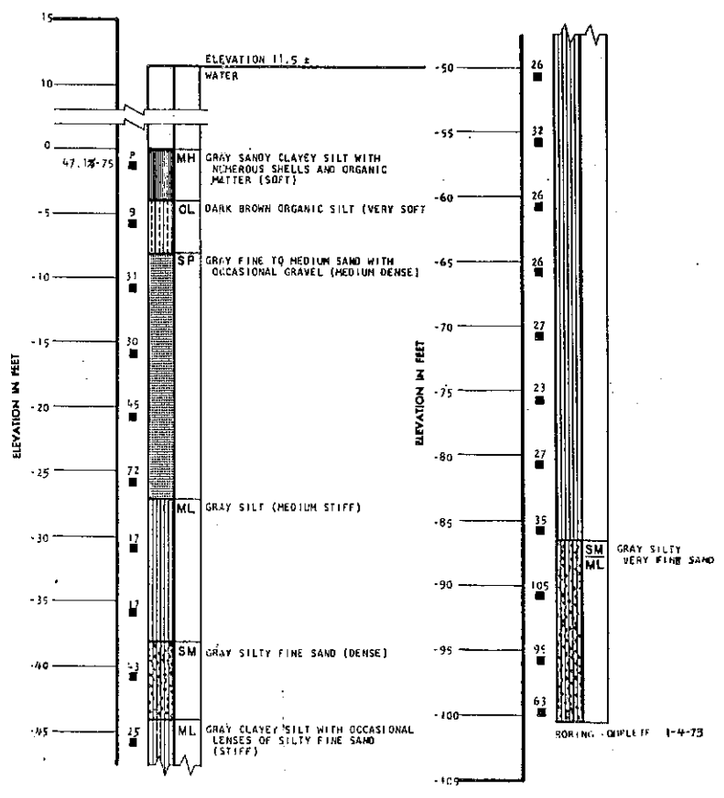
BORING 5



BORING 6



BORING 7



KEY

MOISTURE CONTENT / DRY DENSITY IN PCF

P — BLOWS REQUIRED TO DRIVE SAMPLER ONE FOOT (WEIGHT = 400 LBS., STROKE = 24 INCHES.

■ INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED.

⊠ INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.

□ INDICATES DEPTH OF SAMPLING ATTEMPT WITH NO RECOVERY

LOG OF BORINGS

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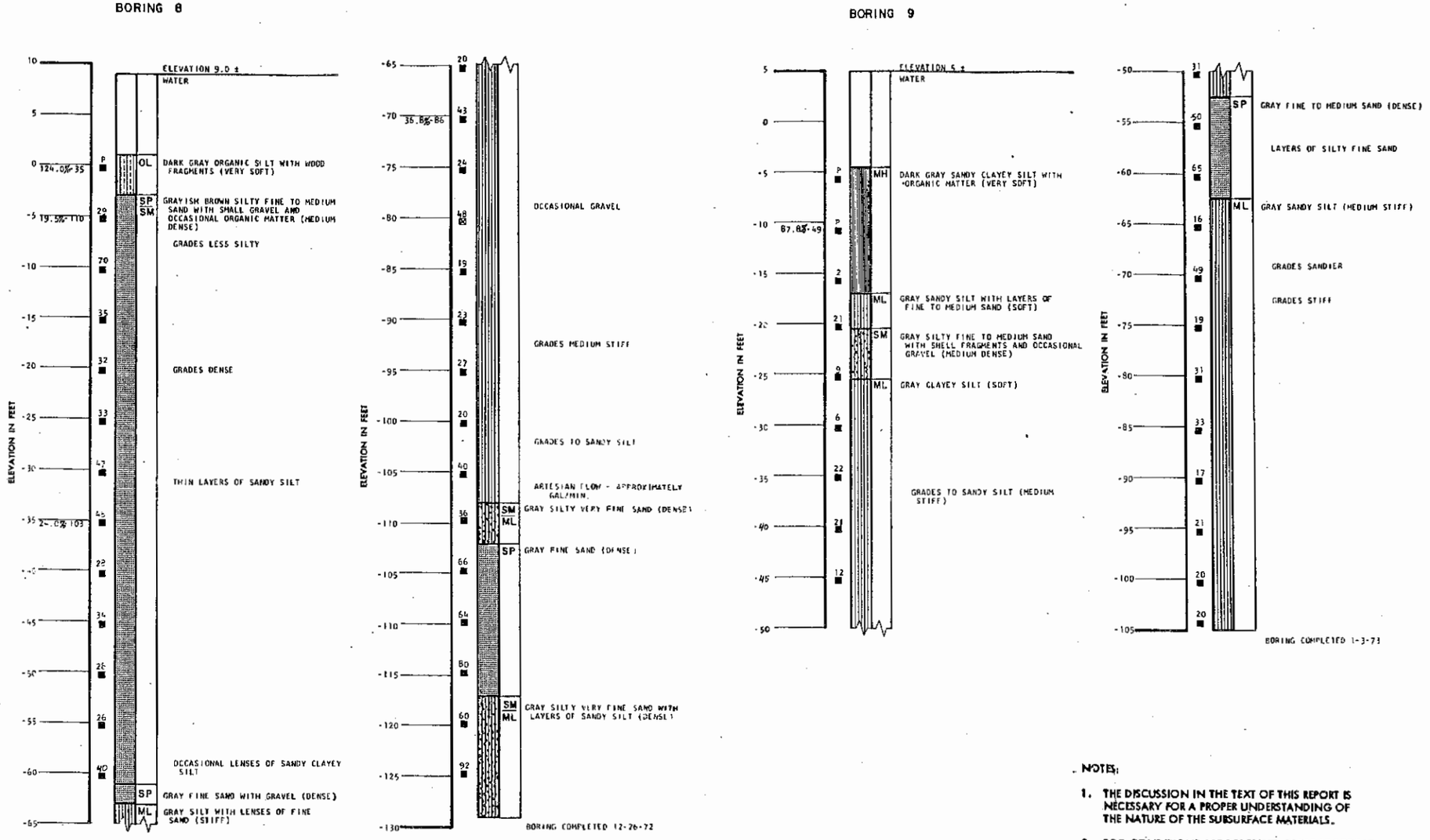
DAMES & MOORE



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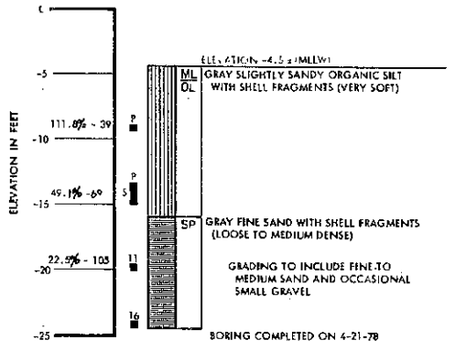
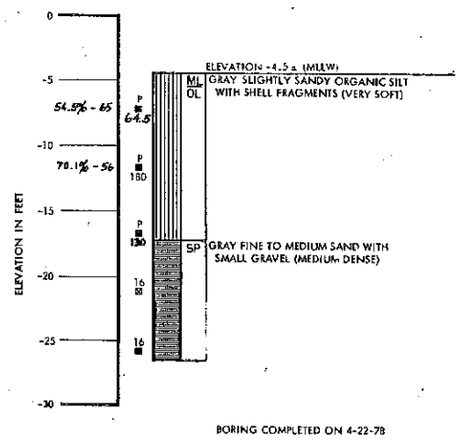
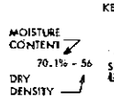
BORING 78-A



BORING 78-B

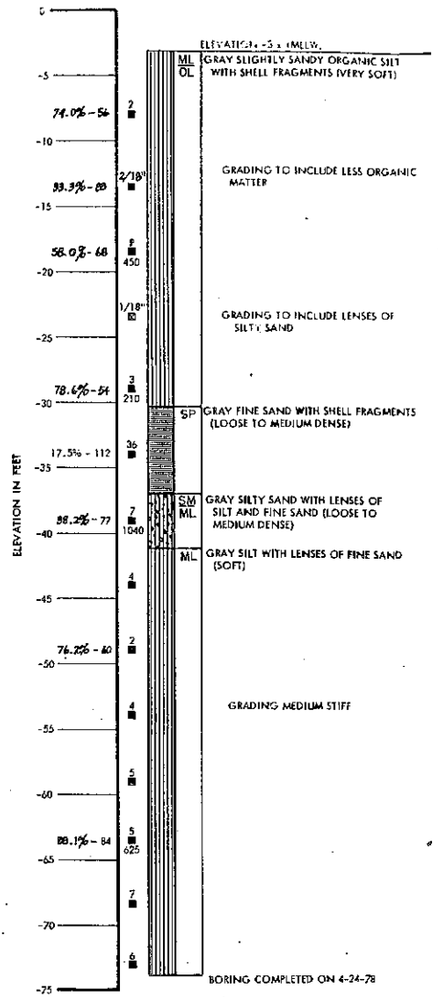


KEY:

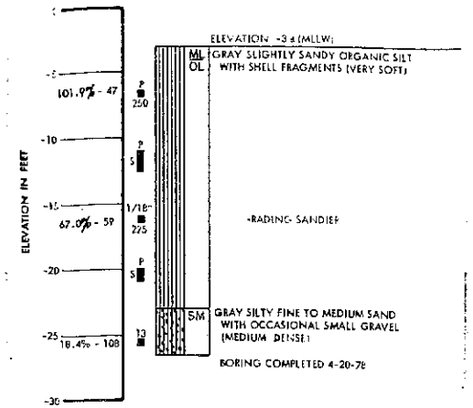


- BLOWS REQUIRED TO DRIVE SAMPLER 1 FOOT WEIGHT = 300 LBS , STROKE = 30 INCHES
- THE LETTER P INDICATES THAT THE SAMPLER WAS PUSHED INTO THE GROUND
- SHEAR STRENGTH FROM LAB VANE SHEAR – PSF
- TYPE SAMPLER
- S = THIN WALL PISTON TUBE SAMPLER
- THE ABSENCE OF A LETTER SYMBOL INDICATES THAT THE SAMPLE WAS TAKEN WITH A DAMES AND MOORE TYPE U SAMPLER
- ■ INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED
- ⊠ INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.
- □ INDICATES SAMPLING ATTEMPT WITH NO RECOVERY.

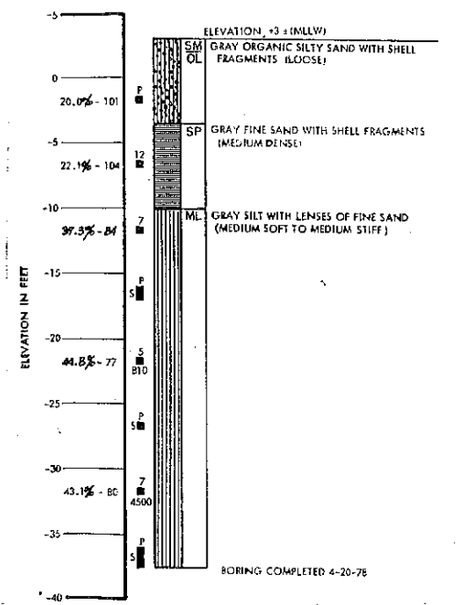
BORING 78-C



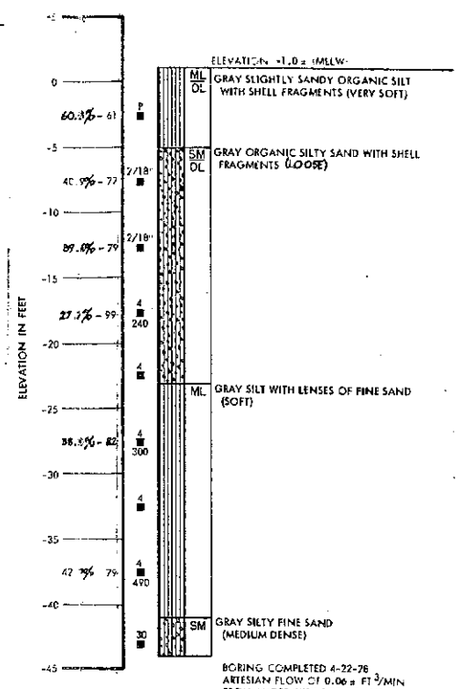
BORING 78-D



BORING 78-E



BORING 78-F



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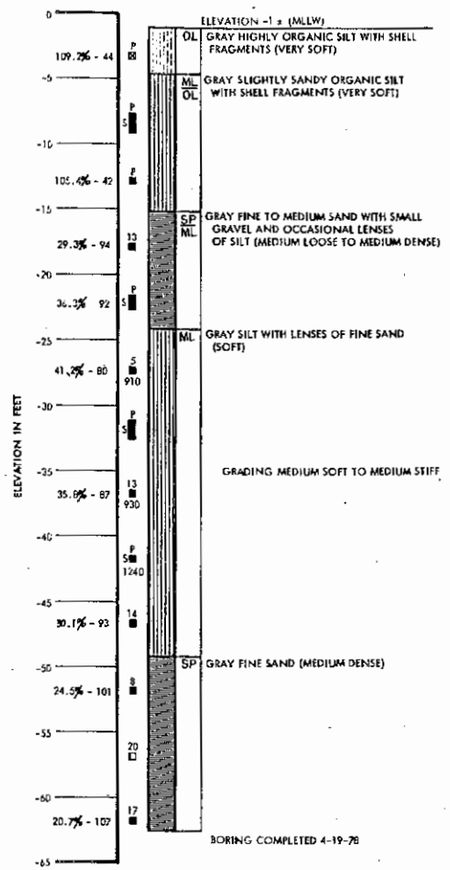
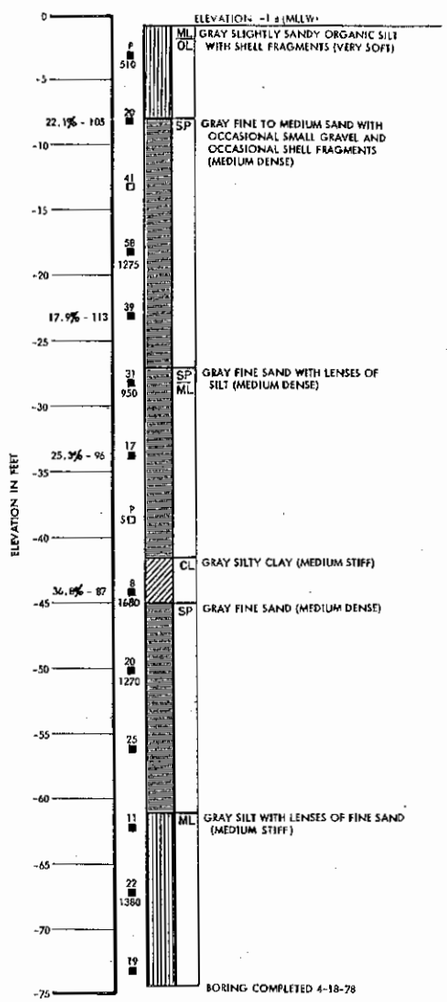
LOG OF BORINGS

DAMES & MOORE

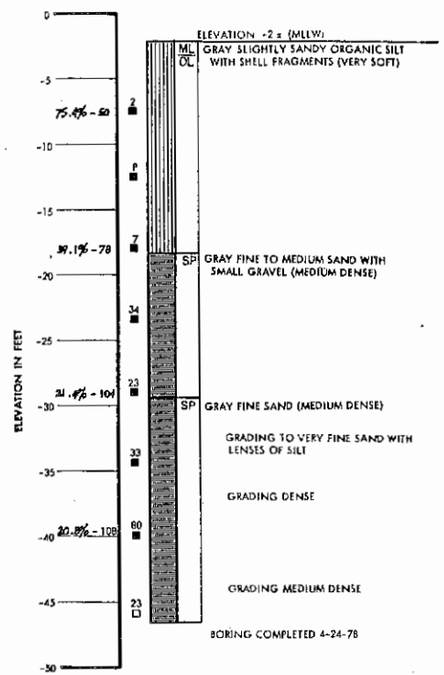
BORING 78-G



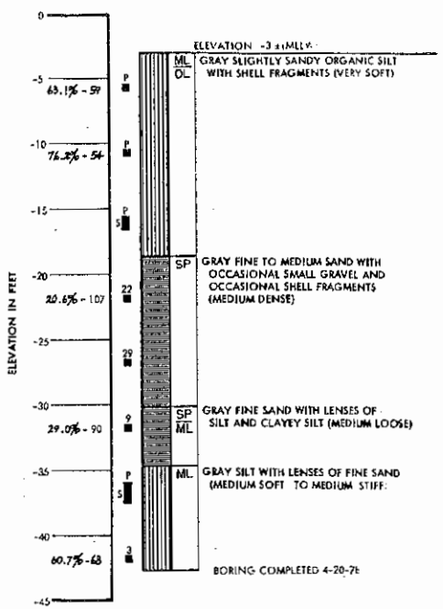
BORING 78-H



BORING 78-I



BORING 78-J



KEY:

MOISTURE CONTENT — 70.1% - 56

DRY DENSITY IN PCF

BLOWS REQUIRED TO DRIVE SAMPLER 1 FOOT WEIGHT = 300 LBS., STROKE = 30 INCHES
THE LETTER P INDICATES THAT THE SAMPLER WAS PUSHED INTO THE GROUND
SHEAR STRENGTH FROM LAB VANE SHEAR — PSF
TYPE SAMPLER
S = THIN WALL PISTON TUBE SAMPLER
THE ABSENCE OF A LETTER SYMBOL INDICATES THAT THE SAMPLE WAS TAKEN WITH A DAMES AND MOORE TYPE U SAMPLER

■ INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED

▣ INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.

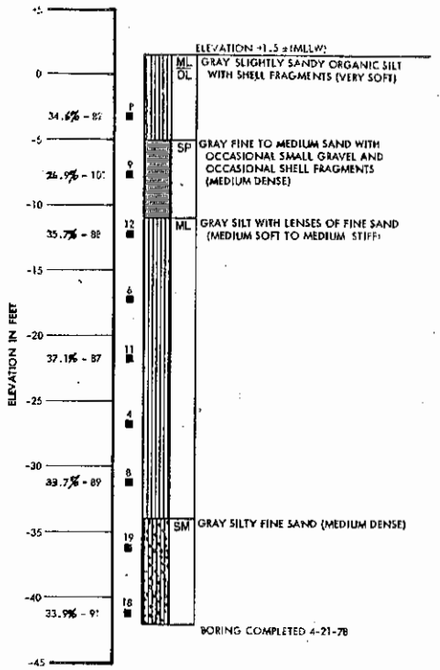
□ INDICATES SAMPLING ATTEMPT WITH NO RECOVERY.

LOG OF BORINGS

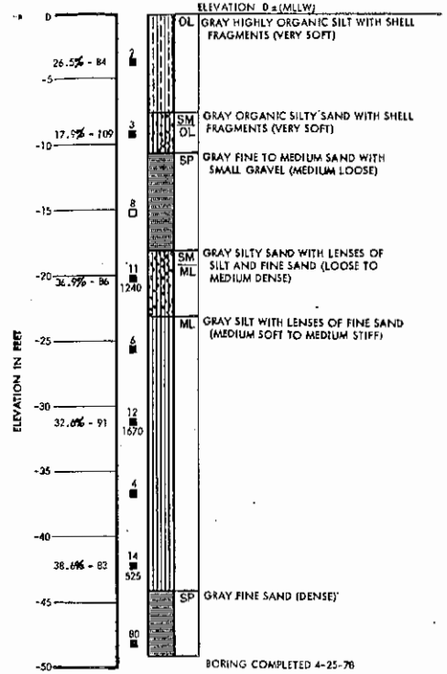
NOTES:

1. THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
2. SOIL CONDITIONS ARE DESCRIBED ONLY AT BORING LOCATIONS. SOME VARIABILITY IN ACTUAL CONDITIONS FROM THOSE SHOWN SHOULD BE ANTICIPATED.
3. THE ELEVATIONS OF INTERFACES BETWEEN DIFFERENT SOIL MATERIALS ARE APPROXIMATE, THE TRANSITIONS BETWEEN MATERIALS MAY BE GRADUAL.
4. INTERPRETATION AND EXTRAPOLATION SHOULD BE DONE BY A GEOTECHNICAL ENGINEER.

BORING 78-K



BORING 78-L



KEY:

MOISTURE CONTENT — 70.1% - 56

DRY DENSITY IN PCF

11 — BLOWS REQUIRED TO DRIVE SAMPLER 1 FOOT WEIGHT = 300 LBS , STROKE = 30 INCHES THE LETTER P INDICATES THAT THE SAMPLER WAS PUSHED INTO THE GROUND

S 4500 — SHEAR STRENGTH FROM LAB VANE SHEAR = PSF

TYPE SAMPLER
S = THIN WALL PISTON TUBE SAMPLER
THE ABSENCE OF A LETTER SYMBOL INDICATES THAT THE SAMPLE WAS TAKEN WITH A DAMES AND MOORE TYPE U SAMPLER

■ INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED

▣ INDICATES DEPTH AT WHICH DISTURBED SAMPLE WAS EXTRACTED.

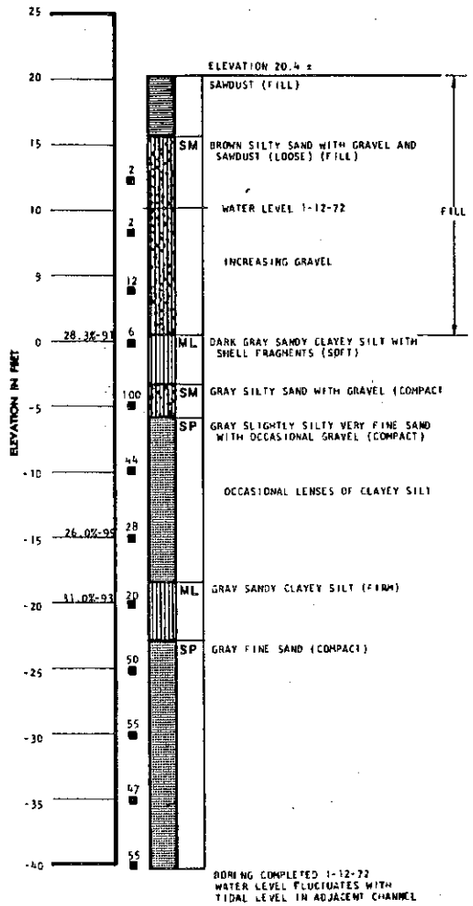
□ INDICATES SAMPLING ATTEMPT WITH NO RECOVERY.

LOG OF BORINGS

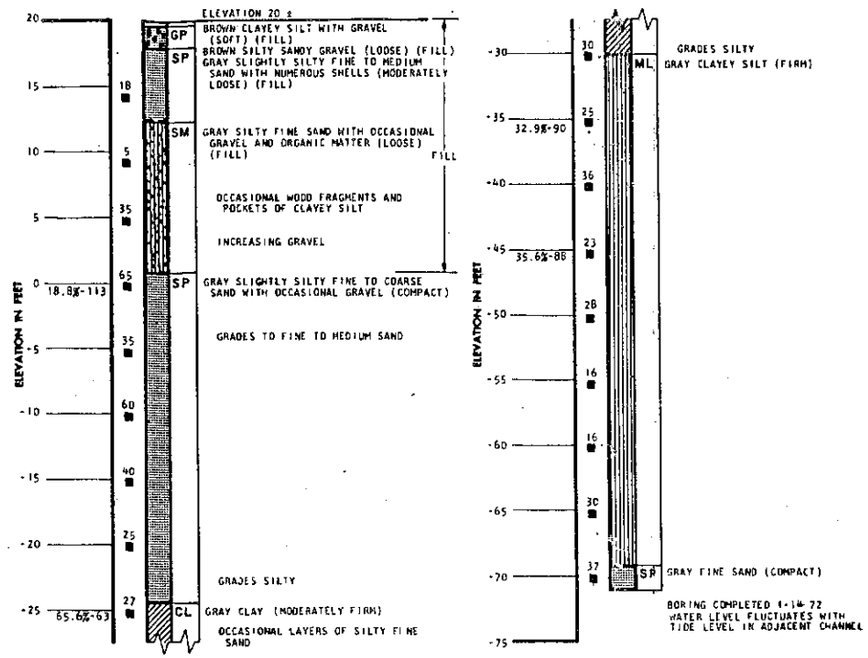
NOTES:

1. THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
2. SOIL CONDITIONS ARE DESCRIBED ONLY AT BORING LOCATIONS. SOME VARIABILITY IN ACTUAL CONDITIONS FROM THOSE SHOWN SHOULD BE ANTICIPATED.
3. THE ELEVATIONS OF INTERFACES BETWEEN DIFFERENT SOIL MATERIALS ARE APPROXIMATE, THE TRANSITIONS BETWEEN MATERIALS MAY BE GRADUAL.
4. INTERPRETATION AND EXTRAPOLATION SHOULD BE DONE BY A GEOTECHNICAL ENGINEER.

BORING 72-1



BORING 72-2



KEY:

MOISTURE CONTENT 31.0%-93 DRY DENSITY IN PCF

20 = BLOWS REQUIRED TO DRIVE SAMPLER ONE FOOT (WEIGHT = 350 LBS., STROKE = 30 INCHES.)

■ INDICATES DEPTH AT WHICH UNDISTURBED SAMPLE WAS EXTRACTED.

LOG OF BORINGS

NOTES:

1. THE DISCUSSION IN THE TEXT OF THIS REPORT IS NECESSARY FOR A PROPER UNDERSTANDING OF THE NATURE OF THE SUBSURFACE MATERIALS.
2. SOIL CONDITIONS ARE DESCRIBED ONLY AT BORING LOCATIONS. SOME VARIABILITY IN ACTUAL CONDITIONS FROM THOSE SHOWN SHOULD BE ANTICIPATED.
3. THE ELEVATIONS OF INTERFACES BETWEEN DIFFERENT SOIL MATERIALS ARE APPROXIMATE, THE TRANSITIONS BETWEEN MATERIALS MAY BE GRADUAL.
4. INTERPRETATION AND EXTRAPOLATION SHOULD BE DONE BY A GEOTECHNICAL ENGINEER.

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OCTOBER 7, 2011 DATA GAP INVESTIGATION WORK PLAN AND SCHEDULE

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 10, 2011

Ms. Alexandra K. Smith
Sr. Environmental Program Mgr./Environmental Legal Counsel
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

Re: Ecology Approval of the *Data Gap Investigation Work Plan and Schedule, East Bay Redevelopment Site, Olympia, Washington,* Prepared for the Port of Olympia by Pioneer Technologies Corporation, October 7, 2011; East Bay Redevelopment, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE5471.

Dear Ms. Smith:

Thank you for submitting the above-referenced data gap work plan in response to our October 3 comment letter. We have no further comments on this plan. **Therefore, we consider the above-referenced work plan to be approved.**

If you have any questions, please contact me at (360) 407-6247 or via e-mail at stee461@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:Approval Data Gap WP W 10102011

By certified mail: (7010 0780 0002 3403 0106)

cc: Mr. Troy Bussey, PIONEER Technologies Corporation
Mr. Tom Morrill – City Attorney
LOTT Clean Water Alliance, c/o Mr. Eric Hielema, Senior Wastewater Engineer
City of Olympia, c/o Mr. Jay Burney, Assistant City Manager – Special Projects
Mr. Chris Cleveland, Brown and Caldwell
Ms. Maggie Yowell, Attorney, FOSTER PEPPER PLLC
Ivy Anderson – Office of the Attorney General
Scott Rose – Department of Ecology
Diana Smith - Department of Ecology

PIONEER
TECHNOLOGIES CORPORATION

5205 Corporate Ctr Ct, Ste A
Olympia, WA 98503-5901

Phone: 360.570.1700
Fax: 360.570.1777

www.uspioneer.com

October 7, 2011

Mr. Steve Teel, L.HG.
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504 - 7775

Subject: *Data Gap Investigation Work Plan and Schedule*
East Bay Redevelopment Site, Olympia, Washington

Dear Mr. Teel:

On behalf of the Port of Olympia, I am enclosing for your review two copies of a work plan for the additional data gap soil sampling and analysis at the Port of Olympia East Bay Redevelopment Site (Site). The primary purpose of these proposed data gap samples is to provide additional data to supplement the Site Boundary Technical Memorandum (PIONEER 2010, Ecology 2010) and assist in defining the Site boundary.

Introduction

The Site is located in Olympia, Washington, on the southeast corner of the Port peninsula adjacent to the East Bay of Budd Inlet. Most of the Site consists of fill dredged from Budd Inlet except for what was added after 1979, which was clean fill from an off-site location. The 1979 shoreline is shown on Figures 1 and 2.

The Port of Olympia originally entered the Site into Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program in 2007, and since has entered into Agreed Order (AO) DE5471 and AO DE7830, which superseded AO DE5471. This Work Plan satisfies the Data Gap Investigation Work Plan and Schedule deliverable following the draft Site Boundary Technical Memorandum deliverable specified in AO DE7830.

Description of Soil Sampling and Analysis

Based on existing data, new sample locations are proposed to further characterize the Site and define the Site boundary (see Table 1). In summary, direct-push soil borings will be advanced in eleven locations, seven of those locations will be sampled for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and eight of those locations will be sampled for chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans). Sample locations for cPAHs and dioxins/furans are shown on Figures 1 and 2, respectively. In addition, a limited excavation will be performed in the southwest corner of the Site in Parcel 3 in attempt to remove the P-1 anomaly and any associated impacted soil. The location of the anomaly is shown on Figure 1.

Field guidelines and descriptions of procedures applicable to this Work Plan are outlined in the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) provided as Attachment 1. The

SAP/QAPP is Appendix D of the Remedial Investigation Work Plan for the East Bay Redevelopment Site (GeoEngineers and PIONEER 2008). Deviations from this SAP/QAPP are described in Table 2. Field activities will be documented using PIONEER field forms provided as Attachment 2.

All samples will be analyzed by an Ecology accredited laboratory. The analytical methods will be United States Environmental Protection Agency (USEPA) Method SW846-8290 for dioxins/furans, USEPA Method SW846-8270 for PAHs, Ecology Method NWTPH-Dx for diesel- and heavy oil-range petroleum hydrocarbons, and USEPA Method SW846-8082 for polychlorinated biphenyls (PCBs). It is anticipated that Pace Analytical Services will perform the dioxins/furans analyses and Anatek Labs, Inc will perform the rest of the analyses (both laboratories are Ecology accredited for the analyses being performed). Current target soil reporting limits for these analyses are presented in Table 3. As shown in Table 3, all target reporting limits are less than soil screening levels for the Site.

Schedule

Following review and approval of this Work Plan by Ecology, PIONEER will implement the investigation activities described herein. A proposed schedule of upcoming work and deliverables is presented in Figure 3.

If you have any questions or require further information, please do not hesitate to contact me at 570-1700 or Alex Smith at 528-8020.

Respectfully,

Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc:

Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)
Mr. Josh Johnson, Brown and Caldwell (electronic copy)

References

Washington State Department of Ecology (Ecology). 2010. Request for Data Gap Work Plan and Transmittal of Ecology Comments on the *Site Boundary Memorandum for the East Bay Redevelopment Site*, Prepared for the Port of Olympia by Pioneer Technologies Corporation, November 2010; East Bay Redevelopment Site, Olympia, Washington Ecology Facility/Site No. 5785176, Agreed Order DE7830. December 14.

GeoEngineers and PIONEER (Pioneer Technologies Corporation). 2008. Remedial Investigation Work Plan East Bay Redevelopment Port of Olympia, Olympia Washington. October 22.

PIONEER 2009. East Bay: Interim Action Work Plan. May.

PIONEER. 2010. Site Boundary Technical Memorandum for the East Bay Redevelopment Site. November.

Attachments

Figures

Figure 1 – Existing cPAHs Data and Proposed Sampling Locations
Figure 2 – Existing Dioxins/Furans Data and Proposed Sampling Locations
Figure 3 – Schedule as of October 7, 2011 for the East Bay Redevelopment Site

Tables

Table 1 – Proposed Data Gap Soil Sampling Locations
Table 2 – Soil Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan
Table 3 – Soil Analysis Target Reporting Limits

Attachments

Attachment 1 – GeoEngineers SAP/QAPP from the Remedial Investigation Work Plan
Attachment 2 – PIONEER Field Forms

TABLES

Table 1. Proposed Data Gap Soil Sampling Locations

Ecology Comment #[1]	Location Description[2]	Type of Data Gap[3]	Proposed Sampling Location	Analytes	Rationale for Sample Depth Selection[4]
1a	North of MW21S (0.5-1.5)	SB	DP46	cPAHs	Three or four soil samples will be collected from this boring. The intent is to collect one sample from each major soil lithology that is encountered (e.g., pre-1982 fill, soil containing fine-grained wood debris, former native sediments) and to bias depth interval selections towards intervals most likely to be impacted. Considerations in interval selection will include (1) lithology, (2) depth(s) of surrounding exceedances, (3) depth(s) of any debris encountered, and (4) desire to collect one sample near 2 feet bgs.
1a	East of MW21S (0.5-1.5)	SB	DP47	cPAHs	Same depths as 1a for DP46.
1b	West of DP37 (2-3.5)	SB	DP48	cPAHs[5]	Same depths as 1a for DP46.
1b	West of DP38 (5-6)	SB	DP49	cPAHs	Same depths as 1a for DP46.
1c	Northeast of MW05 (10-12)	SB	DP50	cPAHs[5]	If the bottom of the 1982 fill is encountered within 15 feet bgs, one soil sample will be collected from soil beneath the 1982 fill.
1d	East of DP33 (3-4, 7-8)	SB	DP51	cPAHs[5]	Same depth as 1c for DP50.
1e	East of MW04 (2-4)	SB	DP52	cPAHs[5]	Same depths as 1a for DP46.
1f	Northeast of MW20 (6-8)	SB	DP46	cPAHs	Same depths as 1a for DP46.
1f	Northwest of MW20 (6-8)	No sample proposed[6]			
2a	North of DP30 (7-7.5)	SB	DP53(7)	D/F	Pre-1982 fill was encountered from ground surface to 7 feet bgs in DP30 and neither of the two DP30 samples collected from pre-1982 fill had a D/F exceedance. Similarly there are no D/F exceedances in the pre-1982 fill samples located closest to DP30 (e.g., samples in the southern portion of the LOTT Expansion Site, DP29, MW23S, DP43, DP34, DP38), which is not surprising since DP30 is located a considerable distance from D/F-related AOCs and the historic shorelines where treated wood pilings were likely used. The only DP30 exceedance was a 7-7.5 feet bgs sample of what appeared to be former native sediment mixed with wood debris that was located beneath the pre-1982 fill. As a result, one to two samples will be collected beneath the pre-1982 fill in this boring. One sample will be collected from former native sediment (if encountered) and one sample will be collected adjacent to wood debris (if encountered). If neither former native sediment nor wood debris are encountered beneath the pre-1982 fill, one sample will be collected at roughly the same depth as the DP30 exceedance.
2a	South of DP30 (7-7.5)	SB	DP54(7)	D/F	Same depths as 2a for DP53.
2a	West of DP30 (7-7.5)	No sample proposed[6]			
2a	East of DP30 (7-7.5)	RI/FS	DP55 (7)	D/F	Same depths as 2a for DP53.
2b	East of DP26 (1-2)	SB	DP52	D/F[5]	Same depths as 1a for DP46.
2c	East of TP02 (2-2.5)	SB	DP51	D/F[5]	Same depth as 1c for DP50.
2d	East of DP42 (1-2, 7-8)	SB	DP56	D/F	Same depths as 1a for DP46.
2e	Northeast of TP03 (3.5-4)	SB	DP50	D/F[5]	Same depth as 1c for DP50.
2f	West of MW24S (6.5-8, 9-10)	SB	DP48	D/F[5]	Same depths as 1a for DP46.
2g	West of TP04 (1.5-2)	No sample proposed[8]			
7	Southwest corner of Parcel 3 (i.e., location of P-1 anomaly)	RI/FS	Not applicable	TPH-D, TPH-HO, PAHs, and PCBs	A limited attempt will be made to remove the P-1 anomaly and any associated impacted soil (e.g., no more than 50 cubic yards total during this limited attempt). Excavated soil and the anomaly will be disposed of at the Weyerhaeuser Regional Landfill in Castle Rock. Four sidewall samples and one bottom sample will be collected following the removal to characterize the surrounding soil conditions.

Notes:
bgs: below ground surface
cPAHs: carcinogenic polycyclic aromatic hydrocarbons
Dioxins/furans: chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans
DP: direct push
PAHs: polycyclic aromatic hydrocarbons
PCBs: polychlorinated biphenyls
RI/FS: Remedial Investigation / Feasibility Study
SB: site boundary
TPH-D: total petroleum hydrocarbons in the diesel range
TPH-HO: total petroleum hydrocarbons in the heavy oil range

[1]Comments dated December 14, 2010 on the Site Boundary Technical Memorandum for the East Bay Redevelopment Site (PIONEER 2010).
[2]The depth of soil screening level exceedance (in feet bgs) for the sample that was referenced in the Ecology comment (e.g., "MW21S") is shown in parenthesis.
[3]Data gaps for the site boundary are differentiated from general RI/FS data gaps. Sampling for these different types of data gaps may be conducted in separate phases.
[4]All borings will be advanced to 15 feet bgs unless otherwise noted.
[5]Samples collected from these locations are being analyzed for both cPAHs and D/F. The depth interval selections will be the same for cPAHs and D/F.
[6]Deeper characterization of potential releases at AOC 1 will be addressed as part of activities at the LOTT Expansion Site.
[7]No sample is proposed northwest of DP30 since the total D/F exceedance in DP30 has already been delineated to concentrations less than the soil screening level in the northwestern direction by BC_DP17. Samples are proposed to the northeast, southwest, and southeast (rather than north, west, south, east).
[8]This screening level exceedance has already been delineated with samples at DP38, which is located west of TP04 (see Figure 2).

Table 2. Soil Sampling Deviations from the Sampling and Analysis Plan/Quality Assurance Project Plan

SAP/QAPP Section	Deviation	Rationale/Explanation
4.0	Work will be executed by PIONEER rather than GeoEngineers.	The Port of Olympia selected PIONEER to perform this work.
2.0	Samples will not be collected every two feet.	One sample will be taken from each major soil lithology that is encountered. Table 1 describes considerations of intervals that will be sampled.
2.0	Water sheen and headspace vapor screening methods will not be used.	Due to the nature of constituents being investigated in this Work Plan, these tests will not be employed.
2.0	Investigation derived waste will be handled differently.	It is anticipated based on previous sampling events that an insignificant volume of decontamination water will be generated and therefore will be discharged on site. It is anticipated based on previous sampling events that an insignificant volume of unused soil cores will be generated. These soils will be placed on-site or will be added to the excavated soils from the southwest corner or Parcel 3 (which are being disposed of at Weyerhaeuser Regional Landfill in Castle Rock).
5.2	Samples will be collected for a 1-foot interval instead of a four to six inch interval.	Given the lithology and actual core recovery, even with two side-by-side borings, typically it is expected to require a one-foot sample interval or longer in order to obtain the minimum required container volume.
5.2	A different GPS unit will be used.	PIONEER has a different GPS unit (which is more accurate than the unit specified in the SAP/QAPP).
8.0	Sample nomenclature will be revised.	To improve data usability during subsequent data evaluations.
11.1	No field trip blanks will be used.	VOCs are not being investigated in this Work Plan.
Table 4	Different target reporting limits will be used.	Reporting limits for the analytical methods and anticipated laboratories are presented in Table 3.

Notes:
GPS: Global Positioning System
SAP: Sampling and Analysis Plan
QAPP: Quality Assurance Project Plan
VOCs: volatile organic constituents

Table 3. Soil Analysis Target Reporting Limits

Analytes	Analytical Method	Target Reporting Limits (mg/kg)	Soil Screening Level[1] (mg/kg)
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)			
Benzo(a)pyrene	USEPA SW846-8270	0.01	--
Benzo(a)anthracene	USEPA SW846-8270	0.01	--
Benzo(b)fluoranthene	USEPA SW846-8270	0.01	--
Benzo(k)fluoranthene	USEPA SW846-8270	0.01	
Chrysene	USEPA SW846-8270	0.01	--
Dibenz(a,h)anthracene	USEPA SW846-8270	0.01	--
Indeno(1,2,3-cd)pyrene	USEPA SW846-8270	0.01	--
Total cPAHs Nondetected Value[2,3]	0.015		0.095
Polycyclic Aromatic Hydrocarbons (PAHs)			
PAHs	USEPA SW846-8270	0.01	--
Total Petroleum Hydrocarbons (TPHs)			
Diesel-Range	NWTPH-Dx	25	2000
Heavy Oil-Range	NWTPH-Dx	100	2000
Polychlorinated Biphenyls (PCBs)			
Aroclor 1016	USEPA SW846-8082	0.1	--
Aroclor 1221	USEPA SW846-8082	0.1	--
Aroclor 1232	USEPA SW846-8082	0.1	--
Aroclor 1242	USEPA SW846-8082	0.1	--
Aroclor 1248	USEPA SW846-8082	0.1	--
Aroclor 1254	USEPA SW846-8082	0.1	--
Aroclor 1260	USEPA SW846-8082	0.1	--
Total PCBs Nondetected Value[3,4]	0.35		0.5
Dioxins and Furans			
2,3,7,8-TCDD	USEPA SW846-8290	1.0E-06	--
2,3,7,8-TCDF	USEPA SW846-8290	1.0E-06	--
-Penta, Hexa, Hepta	USEPA SW846-8290	5.0E-06	--
-Octa	USEPA SW846-8290	10.0E-06	--
Total Dioxins/Furans Nondetected Value[2,3]	5.7E-06		9.8E-06

Notes:
-- = not applicable
[1]From Table 1 of the Site Boundary Technical Memorandum for the East Bay Redevelopment Site (PIONEER 2010), except for diesel and heavy oil range which are from the East Bay Interim Action Work Plan (PIONEER 2009).
[2]The total cPAHs and total dioxins/furans nondetected values were calculated by multiplying the reporting limit by the toxic equivalency factors as presented in Tables 708-2 and 708-1, respectively, in the MTCA Statute and Regulation Handbook, then adding the values using compound totaling rules described below.
[3]Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for the Amendments to the Model Toxics Control Act (MTCA) Cleanup Regulation Chapter 173-340 WAC, Publication No. 01-09-043. For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit is assigned. For congeners that do not occur at the site (not detected in any media), a value of zero is assigned. In the case of cPAHs, all congeners have been detected at least once. In the case of PCBs, only one of the seven congeners has been detected. In the case of dioxins/furans, all congeners have been detected at least once.
[4]Even though only one PCB congener has ever been detected at the site, it is possible that they could all be detected, and therefore the total PCBs nondetected value is the total of ½ the reporting limits.

FIGURES

AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 02	Panel Oiling
AOC 04	Propane Lift Truck Fueling Shed
AOC 09	Oil House
AOC 10	Engine Room
AOC 11	Unidentified Structure
AOC 12	Machine Shop
AOC 13	Blacksmith Shop
AOC 14	Tar Dipping Tank North
AOC 15	Tar Dipping Tank South
AOC 16	Oiled Cooled Transformer on Concrete Pad
AOC 17	Boiler House
AOC 18	Fuel Bin
AOC 19	Flammable Liquids
AOC 20	Hog Fuel Pile on Ground
AOC 21	Oil House
AOC 24	Power House
AOC 25	Unknown Shop
AOC 26	Pipe Shop
AOC 27	Fuel Bin
AOC 28	Transformer Vault
AOC 29	Oil House
AOC 30	Fenced Electrical Enclosure
AOC 31	Jitney Shop
AOC 32	Electronic Shop
AOC 33	Machine Shop
AOC 34	Welding Shop
AOC 35	Engine (Type Unknown)
AOC 36	Engine (Type Unknown)
AOC 37	Repair Shop
AOC 38	Blacksmith Shop
AOC 39	Logway
AOC 40	Glue House
AOC 41	Blacksmith Shop
AOC 42	Machine Shop
AOC 52	Diesel Fuel Release
AOC 53	Sawmill
AOC 54	Planing Mill

N
W E
S

Legend

- Sample No Longer in Place

Proposed Sample Location

- Site Boundary Data Gap

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions

- Soil Cap
- Soil Cover
- Soil Removal

Notes:

bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level
NLIP = no longer in place
RI/FS = Remedial Investigation/Feasibility Study

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

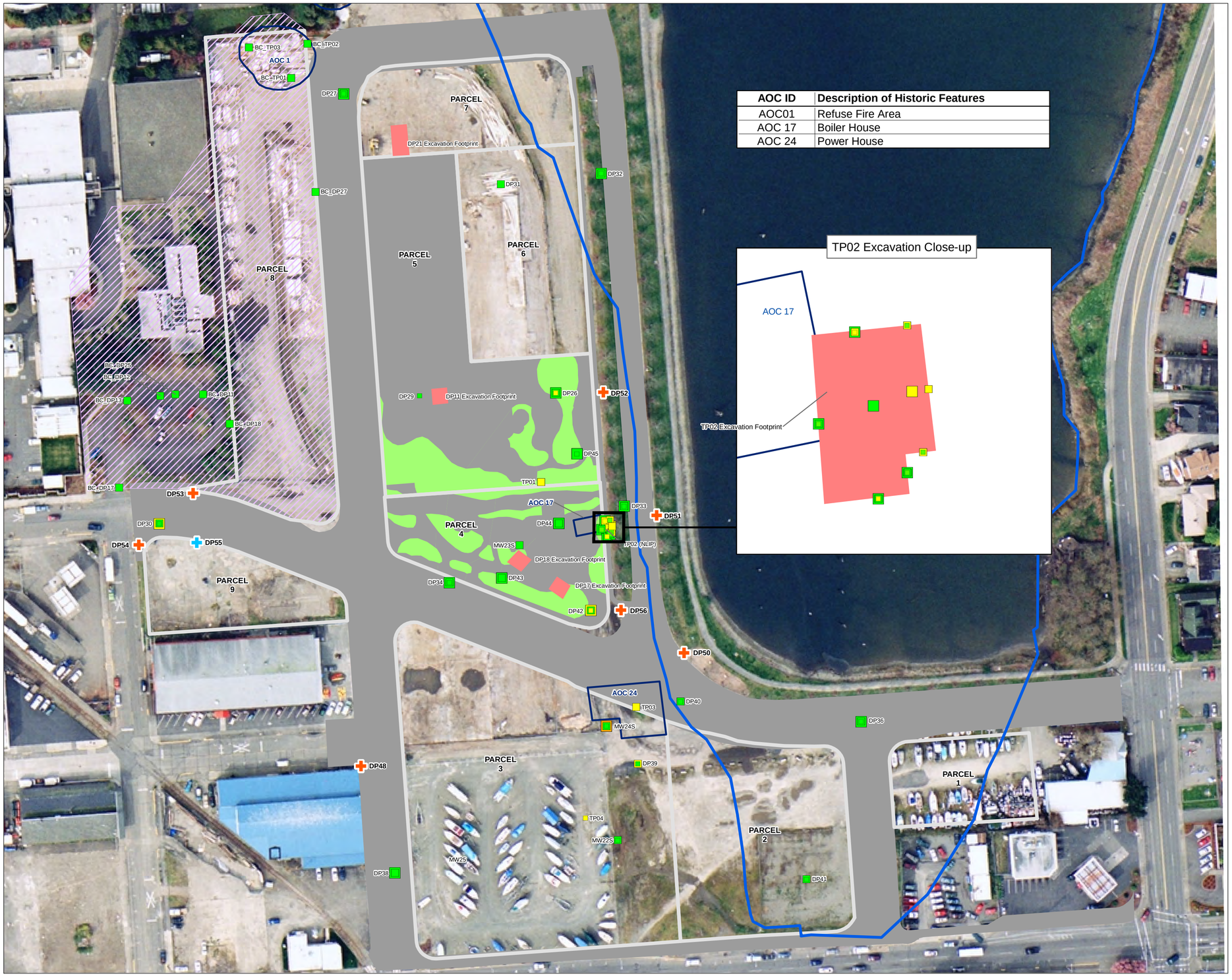
-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Non-detected values greater than the SL are not shown as exceedances.
-Sample breakout depths are based on sample top.

0 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing cPAHs Data and Proposed Sampling Locations
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
MF	
DATE:	FIGURE NO.:
October 2011	1



AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 17	Boiler House
AOC 24	Power House

TP02 Excavation Close-up

N
W E
S

Legend

- Sample No Longer in Place

Proposed Sample Location
- Site Boundary Data Gap Sample
- RI/FS Data Gap Sample

Soil Data (0-2' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions
- Soil Cap
- Soil Cover
- Soil Removal

Notes:

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface
NLIP = no longer in place
RI/FS = Remedial Investigation/Feasibility Study

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Sample breakout depths are based on sample top.

0 100 200 Feet

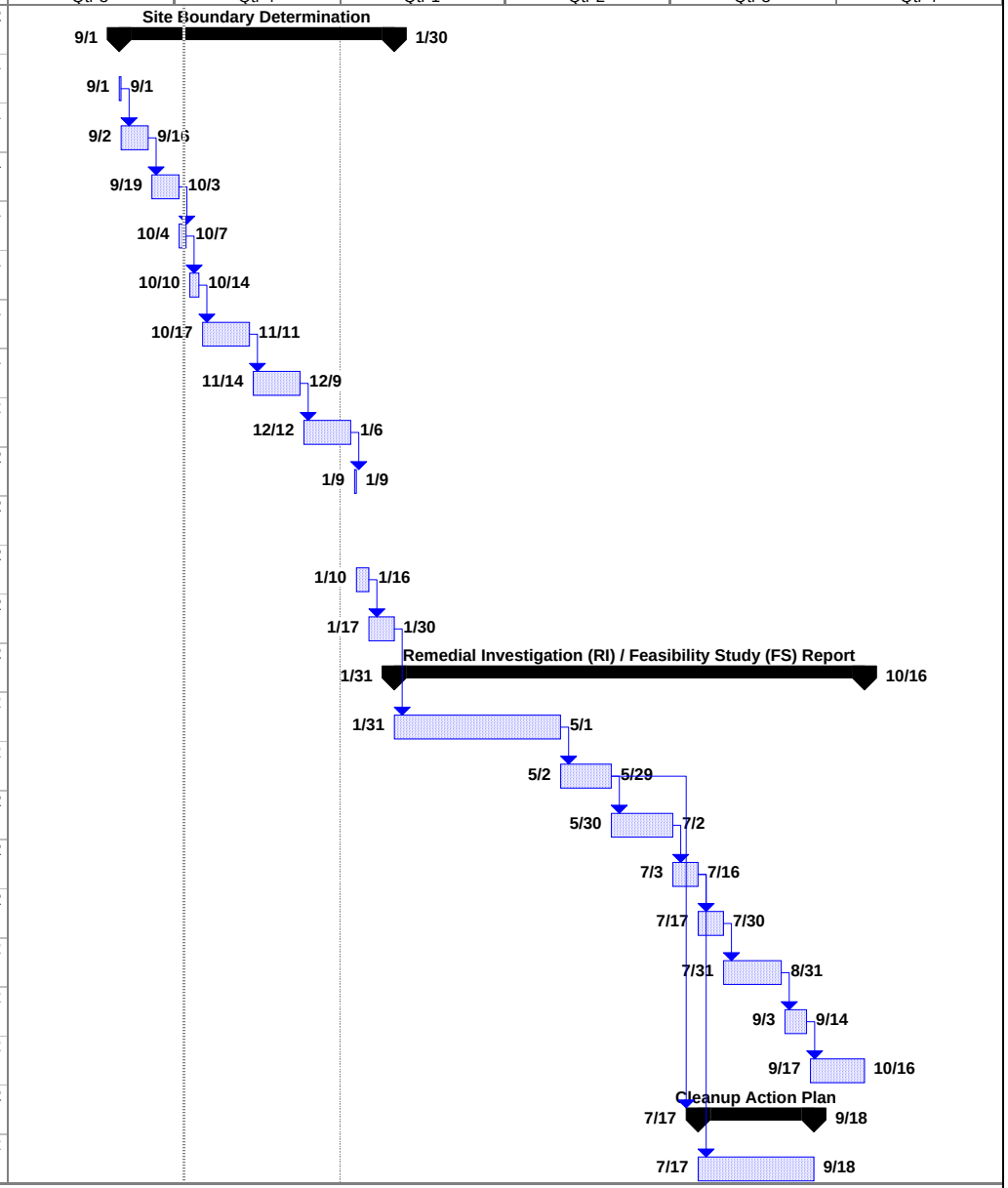
PIONEER TECHNOLOGIES CORPORATION

Existing Dioxins/Furans Data and Proposed Sampling Locations
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
MF	
DATE:	FIGURE NO.:
October 2011	2

Figure 3. Schedule as of October 7, 2011 for the East Bay Redevelopment Site

ID	Task Name	Duration	Start	Finish
1	**Site Boundary Determination**	**108 days**	**Thu 9/1/11**	**Mon 1/30/12**
2	Meeting on Port's proposed site boundary	1 day	Thu 9/1/11	Thu 9/1/11
3	Port submit a Data Gap Investigation Work Plan and Schedule	11 days	Fri 9/2/11	Fri 9/16/11
4	Ecology review Data Gap Investigation Work Plan and Schedule	11 days	Mon 9/19/11	Mon 10/3/11
5	Port submit final Data Gap Investigation Work Plan and Schedule (if necessary)	4 days	Tue 10/4/11	Fri 10/7/11
6	Ecology approve Data Gap Investigation Work Plan and Schedule	5 days	Mon 10/10/11	Fri 10/14/11
7	Port complete Data Gap Investigation Work Plan field activities	20 days	Mon 10/17/11	Fri 11/11/11
8	Port receive laboratory results	20 days	Mon 11/14/11	Fri 12/9/11
9	Evaluate new data	20 days	Mon 12/12/11	Fri 1/6/12
10	Meeting to discuss results of Data Gap Investigation	1 day	Mon 1/9/12	Mon 1/9/12
11	Additional work and meeting for site boundary (if necessary)	0 days	Mon 1/9/12	Mon 1/9/12
12	Port submit figure to Ecology showing proposed site boundary, once all agree on site boundary	5 days	Tue 1/10/12	Mon 1/16/12
13	Ecology approve proposed site boundary	10 days	Tue 1/17/12	Mon 1/30/12
14	**Remedial Investigation (RI) / Feasibility Study (FS) Report**	**186 days**	**Tue 1/31/12**	**Tue 10/16/12**
15	Port submit draft RI / FS Report	66 days	Tue 1/31/12	Tue 5/1/12
16	Ecology review and comment on draft RI / FS Report	20 days	Wed 5/2/12	Tue 5/29/12
17	Port submit draft final RI / FS Report	24 days	Wed 5/30/12	Mon 7/2/12
18	Ecology approves draft final RI / FS Report for public comment period	10 days	Tue 7/3/12	Mon 7/16/12
19	Ecology prepare for public comment period	10 days	Tue 7/17/12	Mon 7/30/12
20	Public comment period	24 days	Tue 7/31/12	Fri 8/31/12
21	Ecology response to public comments	10 days	Mon 9/3/12	Fri 9/14/12
22	Port prepare final RI/FS Report	22 days	Mon 9/17/12	Tue 10/16/12
23	**Cleanup Action Plan**	**46 days**	**Tue 7/17/12**	**Tue 9/18/12**
24	Port Submit Draft Cleanup Action Plan to Ecology	46 days	Tue 7/17/12	Tue 9/18/12



Note: The Department of Ecology is not bound by the scheduled duration time or the Start and Finish dates for review, response, comment, or approval of documents by Ecology. Ecology will endeavor to finish its review within the timeline indicated in the Schedule. If the review, response, comment or approval of documents by Ecology is longer than the duration time indicated in the Schedule, the Start and Finish dates of subsequent Tasks will be delayed a corresponding number of days.

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

ATTACHMENT 1

GeoEngineers SAP/QAPP from the Remedial Investigation Work Plan

APPENDIX D
SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN

SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT PORT OF OLYMPIA OLYMPIA, WASHINGTON

OCTOBER 22, 2008

FOR
PORT OF OLYMPIA

GeoEngineers

Sampling and Analysis Plan and Quality Assurance Project Plan

File No. 0615-034-07

October 22, 2008

Prepared for:

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1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) describe sample collection, handling and analysis procedures associated with the Remedial Investigation Work Plan (RIWP) for the Port of Olympia's (Port) 13-acre East Bay Redevelopment Site (Site). The Site is located in Olympia, Washington, as shown in Figure 1. This SAP must be used in conjunction with the RIWP and the project-specific Health and Safety Plan (HASP).

Detailed descriptions of the field sampling procedures are provided in this document. Site conditions may make it necessary to modify these procedures. Any variations or modifications that become necessary during the investigation will be coordinated with Port personnel, the Washington State Department of Ecology (Ecology) and other involved parties, as appropriate. Variations or modifications implemented during the investigation and the reason for the modification will be documented in field records.

This SAP describes field activities, sampling equipment, sampling locations and procedures that will be used during investigations at the Site. This SAP also includes a QAPP (Section 11), which identifies quality assurance/quality control (QA/QC) procedures that will be implemented during field sampling activities and laboratory analyses.

2.0 PURPOSE AND SCOPE

The purpose of this SAP is to present the detailed procedures that will be used to obtain samples during the supplemental remedial investigation (RI). The objective of this sampling is to provide information to:

- Characterize the nature and extent of contamination at the Site;
- Assess the potential risk to human and ecological receptors; and
- Provide the information that will allow selection of cleanup action alternatives.

Rationale for sample locations and depths and monitoring wells are described in Tables 1 through 3.

Activities to be performed by GeoEngineers during the RI include the following:

1. Update the Project HASP and SAP for use by GeoEngineers' personnel during the RI.
2. Retain public and private utility locating services to identify and locate underground utilities in the exploration areas in coordination with the Port.
3. Retain a concrete coring contractor to core through paved surfaces, as necessary.
4. Monitor the advancement of soil explorations using direct-push and/or hollow-stem auger techniques to depths specific to proposed sample locations. If field screening indicates

contamination is present at the target total depth for a boring, the boring will be advanced until field screening indicates contamination is not present.

a. Soil borings will be located by measuring from known previously surveyed features (roads, existing monitoring wells, etc) and GPS readings.

b. Samples of soil will be collected continuously for the total depth of each boring. Samples for potential chemical analyses will be collected approximately every two feet. Soil will be visually classified in the field according to the Unified Soil Classification System. Contacts between soil lithologies and fill episodes, if feasible, will also be described.

c. Groundwater monitoring wells may be constructed in five borings as described in Table 2.

5. Obtain soil samples as specified in this SAP and the RIWP. Field screening will be performed on each sample using visual, water sheen and headspace vapor screening methods. The field screening results will be used as a general guideline to approximate the vertical extent of petroleum-related contamination in the soil samples. In addition, screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis.

6. Explore the locations and nature of water seeps along the shoreline embankment and collect data to determine if the seeps represent groundwater.

7. Obtain groundwater samples from existing and new monitoring wells for chemical analytical testing using low-flow sampling methodology. Measure depth to water using an electric water level indicator.

a. Collect water samples from seeps if the seeps represent groundwater.

8. Contain soil cuttings, purge water and decontamination water in steel drums and store the drums in a secure location designated by the Port to await off-site transport and disposal. The drums will be labeled according to standard GeoEngineers' practice.

9. Submit soil and groundwater samples to a subcontracted chemical analytical laboratory for chemical analysis. The chemical constituents for each sample have been determined based on existing data and assumptions of the chemicals of potential concern (COPCs) present. Sample locations, depth intervals, and COPCs are described in Tables 1 through 3. The chemical analysis may include one or more of the following:

a. Gasoline-, diesel- and motor oil-range petroleum hydrocarbons by Ecology Methods NWTPH-Gx and NWTPH-Dx,

b. Metals by U.S. Environmental Protection Agency (EPA) Method 6000/7000 series,

c. Volatile organic compounds (VOCs) by EPA Method 8260B,

d. Semivolatile organic compounds (SVOCs) including carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270 SIM,

e. Polychlorinated biphenyls (PCBs) by EPA Method 8082, and

f. Dioxins/furans by EPA Method 1613B or Method 8290.

Tables 4 and 5 summarizes the target analytical reporting limits and analytical methods that will be used for soil and groundwater.

10. Document sample methodology and sample locations using detailed field logs.

11. Use database and geographic information system (GIS) technologies to manage chemical analytical data and sample locations.

3.0 PROJECT SCHEDULE

Field work for the supplemental RI will be conducted in phases. The initial phase of the RI will be completed in Fall 2008 in order to provide data critical to the planning of the infrastructure improvement project. The initial phase includes completing eight explorations located in or near the infrastructure corridor. The initial eight exploration locations include borings DP27, DP30, DP32, DP33, DP34, DP36, DP38, and DP40, which are also highlighted on Table 1. The initial phase will also include locating suspected artesian wells, as described in Appendix B of the RI Workplan. Subsequent phase of field work will be completed after data from the first phase has been evaluated and after decommissioning of the artesian wells.

4.0 ROLES AND RESPONSIBILITIES

This section outlines the individuals directly involved with the RI. Work performed under this SAP will be in cooperation with the Port.

Key personnel for this project are as follows:

Position	Name	Affiliation	Telephone Number
Ecology Project Coordinator	Steve Teel	Washington State Department of Ecology	360-407-6247
Port Project Coordinator	Joanne Snarski	Port of Olympia	360-528-8061
Principal-in-Charge	David Cook	GeoEngineers, Inc.	206-728-2674
Project Manager	Jay Lucas	GeoEngineers, Inc.	206-239-3221

- The **Ecology Project Coordinator** is responsible for providing timely technical review and guidance regarding compliance with the Agreed Order (AO) and is responsible for overseeing implementation of the AO for Ecology.
- The **Port Project Coordinator** is responsible for administering the contract with the consultant and is responsible under the AO for overseeing implementation of the AO for the Port.
- The **Principal-in-Charge** works with the Project Manager and is responsible for project document QA/QC review.
- The **Project Manager** reports directly to the Port Project Coordinator and the Principal-in-Charge. The Project Manager is responsible for coordinating project activities and submitting deliverables to the Port. The Project Manager's duties consist of providing concise technical work statements for project tasks, selecting project team members, determining the degree of subcontractor participation, establishing and adhering to budget and schedule, providing technical oversight and providing review of all work.

5.0 FIELD PROCEDURES

The rationale, depths and chemical program for soil and groundwater samples are presented in Tables 1 through 6 of this SAP and are described in the RIWP. The soil and groundwater samples will be obtained and submitted to a Washington State accredited laboratory for chemical analysis.

Note that Sampling and Testing associated with the RI, as outlined in this SAP, includes a phased approach to facilitate early decisions regarding the infrastructure improvements and associated excavation. The phased explorations and testing approach are highlighted in Table 1 of this SAP.

5.1 UNDERGROUND UTILITY LOCATE

Prior to sampling activities, an underground utility locate will be conducted in the area of the proposed sample locations to identify any subsurface utilities and/or potential underground physical hazards.

5.2 SUBSURFACE SOIL SAMPLING

5.2.1 Sample Collection Method

Subsurface soil sampling will be conducted using a direct-push drilling rig equipped with a core barrel lined with disposable acetate sleeves. Soil samples will be obtained every two feet for potential chemical analytical testing and field screening, as described in Table 1. Samples obtained for chemical analytical testing will consist of approximately four- to six-inches of the soil core. The depth of each sample will be measured from the bottom of the sample interval. The depth to the groundwater table, if present, may also be measured at each sample location, using an electric water level indicator.

Samples to be analyzed for gasoline-range petroleum hydrocarbons and VOC analysis following EPA Method 5035A (Ecology 2004) will be obtained first. Samples obtained for non-volatile analyses will be obtained from the same general intervals as the volatile samples. Planned sample depths are based on results from earlier studies and are outlined in Table 1. Sample containers will be labeled in the field and stored in an iced cooler prior to and during shipment to the chemical analytical laboratory.

Sampling activities will be conducted by a GeoEngineers representative, and soil will be visually classified in the field according to the Unified Soil Classification System (USCS) and American Society for Testing and Materials (ASTM) Standard 2488.

Field personnel will record the sample locations using hand-held Trimble GeoXT global positioning system (GPS) units with sub-meter accuracy during sampling activities. Sub-meter accuracy standards will be used during data collection to record latitude and longitudinal data. A minimum of four satellites will be required for a position dilution of precision (PDOP) value of less than 6. Satellite elevation must be at least 15 degrees above the horizon, with a minimum signal-to-noise ratio (SNR) of 39 bBHz. GPS data collected in the field will be subsequently processed in the office using measurements from the nearest reference station to each collection point.

5.2.2 Sample Locations

Twenty-two new boring locations are planned and shown in Figures 2 and 3. The borings are placed in areas to further evaluate the lateral and/or vertical extent of contamination that has been identified in previous studies. The rationale for sample locations and depth intervals are described in Table 1.

5.2.3 Phase 1: Infrastructure Construction Corridor Sample Locations

Locations of eight borings are within utility corridors associated with the infrastructure improvements. These borings may be completed during an initial phase of exploration to accommodate the construction schedule. These borings are highlighted in Table 1 and Figure 2. Sampling in the infrastructure corridor will provide data to characterize soil that will be removed during excavation activities.

5.3 FIELD SCREENING

Field screening for evidence of possible contamination will be performed on soil samples obtained from the explorations. Field screening results will be recorded on the field logs, and the results will be used as a general guideline to delineate areas of possible contamination. Screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis. The following screening methods will be used: (1) visual screening, (2) water sheen screening and (3) headspace vapor screening. Visual screening and water sheen screening are qualitative methods; therefore, precision, accuracy and detection limits are not quantified for these methods. Headspace vapor screening is a semi-quantitative method; however, precision and accuracy will not be quantified for this method. Instrument accuracy and detection limits are described below. Field screening results are site- and location-specific. The results may vary with temperature, moisture content, soil type and chemical constituent.

5.3.1 Visual Screening

The soil will be observed for unusual color and stains and/or odor indicative of possible contamination.

5.3.2 Water Sheen Screening

A portion of the soil sample will be placed in a pan containing distilled water. The water surface will be observed for signs of sheen. The following sheen classifications will be used:

Classification	Identifier	Description
No Sheen	(NS)	No visible sheen on the water surface
Slight Sheen	(SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly
Moderate Sheen	(MS)	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface
Heavy Sheen	(HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen

5.3.3 Headspace Vapor Screening

Headspace vapor screening will be performed on a portion of the soil sample placed into a resealable plastic bag. Ambient air will be captured in the bag; the bag will be sealed and then shaken gently to expose the soil to the air trapped in the bag. The bag will remain closed for approximately 5 minutes at ambient temperature before the headspace vapors are measured. Vapors present within the sample bag's headspace will be measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag. A PID measures the concentration of organic vapors ionizable by a 10.6 electron volt (eV) lamp in parts per million (ppm) and quantifies organic vapor concentrations in the range between 0.1 ppm and 2,000 ppm (isobutylene equivalent) with an accuracy of 1 ppm between 0 ppm and 100 ppm. The maximum value on the instrument and the ambient air temperature will be recorded on the field log for each sample. The PID will be calibrated to 100 ppm isobutylene.

5.4 GROUNDWATER SAMPLING

5.4.1 Monitoring wells

Groundwater will be sampled from 17 existing and new monitoring wells for chemical analytical testing as shown in Table 3. Monitoring wells will be sampled using low-flow sampling methodologies, as described below.

- Prior to sampling, measure depth to water with an electric water level indicator.
- Purge groundwater from the monitoring wells using dedicated tubing, a peristaltic pump (or equivalent), a flow-through cell and water parameter analyzer (Horiba U-20). Purge monitoring wells using a flow rate between 100 and 500 milliliters per minute (mL/min) that does not create significant drawdown in the well. When field parameters have stabilized or at least three well volumes of water have been purged from the well, disconnect the flow-through cell and sample groundwater directly from down-well tubing, maintaining a low-flow pumping rate. Water quality parameters to be monitored during purging include: conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature.
- Place each groundwater sample directly into a laboratory-prepared sample container, label the container, log the sample on the chain-of-custody and sample collection form, and place the container into a cooler with ice.

5.4.2 Groundwater Seeps

Greylock Consulting identified four seep locations along the shoreline during a low tide on July 16, 2008. These locations, as well as other seep locations that may be identified during site visits, will be evaluated to determine if they represent groundwater rather than surface water, irrigation water or discharge from buried pipes.

The evaluation will be based on several lines of evidence that will include:

- Physical observations of the proximity of the seeps to known utilities that could represent areas where water leaks from stormwater drains or from the fill around buried utilities.
- Explore the soil above the seeps to determine if the soil is saturated above the seepage point, and follow the saturation to its point of origin. This exploration will be conducted with hand digging equipment.
- Measure the temperature, salinity and conductivity of the water discharging from the seeps and compare these values to that representative of groundwater and of marine water. This will help determine if the seeps represent delayed drainage of sea water, rather than groundwater.
- Determine if the seeps originate at a higher elevation that the groundwater table. If a seep originates above the elevation of the groundwater table or high tide elevation that day, it is evidence that the seep does not represent groundwater. The elevation of the groundwater table will be based on water levels measured in the nearest monitoring well during the high tide and the low tide of that day's tidal cycle.

If water from an area of seepage is identified as groundwater, a representative sample will be collected for chemical testing as identified in Table 3. The sample will be collected by pushing a short PVC pipe into the seep so the water drains from the end of the pipe. Following insertion of the PVC pipe, a sample of the water will be collected after turbidity caused by the initial disturbance has descreased. Conductivity, temperature, and salinity water quality parameters will be measured as described above for the monitoring well samples. Up to four samples representative of groundwater seeps will be collected. The PVC pipe will be decontaminated prior to collection of each sample.

5.5 FIELD EQUIPMENT CALIBRATION PROCEDURES

Field equipment requiring calibration will be calibrated to known standards in accordance with manufacturers' recommended schedules and procedures for each instrument. If field equipment becomes inoperable, it will be replaced with a properly calibrated instrument.

6.0 CHEMICAL ANALYTICAL PROGRAM

All samples will be submitted to a Washington State accredited laboratory. Tables 1 and 3 summarize the chemical analyses for soil and groundwater samples from monitoring wells, respectively. Tables 4 and 5 summarize the target analytical reporting limits.

7.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The following procedures will be used when obtaining soil and/or groundwater samples during the investigation activities.

- Dedicated nitrile gloves will be worn when obtaining each sample, including quality control (QC) samples.
- Soil samples obtained for chemical analysis of gasoline-range petroleum hydrocarbons and VOCs will be obtained using EPA Method 5035A.
- Samples obtained for chemical analysis will be transferred into clean sample containers supplied by the analytical laboratory. Table 6 lists the sample containers to be used.
- Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis.
- Sample labels will be completed for each sample following the procedures provided in this section. Immediately after the samples are obtained, they will be stored in a cooler with ice until they are delivered to the analytical laboratory.
- Standard chain-of-custody procedures will be followed for all samples obtained.

7.1 CUSTODY SEALS

Custody seals are signed and dated seals that are affixed to the lid of a shipping container (for example, cooler) and are used to indicate if the container has been opened before it reaches the intended recipient. Custody seals will be attached to containers by GeoEngineers personnel before they are transferred to the chemical analytical laboratory.

7.2 CUSTODY PROCEDURES

Chain-of-custody procedures will be used to track the possession of the samples from the time they are obtained in the field through analysis and final disposition. Each time the samples change hands, both the sender and receiver will sign and date the chain-of-custody record form. A chain-of-custody record form will be used to track possession of the samples and to document the analyses requested. The form will be completed at the end of each sampling day prior to transfer of samples off-site and will accompany the samples during transfer to the laboratory.

When the samples are shipped to the laboratory via common carrier, one copy of the chain-of-custody record form will be retained for project files, and the remaining copies will be enclosed in a plastic bag and secured to the inside of the cooler prior to shipment.

Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory, and copies will be returned to the relinquishing party.

8.0 DOCUMENTATION OF FIELD ACTIVITIES

Daily field activities, including observations and field procedures, will be recorded on appropriate forms. The original field forms will be maintained in GeoEngineers' office files. Copies of the completed forms will be maintained in a sequentially numbered field file for reference during field activities. Photographic documentation of field activities will be performed as appropriate.

8.1 SAMPLE DESIGNATION

Each sample obtained during field activities will be identified by a unique sample designation. The sample designation will be included on the sample label. For soil samples, the designation also will be included with the corresponding sample information on the appropriate field log. For groundwater sampling from monitoring wells, the corresponding sample information will be recorded on the monitoring well sampling field sheet. The following sample designation system will be used for this project.

All samples will be assigned a unique identification code based on a consistent sample designation scheme. The sample designation scheme is designed to suit the needs of the field staff, data management and data users. All samples will consist of three components separated by a dash. These components are station code, date and sample interval. The sample designation scheme is as follows:

Station Code	Date	Sample Interval
SSnn	YYMMDD	XXX
MWnn	YYMMDD	W

The three components are described below.

8.1.1 Station Code

The station code component is a four-character code that uniquely identifies each sampling station. The station code component has two parts: a two-letter station designation ("SS" or "MW") followed by a sequential two-digit number component "nn." The two-letter "SS" designation will be determined by how the soil sample was obtained (for example, drilling method, grab) as described below. The sequential "nn" component will begin at 26 (that is, 26, 27, 28) to accommodate samples previously obtained at the Site during previous studies. For groundwater samples, the "MWnn" designation will correspond to the monitoring well number (for example, MW25S).

The station designations are:

- DP – Direct-Push
- SB – Soil Boring using Hollow-Stem Auger (HSA) Drilling Techniques
- TP – Test Pit
- GB – Grab Sample

8.1.2 Date

The date component is a six-character code that presents the date that the sample was obtained in the following format: year, month, day (YYMMDD).

8.1.3 Sample Interval

The sample interval component corresponds to sample depth for soil samples, and is a three-character code that identifies each sampling interval. Soil sample depth determinations will be made to the nearest 0.5 foot, with the depth determination representing *either* the sample collection point (for VOC) *or* the beginning of the sampling interval (that is, 050 will represent the 5- to 5.5-foot interval). For groundwater, a "W" will be used for the sample interval component.

8.1.3.1 Field Quality Control (QC) Samples

Field QC samples will be identified by adding characters to the end of the sample interval field. The following characters are associated with the following field QC sample types:

- TB – VOC trip blank
- DUP – duplicate sample

8.1.4 Examples

Examples of complete sample numbers with descriptions are as follows:

- DP30-080825-020 A field sample collected at station DP30 on August 25, 2008, from 2 to 2.5 feet bgs.
- MW04-080825-W A groundwater sample collected at monitoring well MW04 on August 25, 2008.

Under the sample designation method described above, the identifier will be unique (that is, no two samples will have the same identifier) and informative (that is, location, date and sample interval). This designation scheme will facilitate overall data management and submittal into Ecology's Environmental Information Management (EIM) database.

8.2 SAMPLE LABELING

Sample information will be printed legibly onto the sample labels in indelible ink. Field identification will be sufficient to enable cross-reference with the project logbook.

To minimize handling of sample containers, labels will be completed before sample collection to the extent possible. The label will be filled out completely in the field and attached firmly to the sample container. The sample label will provide the following information:

- GeoEngineers' job number
- Sample designation
- Date of sample collection (month/day/year)
- Time of sample collection (hours: minutes)
- Chemical analyses to be conducted

- Sample preservation, if applicable
- Initials of sampler

8.3 FIELD LOGBOOKS AND DATA FORMS

Field logbooks (or daily logs) and data forms are necessary to document daily activities and observations. Documentation will be sufficient to enable participants to reconstruct events that occurred during the project accurately and objectively at a later time. All entries will be written in ink, dated and signed daily. No pages will be removed from logbooks for any reason. If corrections are necessary, these corrections will be made by drawing a single line through the original entry (so that the original entry is legible) and writing the corrected entry alongside. The correction will be initialed and dated. Corrected errors may require a footnote explaining the correction.

8.4 PHOTOGRAPHS

Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the field logbook or data forms concerning photographs:

- Date, time and location where photograph was taken
- Photographer
- Description of photograph taken
- Sequential number of the photograph and the film roll number, or sequence in the digital log
- Compass direction

9.0 DECONTAMINATION PROCEDURES

The objectives of decontamination procedures are to minimize the potential for cross-contamination between individual samples, to prevent contamination from leaving the sampling site by way of equipment or personnel and to prevent exposure of field personnel to contaminated materials. This section discusses general decontamination procedures.

9.1 PERSONNEL

Personnel decontamination procedures depend on the level of protection specified for a given activity. The HASP identifies the appropriate level of protection for each type of fieldwork involved in this project, as well as appropriate decontamination procedures.

9.2 SAMPLING EQUIPMENT

Decontamination procedures are designed to remove trace-level contaminants from sampling equipment to prevent cross-contamination of samples. Non-dedicated sampling or measurement equipment, including stainless steel sampling tools, soil sampling equipment and water level measurement instruments, will be decontaminated prior to and after each sampling attempt or measurement by washing with a nonphosphate detergent solution (for example, LiquiNox® and distilled water) and rinsing with distilled water.

10.0 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated from the subsurface investigations will be contained in 55-gallon steel drums and temporarily stored in a secured location as designated by the Port. The IDW is

anticipated to consist of soil cuttings, decontamination water, monitoring well development and purge water. The IDW will be separated by media (that is, soil and water) and labeled appropriately. Chemical analytical results from soil and groundwater sample analyses may be used to profile IDW for disposal at an appropriate off-site disposal facility. Solid waste from sampling activities (used gloves, tubing, etc.) will be contained in plastic trash bags and disposed as solid waste.

11.0 QUALITY ASSURANCE PROJECT PLAN

11.1 QUALITY ASSURANCE OBJECTIVES

The general quality assurance (QA) objectives for this project are to develop and implement procedures for obtaining and evaluating data of a specified quality that can be used to assess site conditions and risks. Field QA procedures to be followed include completing all appropriate sample documentation. Measurement data should have an appropriate degree of accuracy and reproducibility; samples obtained should be representative of actual field conditions, and samples should be obtained and analyzed using proper chain-of-custody procedures.

11.2 FIELD QA/QC PROCEDURES

Field QA/QC procedures to be followed include completing all appropriate sample documentation and preservation. One trip blank will be placed in each sample shipping container (for example, cooler) and analyzed for VOCs.

11.2.1 Trip Blanks

The analytical results of field trip blanks will be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. Trip blanks will be analyzed at a frequency of one for each shipment of samples containing field samples for chemical analysis of VOCs. The trip blanks will be labeled with a "TB" sample identifier as described earlier in the "Sample Designation" section (Section 8.1) and delivered to the laboratory with the normal shipment of samples.

11.2.2 Sample Preservation and Containers

Samples will be kept in a cooler with ice before and during transport to the laboratory. The sampling extraction and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate laboratory-assigned data qualifiers will be noted if holding times are exceeded or containers do not contain the appropriate sample preservation. Table 6 summarizes sample preservation and containers.

11.3 LABORATORY QA/QC PROCEDURES

The data quality objectives will be met in the laboratory by using established instrument calibration and sample handling procedures, analysis according to standard analytical methods and analysis of quality control samples. Laboratory quality control will consist of analysis of surrogate spikes, method blanks, duplicates, matrix spikes and matrix spike duplicates and reporting of all data including holding times.

11.3.1 Equipment Calibration Procedures and Frequency

All instruments and equipment used by the laboratory will be operated, calibrated and maintained according to manufacturer's guidelines and recommendations. Operation, calibration and maintenance

will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

11.3.2 Analytical Procedures

Samples will be analyzed according to analytical methods listed in Tables 1, 3, 4 and 5. EPA standard analytical methods are specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846* (through update III), dated December 1996. Washington analytical methods for petroleum hydrocarbons are specified in the Model Toxics Control Act (MTCA) regulations, as outlined in Washington Administrative Code (WAC) 173-340.

11.3.3 Laboratory QA/QC Samples

Laboratory QC samples will be analyzed at a frequency of 5 percent (1 in 20) on a laboratory batch basis. Laboratory QC samples will consist of duplicates, method blanks, matrix spikes and matrix spike duplicates. In addition, each organic analysis will include addition of surrogate compounds to the sample for surrogate spike analysis.

11.3.4 Laboratory Deliverables

The following information will be provided in the laboratory reports submitted for this project:

- Transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any problems meeting the method holding times or laboratory control limits, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report.
- Sample analytical results, including sampling date, date of sample extraction or preparation, date of sample analysis, dilution factors and test method identification; soil sample results in milligrams per kilogram (mg/kg), micrograms per kilogram (µg/kg) or nanograms per kilogram (ng/kg); and detection limits for undetected analytes. Results will be reported for all field samples, including field duplicates and blanks submitted for analysis.
- Method blank results, including reporting limits for undetected analytes.
- Surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only).
- Matrix spike/matrix spike duplicate and/or blank spike/blank spike duplicate spike concentrations, percent recoveries, relative percent differences and corresponding control limits.
- Laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits.
- Sample chain-of-custody documentation.

The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets and other laboratory support data for samples from this project, will be compiled and kept on file at the laboratory's office for reference.

11.4 REVIEW OF FIELD AND LABORATORY QA/QC DATA

The sample data, field and laboratory QA/QC results will be evaluated for acceptability with respect to the RI data quality objectives (DQOs). Each group of samples will be compared with the DQOs and

evaluated using data validation guidelines contained in the following documents: *Guidance Document for the Assessment of RCRA Environmental Data Quality*, draft dated 1988 and *National Functional Guidelines for Organic Data Review*, draft 1999. To accomplish data evaluation, the criteria listed in the following subsections will be assessed.

11.5 PRECISION, ACCURACY AND COMPLETENESS

11.5.1 Precision

Precision is a measure of data variability. Variability can be attributed to sampling activities and/or chemical analysis. Relative percent difference (RPD) is used to assess the precision of the sampling and analytical method and is calculated as follows.

RPD = 100[(Xs - Xd)/(Xs + Xd)]/2

where

RPD	=	relative percent difference
Xs	=	sample analytical result
Xd	=	duplicate sample analytical result

11.5.2 Accuracy

Accuracy is a measure of the error between chemical analytical results and the true sample concentrations. Accuracy is a measure of the bias in a system and will be expressed as the percent recovery of spiked samples. The accuracy will be presented as percent recovery and will be calculated as follows.

PR = 100(Xss - Xs)/T

where

PR	=	percent recovery
Xss	=	spike sample analytical result
Xs	=	sample analytical result
T	=	known spike concentration

11.5.3 Completeness

Completeness is evaluated to assess whether a sufficient amount of valid data is obtained. Completeness is described as the ratio of acceptable measurements to the total planned measurements. Completeness is calculated as follows.

C = (Number of samples having acceptable data)/
(total number of samples analyzed) x 100%

where

C	=	completeness

11.6 REPORTING, DOCUMENTATION, DATA REDUCTION AND CORRECTIVE ACTION

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified, as appropriate. A review and discussion of analytical data QA/QC will be submitted in a report to be attached to the RI report. Data validation procedures for all samples will include checking the following, when appropriate.

1. Holding times
2. Detection limits
3. Field equipment rinseate blanks
4. Laboratory blanks
5. Laboratory matrix spikes
6. Laboratory matrix spike duplicates
7. Laboratory blank spikes
8. Laboratory blank spike duplicates
9. Surrogate recoveries

If significant quality assurance problems are encountered, appropriate corrective action as determined by GeoEngineers' project manager and/or the chemical analytical laboratory will be implemented as appropriate. All corrective action will be defensible, and the corrected data will be qualified.

Spatial information collected during the field event will be analyzed and displayed using ArcGIS 9.1 and EQUIS 3 to manage the chemical analytical data.

12.0 REFERENCES

Ecology (Washington State Department of Ecology). June 2004. *Collecting and Preparing Soil Samples for VOC Analysis – Implementation Memorandum #5.* Publication 04-09-087.

Ecology. April 2003. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Publication 90-53.

Ecology. February 2001. *Model Toxics Control Act, Chapter 173-340*, Washington State Department of Ecology Toxics Cleanup Program, Olympia, Washington.

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
1. Additional characterization is needed to define the extent of soil contamination at the site. The aerial and vertical extent of soil contamination needs to be further defined in the vicinity of DP02 and DP04 (including westward beneath Jefferson Street and on adjacent offsite parcels if necessary) and north of DP18.	TPH-D, TPH-MO, arsenic, and cadmium in the 2-6 feet interval were the only COPC exceedances at DP04. These COPCs have been delineated laterally in this interval to the northeast and south with MW08 and DP03, respectively. A new soil boring will be advanced northwest of DP04 to complete the lateral delineation of COPC screening level exceedances in the 2-6 feet interval. Soil samples will also be obtained from beneath existing railroad tracks to be removed during infrastructure construction activities. The railroad tracks are currently embedded in the asphaltic pavement along Jefferson Street and we expect that the section beneath the pavement will consist of railroad ties supporting the rail and ballast material (typically 3 feet of crushed rock) supporting the ties. Soil samples will be collected at the soil/ballast interface. We will analyze soil collected beneath the ballast material for cPAHs (using EPA Method 8270C), TPH, and metals to assess potential residual soil contamination associated with the ties.	DP37	0-2										
			2-6	x [a]	X	X	x		x	X			light sand fill
			6-10	X	X	X	x			X			dark sand fill
	TPH-MO in the 2-6 feet interval was the only significant COPC exceedance at DP02. This COPC has been delineated laterally in this interval to the north and southeast with DP03 and DP16, respectively. A new soil boring will be advanced southwest of DP02 to complete the lateral delineation of the TPH-MO screening level exceedance in the 2-6 feet interval. A sample from 10 to 14 feet from the monitoring well boring for MW25S will be tested for TPH-MO to evaluate the vertical extent of this COPC identified in previous samples from DP02. Proposed shallow screen interval for MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04. Soil samples from below the railroad tracks will also be collected and analyzed from DP38 and analyzed for PAHs. PAHs will be tested in sample from 10 to 14 foot depth interval in the boring for MW25S to evaluate the vertical extent of this COPC identified previously at DP02 and DP16. One sample from DP38 will be tested for dioxins/furans to evaluate soil within the infrastructure corridor.	DP38	1-3				x		x				
			4-6	x	X	X	x	x	x		x		light sand fill
			6-10	X	X	X	x	x	x		x	9	Silt or dark sand fill
		MW25S	0-2										
			2-6										
			6-10	x	X	X	X		X				Silt or dark sand fill
			10-14	x	X	X	X		x				Silt or dark sand fill
	TPH-MO in the 10-14 feet interval was the only significant potential COPC exceedance at DP18. This COPC has been delineated latreally in the vadose zone and saturated zone with MW03, MW16, and DP17 but has not been delineated laterally north of DP18. Soil samples from the boring for MW23S will provide this information. Proposed screen interval for MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18. TPH-MO will be tested in MW-23S at the 6 to 10 and 10 to 14 foot intervals to evaluate the vertical extent of TPH-MO identified previously at DP18.	MW23S	0-2										
			2-6										
			6-10	x [a]	X	X	X		X				light sand fill
			10-14	x	X	X	X		X				light sand fill
2. Additional characterization is needed to define the extent of soil contamination at the site. The vertical extent of contamination needs to be defined in the vicinity of DP06 and DP08.	TPH-G in the 2-6 feet interval was the only significant potential COPC exceedance at DP06 and needs to be defined at depth and to the south. TPH-D and TPH-MO in the 2-6 feet interval were the only significant potential COPC exceedances at DP08. TPH-D and TPH-MO exceedance was identified in the 2-6 feet interval in DP-13. The vertical extent of gasoline, diesel and oil contaminated soil has been delineated with DP24, DP15, DP14, MW-5, MW-8 and MW-10. MW24S, along with the other proposed and existing wells, will be used to evaluate the leaching to groundwater pathway via empirical demonstration per WAC 173-340-747(9) an (10)(c). Proposed shallow screen interval for MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	MW24S	4-6	X	X	X	X		X				
			6-10	X	X	X	X		X				
	Evaluate lateral extent of TPH-D and MO identified previously at DP08 and DP13. Evaluate lateral extent of gasoline exceedance at DP08 and DP13.	DP39	0-2	X	X	X	X		X				
			2-6	x [a]	X	X	X		X				dark sand fill
	Lateral and vertical extent of dioxins/furans by TP03. Evaluate thickness of pre-1891 fill. Collect data to support management of soil that will be excavated as part of the infrastructure improvements. DP40 will also help evaluate the extent of diesel and oil contamination previously observed in DP13 and DP08 at 2-6 feet.	DP40	0-2	x	X	X	x	x	x				light sand fill
			2-4	x	X	X	x	x	x		x		light sand fill
			4-6	x	X	X	x	x	x		x	3.5	dark sand fill
3. Additional characterization is needed to define the extent of soil contamination at the site. The aerial extent of contamination has not been defined in the vicinity of MW19.	TPH-G in the 2-6 feet interval was the only potential COPC exceedance at MW19. Two soil borings (DP28 and the boring for MW21s) will be located near MW19 to evaluate the aerial extent of the screening level exceedance of TPH-G at MW19 in the 2-6 feet interval. The proposed screen interval (2 to 7 feet bgs) for MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19. Moreover, a soil boring advanced to the west of MW19 in response to Ecology Comment #7 (i.e. DP27) will also be sampled for TPH-G in the 2-6 feet interval to provide lateral delineation to the west. To address Ecology comment 7, if evidence of burned wood or ash is observed in boring DP28, which is located on the northern edge of parcel 1 near the former Refuse Fire Area, a sample of this material will be analyzed for dioxins and furans.	DP28	0-2	X	X	X	X						
			2-6	X	x	X	X						light sand fill
		MW21S	0-2										
			2-6		x [a]								light sand fill

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration: Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses: NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
4. Additional characterization is needed to define the extent of soil contamination at the site. Area of Concern (AOC) #16 (pad mounted transformer) needs to be evaluated. Soil samples should be collected from this area for petroleum hydrocarbons and PCBs. The location of well MW04 does not appear to be close enough to this AOC to be adequate.	One new boring will be advanced and sampled within AOC 16 as recommended by Ecology. The targeted depth for the soil sample collected from this boring is the elevation of the former transformer pad located in AOC 16. The sample from this boring will be analyzed for PCBs and mineral oil range petroleum hydrocarbons (NWTPH-Dx).	DP35	0-2										
			2-6	x						x			gravel fill
5. Parcel 1 needs to be assessed. AOCs #43 through 48 and #50 have not been adequately assessed. Also, the northern portion of Parcel 1 needs to be assessed.	The first sentence of this comment does not apply because the East Bay Redevelopment Project Area only includes the northwest portion of Parcel 1. A new boring (DP36) located in the right-of-way of Olympia avenue adjacent to the northwest portion of Parcel 1will address Ecology's concern regarding the northern portion of Parcel 1. However, the primary purpose of this boring is to evaluate soil conditions to assist in planning of future infrastructure improvements in this area and evaluate residual concentrations of COPCs in an area where historical sources were not located.	DP36	1-3					x					gravel fill
			2-6	x	x	X	x	X					silt
			6-10					X				9	silt
6. Additional characterization of dioxins/furans is needed. As shown in the report, concentration of dioxins/furans that exceed the MTCA Method B Soil Cleanup Level of 11 nanograms per kilogram (ng/kg) or parts per trillion (ppt), expressed as a Total Toxicity Equivalency Factor (TEF), were observed at all four locations tested for this constituent. The reported TEF values from these locations range from 57.9 to 645 ng/kg. Because the highest concentration (TP02) is near the east property line and near an adjacent public walking path and grassy area, additional samples for dioxins/furans should be collected in this adjacent area. Also, an analysis of wind direction should be performed to help predict locations that may show higher dioxin concentrations.	New boring DP33 will provide vertical profile of dioxins/furans concentrations near TP2. Selection of sample locations based on prediction of wind direction is not necessary because the proposed dioxins/furans sample locations (as outlined in this table) provide spatial coverage across the site.	DP33	0-2					x	x	x			gravel fill
			2-4					x	x	x		x	gravel fill
			4-6					x	x	x			light sand fill
			6-8						x				light sand fill
												9	
7. Additional characterization of dioxins/furans is needed. Parcel 7 is located adjacent to the Refuse Fire Area (Area of Concern #1), which is a potential source of dioxins/furans contamination. Additional soil samples for dioxins/furans analyses should be performed in Parcel 7. These samples will provide additional dioxins/furans data for the site and may help to determine whether AOC #1 was a source.	Additional samples which address Ecology's comment 7 will be collected and tested for dioxins/furans from a boring advanced near AOC 1 (DP27) and a boring advanced at the northern edge of Parcel 7 (DP28). In addition, DP27 will be sampled for TPH-G to address gasoline contamination identified in soil at MW-19 (see response to Ecology Comment #3). Samples from boring DP27 will also be analyzed for PAHs to evaluate the lateral and vertical extent of cPAHs identified in soil samples from MW-20, near the Refuse Fire Area. Note that Parcel 8, which is adjacent to the northwest portion of the Site, is being addressed by LOTT Alliance through Ecology's Voluntary Cleanup Program.	DP27	0-2					x	x	x			light sand fill
			2-4		x	X	x	x	x		x		light sand fill
			4-6				x	x	x		x		silt
			6-8				x	x					silt
												3	

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses									Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]			
8. Additional characterization of dioxins/furans is needed. Section 4.3.1 states that "dioxin testing appears to indicate that the historical working surface (depth of about 2 feet below existing grade) is impacted." Please provide more detail on what is meant by "historical working surface" and how it is distinguished. According to the Supplemental Site Use History report, the boiler house (AOC #17) operated circa 1932 and the power house (AOC #22-24) operated from at least 1941 through 1958. Was 2.0 feet below current grade the historical grade for these facilities? If so, what evidence is there for this? Dioxin samples were collected at the 2.0 foot depth at AOC #17, at the 3.5 depth at AOC #22-24, and at the 1.5 and 2.0 foot depths at the two randomly selected locations. It is recommended that additional samples be collected at AOC #17 so that a concentration verses depth profile can be determined.	The "historical working surface" is the sometimes woody and compacted historical grade where industrial buildings were located and operations were conducted on the property prior to later filling and grading. Based on our review of historical information the working surface is located about 1 to 4 feet below existing grade, however it can be difficult to identify in borings due to similarity in lithology of fill in this depth interval. Because of Ecology's questioning of the historical working surface and difficulty in determining its exact location in borings, a more appropriate rationale for the location of explorations where vertical profiles for dioxins/furans testing is as follows:1) complete a profile (DP33) adjacent to previous sample with high dioxins concentrations (TP02) and 2) complete a profile that represents temporal fill sequences.	See DP 33 (Comment 6) and borings and "Additional Explorations" rationale below.											
9. Additional characterization of groundwater contamination, flow direction, and gradient is needed. Groundwater monitoring wells MW-1 through MW·11 and MW-14 were installed with their screened interval submerged below the water table. Wells that monitor for light non-aqueous phase liquids (LNAPL, such as petroleum hydrocarbons) should be completed so that their screen straddles the water table. Therefore, to accurately evaluate whether groundwater is contaminated from LNAPL constituents, it will be necessary to install additional groundwater monitoring wells with screens that extend above the water table at selected locations where the existing monitoring wells are not adequate. Please present your proposed new well locations to us for review and approval.	Given the general lack of dissolved-phase petroleum constituent detections in the groundwater samples collected from existing MWs (as well as the relatively low TPH soil concentrations detected in soil samples collected from areas with suspected hydrocarbon contamination), it is unlikely that the typical placement of the screened intervals straddling the water table would result in measurable LNAPL thicknesses or even a screening level TPH exceedance at any MW at this site. Nonetheless, five shallow MWs (MW21S through MW25S) with screens straddling the water table are proposed to address this comment. MW21S and MW24S are discussed in the responses to Ecology Comments #2 and #3, respectively. Proposed MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06. MW23S and MW25S are discussed in the response to Ecology Comment #1. This Ecology comment is further addressed by in the Groundwater Monitoring Plan. Based on recent comments from Ecology (9/22/08 Ecology comment letter and subsequent discussion), because artesian wells at the Site may be influencing shallow groundwater, an attempt will be made to locate and decommission or otherwise mitigate leakage from the artesian wells. If the artesian wells are found and decommissioned, water levels and the need for shallow monitoring wells will be reevaluated.	MW22S	No analysis of soil samples unless field observations indicate the presence of contamination. Anticipated screened interval is 1-6 feet bgs.										
Additional Explorations														
Additional explorations to evaluate the nature and extent of contamination, including dioxins/furans. These explorations will provide data related to: a) regional area background concentrations of dioxins/furans and metals not related to a site release, b) management of soil that will be excavated as part of the infrastructure improvements, and c) evaluation of COPC distribution in different fill types and spatial coverage related to general extent of COPCs.	Evaluate extent of lead and PAHs at DP11.	DP29	0-2						x				light sand fill
			2-6				x						silt or gravel
			6-10				x						silt or gravel
			10-14						x				silt or gravel
	Evaluate dioxins/furans in fill (1891 to 1908 time interval), evaluate dioxins/furans in soil within the infrastructure corridor, and provide additional sampling data for parcel 9.	DP30	0-2				x	x					light sand fill
			2-4				x	x	x				light sand fill or silt
			6-8				x	x (if silt)				9	light sand fill or silt

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
	Locations DP31 and DP41 are selected to obtain dioxins/furans data from soil not associated with any AOC source. This data will be used to evaluate dioxins/furans concentrations related to regional dioxin sources and regional background levels as it is possible that detected concentrations of dioxins/furans and metals in soil samples collected to date are attributable to an area or regional background rather than a site release. DP31 is located on parcel 6 in an area where no historical sources (AOCs) were located and the underlying fill is from the 1948 to 1975 time period. DP41 is located on parcel 2 in an area where no historical sources (AOCs) were located and the underlying fill is from the post 1975 time period.	DP31	0-2					x					light sand fill
			2-6	x			x	x					light sand fill
		DP41	0-2					x					gravel fill
			2-6				x	x					silt
	Evaluate dioxins/furans in post-1975 fill within the infrastructure corridor. These data will assist with evaluating background conditions as well as inform waste characterization and disposal associated with the excavated infrastructure corridor soils.	DP32	0-2					x			x		gravel fill
			2-6				x	x	x		x		gravel fill
			6-9					x				9	gravel fill
	Evaluate dioxins/furans in fill (1891 to 1908 time interval) near infrastructure corridor and on Parcel 4.	DP34	0-2					x					light sand fill
			2-6	X	X	X	x	x	x		x		light sand fill
			8-10	X	X	X	x	x	x			10	light sand fill or gravel
	These borings are located on Parcel 4 and the locations were selected to gather information to support soil characterization during construction activities associated with the Children's Hands on Museum.	DP26	0-2				X	x	X				light sand fill
			2-6					x	X				silt or light sand fill
			6-10				X	X					
		DP42	0-2				X	x					gravel fill
			2-6				X	x					light sand fill
			6-10				X	X					

Notes:

Blank boxes (no X) indicate that soil samples will be collected from the specified depth intervals and held for potential analyses by the analytical laboratory

Shaded cells indicate explorations and samples that will be collected in first phase of investigation

[1] Samples will be collected approximately every 2 feet in soil borings for field screening and potential chemical analyses. Discrete soil samples will be obtained from within the depth intervals shown in this column (rather than composite samples.) The depth ranges represent the intervals that a sample will be analyzed for the COPCs identified in the Soil Analyses columns. Additional samples may be analyzed if field observations indicate the presence of contamination.

[2] The metals listed; arsenic, cadmium and lead, represent metals that had concentrations exceeding screening levels in one or more locations. Some soil samples collected from the infrastructure corridor may also be analyzed for "RCRA 8" metals to provide data needed by soil disposal facilities. The RCRA metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium & silver.

[3]TOC= total organic carbon. TOC and other physical soil properties such as grain size may also be analyzed at various locations for the possibility of establishing site specific Method B cleanup levels.

[a] Also analyze for EPH.
[b] Also analyze for total organic carbon
x = sample collected for analytical testing. Red X = additional analytical testing requested by Ecology in it's September 22, 2008 comment letter.
As = Arsenic, Cd = Cadmium, Pb = Lead
PCBs = Polychlorinated biphenyls
HCID = Hydrocarbon Identification test (NWTPH-HCID)
NWTPH-Dx = Diesel-range and motor oil-range total petroleum hydrocarbons
TPH-MO = motor oil-range petroleum hydrocarbons
D/F = Dioxins and furans
NWTPH-G = Gasoline-range total petroleum hydrocarbons

TABLE 2
PROPOSED NEW MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

				Existing Well Data[2]		
Well I.D.	**Purpose**	**Installation Method/Well Diameter**	**Proposed Well Screen Interval (BGS-feet)[1]**	**Nearest Existing well**	**Highest DTW**	**Lowest DTW**
MW21s	MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19.	Direct push/1-inch	2 to 7	MW19	3.47	3.78
MW22s	MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06.	Direct push/1-inch	1 to 6	MW6	0.84	1.14
MW23s	MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18.	Direct push/1-inch	4 to 9	MW16	5.41	6.35
MW24s	MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	Direct push/1-inch	2.5 to 7.5	MW10	3.48	3.8
MW25s	MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04	Direct push/1-inch	2 to 7	MW7 and MW8	5.0 & 2.55	5 & 2.62

Notes:

Based on recent comments from Ecology, because artesian wells at the Site may be influencing groundwater levels, an attempt will be made to locate and decommission the artesian wells. If the artesian wells are found and decommissioned, the need for shallow monitoring wells will be reevaluated.

[1]Across water table with one foot of screen above predicted high water table elevation and four feet of screen below this elevation, subject to approval by Ecology and issuance of well construction variance.

[2] Based on depth to water measurements collected August 2007 and July 2008 during low and high tides.

bgs=below ground surface

DTW = depth to water in feet as measured from top of well casing. Top of well casings for referenced wells is approximately at ground surface.

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TABLE 3
PROPOSED GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL TESTING PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Well No.[3,4,5]	Associated Historic Source Area/Concern and Contaminant of Potential Concern (COPC)	Past Groundwater Monitoring and Sampling Events												Proposed Future Groundwater Monitoring									
		Last Sampling Events			Chemical Analytical Testing Completed									Physical Parameter Monitoring		Chemical Analytical Testing Proposed							
		Jan-07	Jun-07	Aug-07	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs	Total PP Metals	SVOCs (and PAHs)[6]	PCBs[7]	Dioxins/Furans[8]	Previous Exceedance of Screening Level (MTCA A or B)	Depth to Water	Conductivity, pH, ORP, Turbidity, DO, Salinity, Fe^{2+} (using a Horiba U-10 flow through cell)	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs (BETX and HVOCs)	Total RCRA Metals	PAHs[6]	PCBs[7]	Dioxins/Furans[8]
MW01	Oil House (TPH)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW02	Machine Shops (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x [1]	x	--	--
MW03	Tar Dipping Tank (TPH, PAHs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW04	Near former Transformers (PCBs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	x	--
MW05 [2]	Power House Area (TPH, metals, VOCs, D/F)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	x	x
MW06	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW22s (if MW22s is not installed, MW06 wil be sampled for parameters planned for MW22s)							
MW07	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW08	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW09	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW10	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW24s (if MW24s is not installed, MW10 wil be sampled for parameters planned for MW24s)							
MW11	None: downgradient from offsite gasoline station	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW12 [2]	Power House Area (TPH, metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW13	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic, diesel**	x	x	x	x	x	x	x [1]	x	--	--
MW14	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	N	N	N	N	N	N	N	N	N	N/A	x	x	x	x	x	x	x	x	--	--
MW15 [2]	None	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW16 [2]	Boiler House Area (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	x (tested Aug-08)
MW17	Shops (TPH, PAHs, Metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	--	--
MW18 [2]	None: downgradient well near Marine View Drive	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW19	Panel Oiling (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW21s (if MW21s is not installed, MW19 wil be sampled for parameters planned for MW21s)							
MW20	Refuse Fire Area (TPH, metals, PAHs, D/F)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
Proposed Wells and/or Sampling Locations																							
MW21s (paired with MW19)[9]	Panel Oiling (TPH, PAHs)													x	x	x	x	x	x	x	x	--	--
MW22s (paired with MW06)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW23s (paired with MW16)[9]	Boiler House Area (TPH, PAHs)													x	x	x	x	x	--	--	--	--	--
MW24s (paired with MW10)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW25s (no pairing)	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
Seep 1[10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 2 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 3 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 4 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--

Notes:

[1]Dissolved metals to be tested in addition to total metals at locations where metals exceedances have been measured. Also test these samples for aluminum and iron (Al and Fe^{3+}) to represent suspended clay particles. Results to potentially be used for evaluating sorption of COPCs.

[2]MW05, MW12, MW16 and MW18 are downgradient wells between the subject property and East Bay. These wells will be considered for potential future compliance wells.

[3]MW04, 05, 06, 07, 08, 10 were sampled and tested July 13, 2007 for diesel-range hydrocarbons only.

[4]MW01 through MW10 were installed in January 2007. MW11 through MW20 were installed in July and August 2007.

[5]MW14 was not sampled in 2007 because other monitoring wells surrounding MW14 were sampled and tested.

[6]Note on SVOCs. The only SVOC exceedances were cPAHs, therefore only cPAHs will be analyzed, rather than the full SVOC list.

[7]Note on PCBs. PCBs have not been detected in any of the groundwater samples obtained from MW01 through MW20 at the site; nor have they been detected above soil screening levels. Therefore PCBs will only be tested at locations where low level detections of PCBs were detected in soil on Parcel 3 and near the former transformer location (MW04).

[8]Note on Dioxins/Furans. Dioxin/Furans were not detected in a groundwater sample obtained and tested from MW16 in August 2008. Dioxin sampling and testing approach is based on obtaining samples from potential source area wells that are also downgradient compliance wells (MW05 and MW16). If dioxins/furans are detected in groundwater at MW05 or MW16, then additional testing will be conducted at the other compliance wells (MW04, MW11, MW12

[9]This well will not be installed if water levels drop sufficiently after the artesian wells are decommissioned if the existing paired monitoring well screen is not totally submerged.

[10]Water from this seep area will only be sampled if it is determined to represent groundwater (see Section 5.4.2 of Sample and Analysis Plan)

x = sample collected for analytical testing

Y = Yes; N = No; NA = not applicable; "--" = Not tested

TPH-Gasoline by Ecology Method NWTPH-Gx

TPH-Diesel and Oil by Ecology Method NWTPH-Dx

VOCs (volatile organic compounds) by EPA Method 8260B

RCRA Metals (As, Ba, Cd, Cr, Pb, Ag, Se, Hg) by EPA Methods 6000/7000

PAHs (polycyclic aromatic hydrocarbons) by EPA Method 8270sim

PCBs (polychlorinated biphenyls) by EPA Method 8082

Dioxins/Furans by EPA Method 1613B

ORP = Oxidation Reduction Potential

DO = Dissolved Oxygen

Fe = Iron

Al = Aluminum

COPCs = contaminants of potential concern

TABLE 4
SOIL ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1]	
		Target Reporting Limits	Analytical Method
Total Petroleum Hydrocarbons			
Gasoline-Range	mg/kg	5.0E+00	NW-TPH-Gx
Diesel-Range	mg/kg	5.0E+00	NW-TPH-Dx
Oil-Range (including Mineral O	mg/kg	1.0E+01	NW-TPH-Dx
Metals			
Arsenic	mg/kg	5.0E+00	6010B ICP
Cadmium	mg/kg	2.0E-01	6010B ICP
Lead	mg/kg	2.0E+00	6010B ICP
Volatile Organic Compounds[2]			
BTEX	mg/kg	1.0E-03	EPA 8260B
Semivolatile Organic Compounds[2]			
SVOCs	mg/kg	6.7E-02	EPA 8270
4-Chloro-3-methylphenol	mg/kg	3.3E-01	EPA 8270
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	mg/kg	5.0E-03	EPA 8270D SIM
Polychlorinated Biphenyls[2]			
Total PCBs	mg/kg	4.0E-03	8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	mg/kg	5.0E-07	1613/8290
2,3,7,8-TCDF	mg/kg	5.0E-07	1613/8290
-Penta, Hexa, Hepta	mg/kg	2.0E-06	1613/8290
-Octa	mg/kg	5.0E-06	1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/kg = milligrams per kilogram
SVOCs = Semivolatile Organic Compounds
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TCDF = Tetrachlorinated Dibenzofurans
PCBs =Polychlorinated Biphenyls
BTEX = benzene, toluene, ethylbenzene, and xylenes
PAHs = Polycyclic Aromatic Hydrocarbons

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TABLE 5
GROUNDWATER ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1] Target Reporting Limits	Analytical Method
Petroleum Hydrocarbons			
Gasoline-Range	mg/L	0.03	NWTPH-G
Diesel-Range	mg/L	0.25	NW-TPH-Dx
Oil-Range	mg/L	0.50	NW-TPH-Dx
Si/Acid Cleaned TPH-D	mg/L	0.25	NW-TPH-Dx
Si/Acid Cleaned TPH-O	mg/L	0.50	NW-TPH-Dx
Metals *(Total or Dissolved)*			
Arsenic	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Barium	mg/L	0.01	EPA 6020/200.8 ICP-MS
Cadmium	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Chromium	mg/L	0.0005	EPA 6020/200.8 ICP-MS
Lead	mg/L	0.001	EPA 6020/200.8 ICP-MS
Mercury	mg/L	0.00002	EPA 7470 GFAA & CVAA
Selenium	mg/L	0.1	EPA 6020/200.8 ICP-MS
Silver	mg/L	0.02	EPA 6020/200.8 ICP-MS
Volatile Organic Compounds[2]			
VOCs	µg/L	1.0	EPA 8260B (5 mL purge)
Methylene Chloride	µg/L	2.0	EPA 8260B (5 mL purge)
Acetone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Butanone	µg/L	5.0	EPA 8260B (5 mL purge)
Vinyl Acetate	µg/L	5.0	EPA 8260B (5 mL purge)
4-Methyl-2-Pentanone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Hexanone	µg/L	5.0	EPA 8260B (5 mL purge)
Tetrachloroethene	µg/L	0.2	EPA 8260B (20 mL purge)
1,1,2-Trichlorotrifluoroethane	µg/L	2.0	EPA 8260B (5 mL purge)
Acrolein	µg/L	50	EPA 8260B (5 mL purge)
1,2-Dibromo-3-Chloropropane	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichloropropane	µg/L	2.0	EPA 8260B (5 mL purge)
trans-1,4-Dichloro-2-Butene	µg/L	5.0	EPA 8260B (5 mL purge)
Hexachlorobutadiene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,4-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Naphthalene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Semivolatile Organic Compounds[2]			
SVOCs	µg/L	1.0	EPA 8270D
Benzyl Alcohol	µg/L	5.0	EPA 8270D
N-Nitroso-Di-N-Propylamine	µg/L	5.0	EPA 8270D
Hexachloroethane	µg/L	2.0	EPA 8270D
2-Nitrophenol	µg/L	5.0	EPA 8270D
Benzoic Acid	µg/L	10	EPA 8270D
bis(2-Chloroethoxy) Methane	µg/L	1.0	EPA 8270D
2,4-Dichlorophenol	µg/L	5.0	EPA 8270D
1,2,4-Trichlorobenzene	µg/L	1.0	EPA 8270D
Naphthalene	µg/L	1.0	EPA 8270D
4-Chloroaniline	µg/L	5.0	EPA 8270D
4-Chloro-3-methylphenol	µg/L	5.0	EPA 8270D
Hexachlorocyclopentadiene	µg/L	5.0	EPA 8270D
2,4,6-Trichlorophenol	µg/L	5.0	EPA 8270D
2,4,5-Trichlorophenol	µg/L	5.0	EPA 8270D
2-Nitroaniline	µg/L	5.0	EPA 8270D
3-Nitroaniline	µg/L	5.0	EPA 8270D
2,4-Dinitrophenol	µg/L	10	EPA 8270D
4-Nitrophenol	µg/L	5.0	EPA 8270D
2,6-Dinitrotoluene	µg/L	5.0	EPA 8270D
2,4-Dinitrotoluene	µg/L	5.0	EPA 8270D
4-Nitroaniline	µg/L	5.0	EPA 8270D
Pentachlorophenol	µg/L	5.0	EPA 8270D
3,3'-Dichlorobenzidine	µg/L	5.0	EPA 8270D
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	µg/L	0.01	8270M GC/MS Low Level
Polychlorinated Biphenyls			
Total PCBs	µg/L	0.01	EPA 8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	µg/L	0.000005	EPA 1613/8290
-Penta, Hexa, Hepta	µg/L	0.000025	EPA 1613/8290
-Octa	µg/L	0.00005	EPA 1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/L = milligrams per liter
µg/L = micrograms per liter
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TPH-O = Oil-range Petroleum Hydrocarbons
TPH-D = Diesel-range Petroleum Hydrocarbons
SVOC = Semivolatile Organic Compound
VOCs = volatile organic compounds
PCB = Polychlorinated Biphenyls
PAHs = polycyclic aromatic hydrocarbons

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TABLE 6
SAMPLE CONTAINERS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

		Soils				Waters			
Analysis	**Method**	**Minimum Sample Size**	**Sample Containers**	**Sample Preservation**	**Holding Times**	**Minimum Sample Size**	**Sample Containers**	**Sample Preservation**	**Holding Times**
Diesel Range Hydrocarbons	NWTPH-Dx	100 g	8 or 16 oz amber glass wide-mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4 C, HCl to pH < 2	14 days to extraction 40 days from extraction to analysis
Gas Range Hydrocarbons	NWTPH-G	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
VOC	SW-846 8260B	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
Metals (including Mercury)	SW-846 6010/6020 SW-846 7470/7471	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	180 days/ 28 days for Mercury	500 mL	1 L poly bottle	HNO_3 - pH<2 (Dissolved metals preserved after filtration)	180 days (28 days for Mercury)
SVOCs (PAHs)	SW-846 8270C	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCB	SW-846 8082	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCDD/PCDF	SW-846 8290	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	30 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	30 days to extraction 40 days from extraction to analysis

Note:
Holding Times are based on elapsed time from date of collection
VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compound
PCDD = Polychlorinated Dibenzo-p-dioxins
PCDF = Polychlorinated Dibenzofurans
PCB =Polychlorinated Biphenyls
HCl = Hydrochloric Acid
HNO_3 = Nitric Acid
oz = ounce
mL = milliliter
L = liter
g = gram

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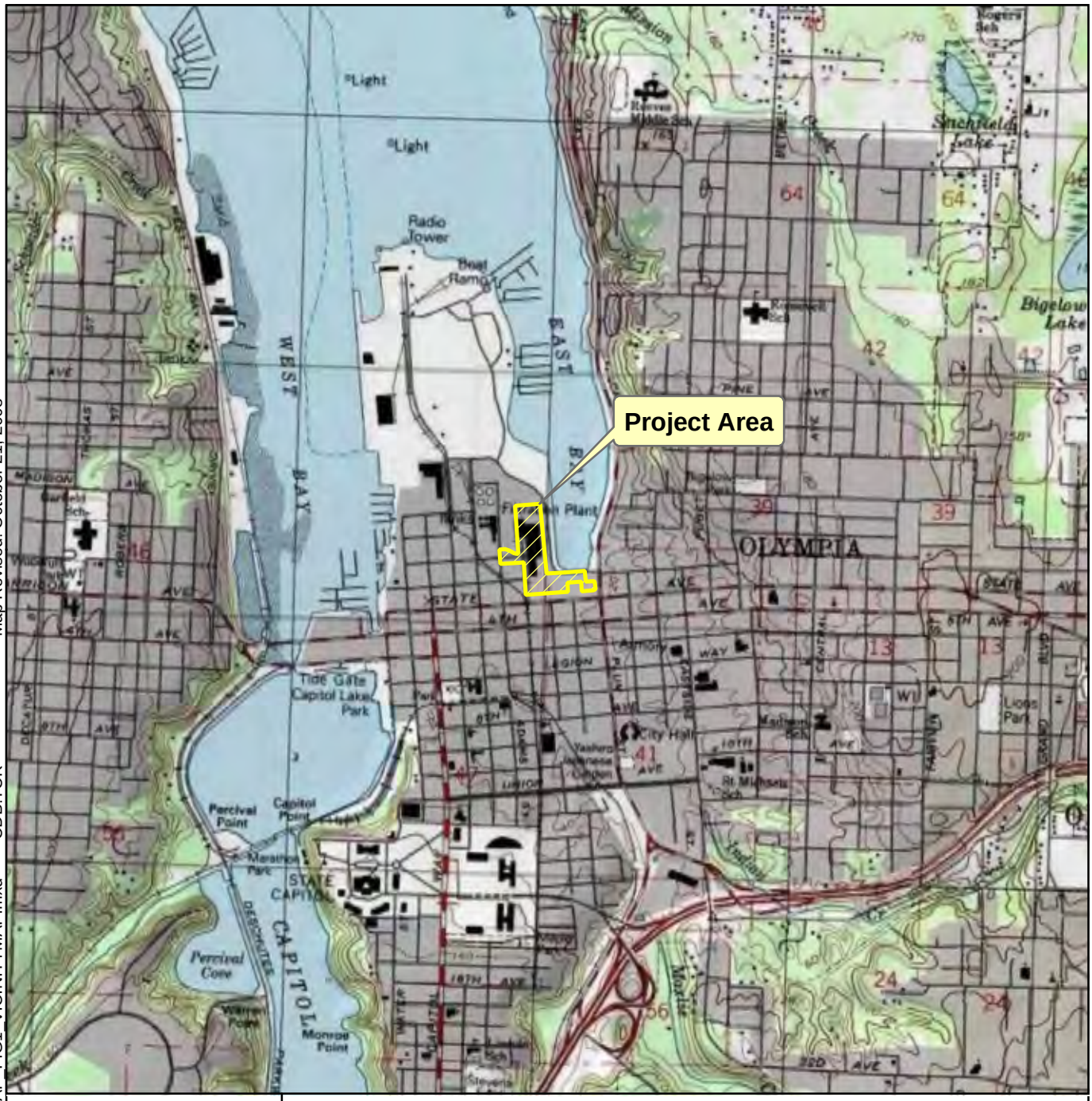

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Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: Interstates, state routes, and roads from TIGER 2000. County boundaries, cities, and waterbodies from Department of Ecology. U.S. topographic map from National Geographic Society.

Lambert Conformal Conic, Washington State Plane North, North American Datum 1983

Vicinity Map

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: P:\0\0615034\02\GIS\0615034070_SAP_FIG1_VICINITYMAP.mxd CDB:TCK Map Revised: October 21, 2008

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG2_EXPLOR_LOC.mxd CDB:TCK Map Revised: October 21, 2008

- Proposed Direct-Push Boring Location
- Phase 1 Explorations
- Test Pit (GeoEngineers, Inc. - Oct. 2007)
- Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)
- Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)
- Approximate Infastructure Improvement Corridor
- East Bay Redevelopment Proposed Short Plat Parcel Boundaries
- East Bay Redevelopment Project Area
- Direct-Push Boring (Northwest Testing Company, Oct. 2006)
- Cone Penotrometer Test (Landau - May 2007)
- Boring (Landau - May 2007)

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Site Plan and Exploration Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 2

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.
Notes: 1. The locations of all features shown are approximate.
2. This drawing is for infomation purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG3_MW_LOCS.mxd CDB:TCK Map Revised: October 21, 2008

Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Monitoring Well (Delta Environmental - June 2003)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N
W E
S

150 0 150

Feet

Site Plan and Monitoring Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 3

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

ATTACHMENT 2

PIONEER Field Forms

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: _____ Site Location: _____

Requested By / Date: _____ Work Deadline: _____

SERVICES REQUESTED	COMPLETED
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO
_____	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs: _____	☐ YES ☐ NO	☐ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access: _____	☐ YES ☐ NO	☐ Draw Site Map _____	☐ YES ☐ NO
☐ Coordinate Sub / Equip: _____	☐ YES ☐ NO	☐ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip: _____	☐ YES ☐ NO	☐ Potential HW _____	☐ YES ☐ NO
☐ Client/Agency Coordination: _____	☐ YES ☐ NO	☐ Non-Haz _____	☐ YES ☐ NO
☐ Calibrate Equipment: _____	☐ YES ☐ NO	☐ Background _____	☐ YES ☐ NO

_____

_____

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☐ Site Map ☐ Camera ☐ Survey Equip / GPS ☐ Vehicle

☐ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☐ Water Level Indicator / Interface Probe

☐ Water Quality Meter _____ ☐ Field Test Kits _____

☐ Sample Kit / Cooler / COC / Ice _____

☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____

☐ Other: _____

☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date:_____ Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

SIGNATURE:_____ DATE:_____

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID		Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time		Drill Rig	
Stop Date/Time		Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
				/ /							
				/ /							
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GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation

Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

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NOVEMBER 15, 2011 SUBMITTAL OF PRELIMINARY DATA GAP INVESTIGATION RESULTS

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Troy Bussey

From: Troy Bussey
Sent: Tuesday, November 15, 2011 6:09 PM
To: AlexS@portolympia.com; 'Teel, Steve (ECY)'
Cc: Rose, Scott (ECY) (sros461@ECY.WA.GOV); 'Chris Waldron'
Subject: East Bay Site Boundary Data Gap Investigation
Attachments: EB Data Gap Lab Report_Anatek (cPAHs).pdf; EB Data Gap Lab Report_PACE (dioxins).pdf; Data Gap Investigation_Preliminary Summary Tables & Figures.pdf; EB Data Gap Boring Log Notes.pdf

Alex and Steve –

I have received the analytical results for the site boundary data gap samples collected in October. The work was completed as planned in the approved work plan. I would like to propose a meeting in a couple of weeks to discuss the results as they relate to the site boundary. I will send out a doodle poll in a separate email tomorrow AM to determine a meeting time that works for everyone.

In general, I believe these results will enable us to make a site boundary determination that we all can agree on. The one sample location that may warrant some additional discussion is DP47. To make the meeting as productive as possible, I'm attaching some documentation about these October 2011 data gap samples for your use:

- PDF of cPAH analytical lab report from Anatek Labs
- PDF of dioxins/furans analytical lab report from PACE Analytical Services
- PDF of tables and figures that summarize these Oct 2011 data gap results in concert with previous results
    - cPAHs
        - Table 1. Total cPAHs Concentrations in Soil (update of Table 7 from Nov 2010 Site Boundary Technical Memo [SBTM] to include Oct 2011 results)
        - Figure 1. Existing cPAHs Soil Data (update of Figure 1 from Data Gap Investigation Work Plan to include Oct 2011 results)
        - Figure 2. Closeup of cPAHs Soil Data near Parcel 7
        - Table 2. Soil Types and Total cPAHs Concentrations Near Parcel 7
    - Dioxins/Furans
        - Table 3. Total Dioxins/Furans Concentrations in Soil (update of Table 8 from Nov 2010 SBTM to include Oct 2011 results)
        - Figure 3. Existing Dioxins/Furans Soil Data (update of Figure 1 from Data Gap Investigation Work Plan to include Oct 2011 results)
        - Table 4. Soil Types for Total Dioxins/Furans Screening Level Exceedances (update of Table 12 from Nov 2010 SBTM to include Oct 2011 results)
- PDF of boring log field notes

Respectfully,
Troy

Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA) :: busseyt@uspioneer.com
Senior Professional Engineer

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Table 1. Total cPAHs Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
BC_TP02	10/9/2008	2	0.0095	
		4	0.0039	U
DP01	9/25/2006	1-3	0.019	J
DP02	9/25/2006	1-3	**0.19**	J
DP03	9/25/2006	1-3	0.055	J
DP04	9/25/2006	1-3	0.050	J
		4-6	0.047	J
DP05	9/25/2006	1.5-3.5	0.0059	J
DP06	9/26/2006	3-5	**0.096**	J
DP07	9/26/2006	4.5-6.5	0.0016	J
DP08	9/26/2006	1-3	**0.24**	J
DP09	9/25/2006	1-3	0.0042	J
DP10	9/26/2006	2-4	0.0013	J
DP11	1/2/2007	0-2	**1.0**	
		8-10	**0.17**	
DP12	1/2/2007	0-2	0.042	
		8-10	0.0078	
DP13	1/15/2007	4-6	0.56	U
		8-10	0.019	
DP14	1/17/2007	2-4	0.025	U
		4-6	**0.20**	
		8-10	0.030	
DP15	1/15/2007	2-4	0.030	
		10-12	**0.54**	
DP16	1/17/2007	2-4	0.026	U
		4-6	0.088	
		8-10	**0.15**	
DP17	8/3/2007	4-6	0.11	U
		10-12	0.082	
DP18	8/3/2007	2-4	0.032	U
		10-12	**0.16**	
DP19	8/3/2007	6-8	0.026	U
		10-12	0.034	U
DP20	8/3/2007	2-4	0.026	U
		10-12	0.044	U
DP21	8/3/2007	6-8	0.036	U
		10-12	0.083	U
DP22	8/3/2007	4-6	0.027	U
		10-12	0.030	U
DP23	8/1/2007	12-14	0.027	U
DP24	8/3/2007	8-10	0.031	U
DP25	8/3/2007	10-12	0.024	U
DP26	6/10/2009	1-2	**0.18**	
		3-4	**0.14**	
DP27	11/4/2008	0-1	**0.16**	
		3-4	0.0097	
		4-5	0.043	
DP28	6/10/2009	1-2	0.046	
		3-5	0.051	
DP29	6/10/2009	1-2	**0.39**	
		7-8	**0.20**	
		13-14	**0.20**	
DP30	11/4/2008	3-4	0.028	
DP32	11/4/2008	4-5	0.0038	U

Table 1. Total cPAHs Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
DP33	11/4/2008	1-2	0.027	
		3-4	**0.26**	
		5-6	0.024	
		7-8	**0.33**	
DP34	11/4/2008	4-6	0.054	
		7.5-9.5	0.048	
DP37	6/10/2009	2-3.5	**0.12**	
DP38	11/4/2008	1-2	0.052	
		5-6	**0.098**	
		6-7	0.084	
DP39	6/10/2009	0.5-2	**0.18**	
		3-5	**1.1**	
DP40	11/4/2008	1-2	0.031	
		3-4	0.0075	
		5-6	0.037	
DP43	9/16/2009	2-3	0.098	U
		6-7	0.098	U
		9-10	**0.12**	
DP44	9/16/2009	2-3	0.098	U
		6-7	0.098	U
		9-10	**0.19**	
DP45	9/16/2009	1-2	0.098	U
		6-7	0.098	U
		9-10	0.098	U
DP46	10/18/2011	1-2	0.0076	U
		2-3	0.0076	U
		9-11	0.0076	U
DP47	10/18/2011	1-2	**0.36**	
		6-8	0.0076	U
		13-14	**0.45**	
DP48	10/18/2011	3-3.5	0.088	
		5-7	0.0076	U
		11-12	0.010	
DP49	10/18/2011	4.5-6	0.0099	
		10.5-12	0.0076	U
		14-15	0.0076	U
DP52	10/18/2011	1-3.5	0.0076	U
		7-10	0.0076	U
		12-13.5	0.040	
MW01	1/2/2007	4-6	0.0041	
		10-12	0.0077	
MW02	1/2/2007	2-4	0.035	
		8-10	0.0086	
MW03	1/2/2007	4-6	0.018	
		8-10	0.0026	U
MW04	1/2/2007	2-4	**0.11**	
		14-16	0.0028	U
MW05	1/15/2007	10-12	**0.14**	
MW06	1/15/2007	2-4	0.0026	U
		10-12	0.0037	U
MW08	1/17/2007	2-4	0.031	
		4-6	0.030	
		8-10	0.054	U

Table 1. Total cPAHs Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
MW09	1/17/2007	2-4	0.023	U
		4-6	0.025	U
MW10	1/15/2007	2-4	**0.11**	
		10-12	**0.10**	
MW11	8/1/2007	2-4	0.026	U
		10-12	0.031	U
MW12	8/1/2007	4-6	0.023	U
		10-12	0.026	U
MW13	8/1/2007	6-8	0.026	U
		10-12	0.085	
MW14	8/7/2007	7-9	0.0072	J
		8-10	0.0042	U
MW15	8/3/2007	4-6	0.026	U
		10-12	0.075	U
MW16	7/31/2007	4-6	0.0056	
		16-18	0.0036	U
MW18	8/2/2007	8-10	0.027	U
		10-12	0.026	U
MW19	8/1/2007	4-6	0.034	U
		8-10	0.036	U
MW20	8/2/2007	2-4	0.026	U
		6-8	**0.76**	
		8-10	0.019	J H B
MW21S	6/12/2009	0.5-1.5	**0.16**	
MW23S	6/12/2009	5-6	**0.17**	
		9-10.5	**0.62**	
MW24S	6/12/2009	6.5-8	**0.90**	
		9-10	**0.26**	
MW25S	6/12/2009	6.5-7.5	**0.56**	
		10.5-12	0.050	
		12.5-14	**0.13**	

Notes:
Total cPAHs screning level = 0.095 mg/kg
Non-detected values greater than the screening level are not bolded as an exceedance.
H = sample was prepped or analyzed beyond the specified holding time
B = Compound was found in the blank and sample
J = Estimated value
U = Not detected at shown concentration
ft bgs = feet below ground surface
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs, all congeners have been detected at least once in soil and groundwater.

AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 02	Panel Oiling
AOC 04	Propane Lift Truck Fueling Shed
AOC 09	Oil House
AOC 10	Engine Room
AOC 11	Unidentified Structure
AOC 12	Machine Shop
AOC 13	Blacksmith Shop
AOC 14	Tar Dipping Tank North
AOC 15	Tar Dipping Tank South
AOC 16	Oiled Cooled Transformer on Concrete Pad
AOC 17	Boiler House
AOC 18	Fuel Bin
AOC 19	Flammable Liquids
AOC 20	Hog Fuel Pile on Ground
AOC 21	Oil House
AOC 24	Power House
AOC 25	Unknown Shop
AOC 26	Pipe Shop
AOC 27	Fuel Bin
AOC 28	Transformer Vault
AOC 29	Oil House
AOC 30	Fenced Electrical Enclosure
AOC 31	Jitney Shop
AOC 32	Electronic Shop
AOC 33	Machine Shop
AOC 34	Welding Shop
AOC 35	Engine (Type Unknown)
AOC 36	Engine (Type Unknown)
AOC 37	Repair Shop
AOC 38	Blacksmith Shop
AOC 39	Logway
AOC 40	Glue House
AOC 41	Blacksmith Shop
AOC 42	Machine Shop
AOC 52	Diesel Fuel Release
AOC 53	Sawmill
AOC 54	Planing Mill

N
W E
S

Legend

- Sample No Longer in Place
- Borings DP-50 and DP-51, No Longer in Place

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Constituent Delineation
- Current Site Boundary
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions

- Soil Cap
- Soil Cover
- Soil Removal

Notes:

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs SL = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

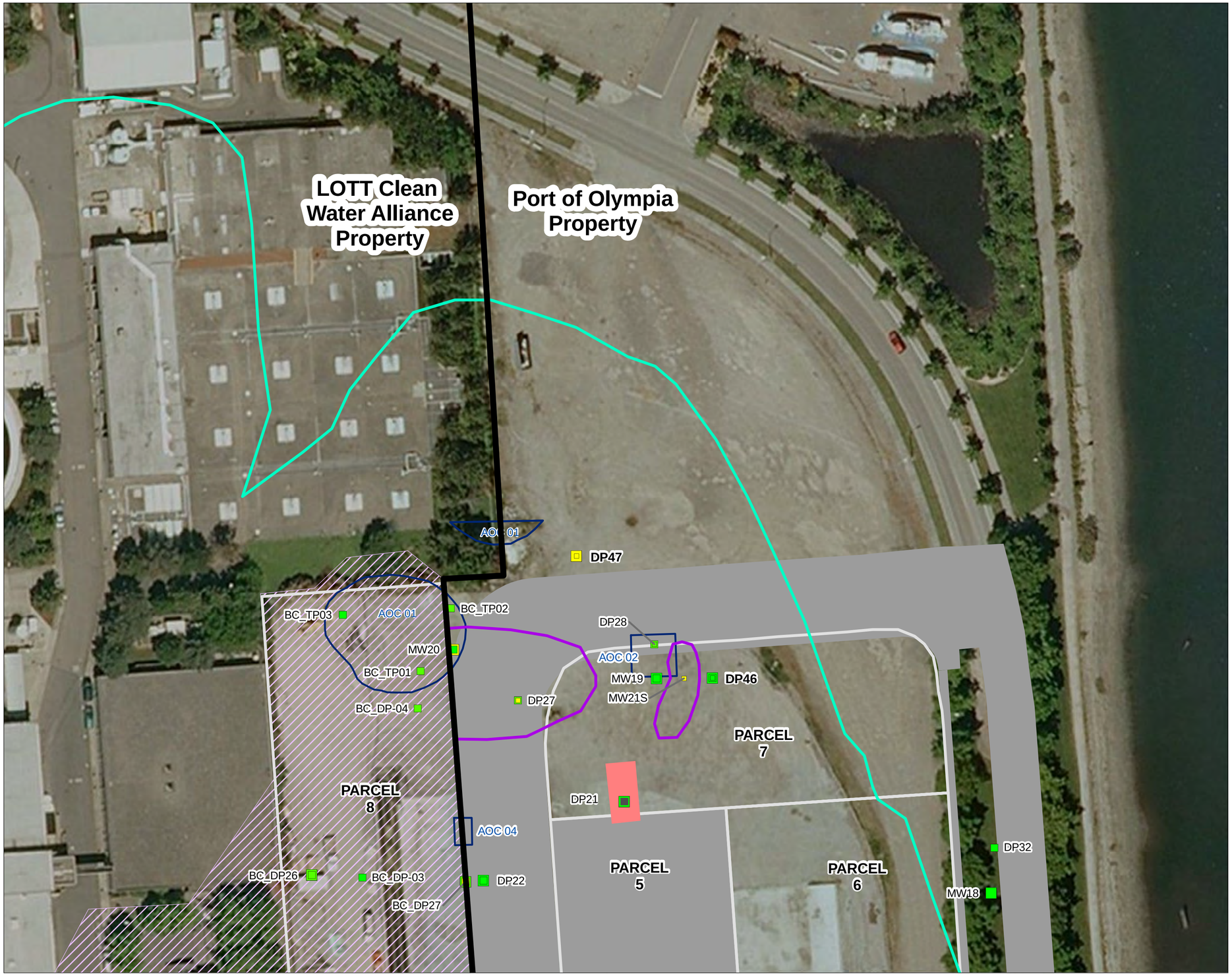
-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Non-detected values greater than the SL are not shown as exceedances.
-Sample breakout depths are based on sample top.

0 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing cPAHs Soil Data
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
GM	
DATE: November 2011	FIGURE NO.: 1



N
W E
S

Legend

- Sample No Longer in Place

Soil Data (0-2' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs)

- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Constituent Delineation
- Current Site Boundary
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions

- Soil Cap
- Soil Cover
- Soil Removal

Notes:

bgs = below ground surface
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
cPAHs SL = 0.095 mg/kg
Possible cPAHs RL[1] = 3.4 mg/kg
SL = screening level
RL = remediation level

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Non-detected values greater than the SL are not shown as exceedances.
-Sample breakout depths are based on sample top.

0 50 100 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing cPAHs Soil Data Near Parcel 7
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
GM	
DATE:	FIGURE NO.:
November 2011	2

Table 2. Soil Types and Total cPAHs Concentrations Near Parcel 7

Site ID	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier	Sample Description from Boring Log	Lithologic Interpretation
BC_TP02	2	0.0095		Not available	Not available
	4	0.0039	U	Not available	Not available
DP27	0-1	**0.16**		Basecourse beneath asphalt; brown to gray sandy gravel	**Basecourse/pre-1982 fill beneath asphalt**
	3-4	0.0097		Gray clayey fine sand with silt	Pre-1982 fill
	4-5	0.043		Grayish brown clayey silt with some fine sand	Pre-1982 fill
DP28	1-2	0.046		Light gray to grown sand gravel with silt	Basecourse/pre-1982 fill beneath asphalt
	3-5	0.051		Light gray to dark gray silty fine sand with gravel	Pre-1982 fill
DP46	1-2	0.0076	U	Dark gray silty fine sand with occassional gravel	Basecourse/pre-1982 fill beneath asphalt
	2-3	0.0076	U	Dark gray sandy clay	Pre-1982 fill
	9-11	0.0076	U	Dark gray silty fine sand with shells and occassional gravel and silty clay seam	Pre-1982 fill
DP47	1-2	**0.36**		Gray to brown silty gravel with sand	**Basecourse/pre-1982 fill beneath asphalt**
	6-8	0.0076	U	Dark gray silty fine sand with shells and occassional clay seam	Pre-1982 fill
	13-14	**0.45**		Dark brown sily lean clay with finely shredded wood debris	**Pre-1982 fill with wood debris**
MW19	4-6	0.034	U	Gray fine to medium sand with silt; silt with shredded wood	Pre-1982 fill with wood debris
	8-10	0.036	U	Silt with shredded wood	Pre-1982 fill with wood debris
MW20	2-4	0.026	U	Gray fine to medium sand with trace silt and occasional gravel	Pre-1982 fill
	6-8	**0.76**		Silt with black, hard shredded wood	**Pre-1982 fill with wood debris**
	8-10	0.019	J H B	Silt with black, hard shredded wood	Pre-1982 fill with wood debris
MW21S	0.5-1.5	**0.16**		Brown to gray sandy fine to coarse gravel with silt	**Basecourse/pre-1982 fill beneath asphalt**

Notes:
Total cPAHs scrennning level = 0.095 mg/kg
Non-detected values greater than the screening level are not bolded as an exceedance.
H = sample was prepped or analyzed beyond the specified holding time
B = Compound was found in the blank and sample
J = Estimated value
U = Not detected at shown concentration
ft bgs = feet below ground surface
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs, all congeners have been detected at least once in soil and groundwater.

Table 3. Total Dioxin/Furans Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (ng/kg)[1]	Qualifier
BC_TP02	10/9/2008	2	0.44	
		4	0.064	U
DP26	6/10/2009	1-2	**45**	
		3-4	4.9	J
		7-8	2.2	J
DP27	11/4/2008	0-1	3.6	J
		3-4	0.19	J
		4-5	0.79	J
		6-7	0.15	J
DP29	6/10/2009	1-2	3.6	J
DP30	11/4/2008	1-2	0.63	J
		3-4	0.13	J
		7-7.5	**56**	J
DP31	6/10/2009	3-4	0.21	J
DP32	11/4/2008	1-2	0.14	J
		4-5	0.12	J
		8-9	0.37	J
DP33	11/4/2008	1-2	2.9	J
		3-4	8.2	J
		5-6	0.64	J
		7-8	5.3	J
DP34	11/4/2008	1-3	6.7	J
		4-6	1.1	J
		7.5-9.5	2.5	J
DP36	11/4/2008	1-2	0.15	J
		5-6	1.2	J
		8-9	0.21	J
DP38	11/4/2008	5-6	4.1	J
		6-7	5.3	J
DP39	6/10/2009	0.5-2	4.3	J
		3-5	**17**	J
DP40	11/4/2008	1-2	4.7	J
		3-4	0.95	J
		5-6	0.66	J
DP41	6/10/2009	1-2	3.2	J
		3-4	0.19	J
DP42	6/10/2009	1-2	**31**	J
		5-6	4.8	J
		7-8	**160**	
DP43	9/16/2009	2-3	0.52	J
		6-7	0.36	J
		9-10	2.2	J
DP44	9/16/2009	2-3	1.3	J
		6-7	0.26	J
		9-10	0.29	J
DP45	9/16/2009	1-2	6.1	J
		6-7	0.72	J
		9-10	4.1	J

Table 3. Total Dioxin/Furans Concentrations in Soil

Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (ng/kg)[1]	Qualifier
DP48	10/18/2011	3-3.5	1.3	
		5-7	0.15	
		11-12	0.22	
DP52	10/18/2011	1-3.5	0.26	
		7-10	0.43	
		12-13.5	**330**	
DP53	10/18/2011	7-7.5	0.20	
		8-9	0.18	
DP54	10/18/2011	7-7.5	2.6	
		8-9	0.17	
DP55	10/18/2011	7-7.5	0.72	
		8-9	0.15	
DP56	10/18/2011	1-3	**11**	
		7-8	0.35	
		13-14	1.8	
MW22S	6/12/2009	0.5-2	2.6	J
		2-4	0.30	J
MW23S	6/12/2009	5-6	1.1	J
MW24S	6/12/2009	1-2.5	1.2	J
		3-4.5	6.1	J
		6.5-8	**980**	
		9-10	**79**	J
TP01[2]	10/4/2007	2-2.5	**430**	J
TP02	10/4/2007	2-2.5	**650**	J
TP03	10/4/2007	3.5-4	**57**	J
TP04	10/4/2007	1.5-2	**85**	

Notes:

Total Dioxins/Furans screening level = 9.8 ng/kg

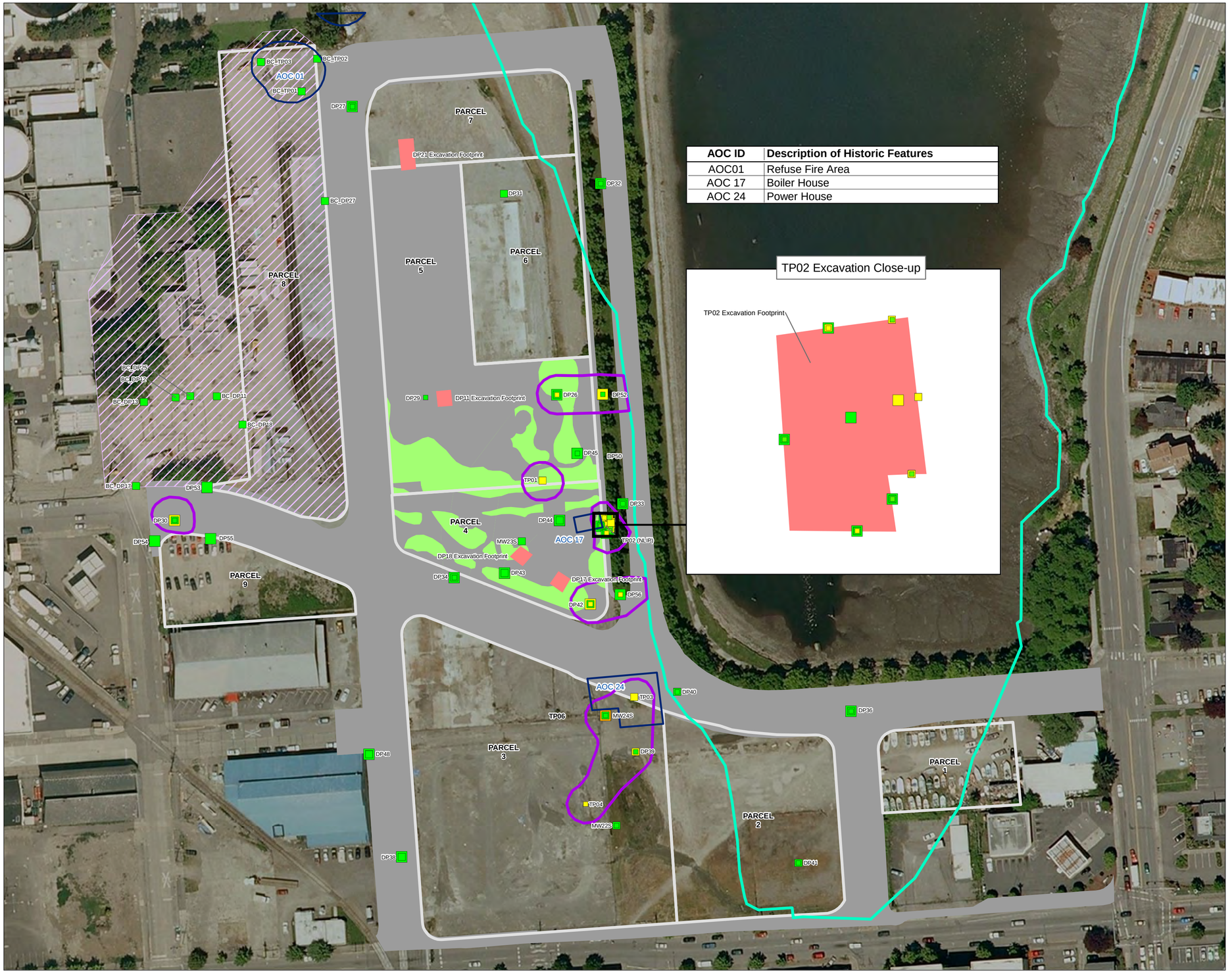
[1]Compound totaling was performed in accordance with Ecology's Concise Explanitory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Dioxins/Furans, all congeners have been detected at least once in soil.

[2]The duplicate result for this sample is 370 ng/kg.

J = value below calibration range

U = not detected at shown concentration

ft bgs = feet below ground surface



AOC ID	Description of Historic Features
AOC01	Refuse Fire Area
AOC 17	Boiler House
AOC 24	Power House

TP02 Excavation Close-up

N
W E
S

Legend

- Sample No Longer in Place

Soil Data (0-2' bgs) y
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (2-6' bgs) y
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL

Soil Data (>= 6' bgs) y
- Soil Concentration <= SL
- SL < Soil Concentration <= RL
- Soil Concentration > RL
- 1979 Shoreline
- Constituent Delineation
- Areas of Concern (AOC)
- Parcel Boundaries
- LOTT Expansion Site

Completed/Underway Remedial Actions
- Soil Cap
- Soil Cover
- Soil Removal

Notes:

Total Dioxins/Furans SL = 9.8 ng/kg
Possible Total Dioxins/Furans RL[1] = 510 mg/kg

SL = screening level
RL = remediation level
bgs = below ground surface

1. Based on the Interim Action Reuse Under Pavement Levels for the Direct Contact Pathway in Table C-5 of the Interim Action Work Plan (PIONEER 2009a)

-Data from the LOTT Expansion Site are shown (Brown and Caldwell 2007a, 2007b, 2007c, and 2009a).
-Sample breakout depths are based on sample top.

0 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Existing Dioxins/Furans Soil Data
Data Gap Work Plan
East Bay Redevelopment Site

DWN:	PROJECT:
GM	
DATE:	FIGURE NO.:
November 2011	3

Table 4. Soil Types for Total Dioxins/Furans Screening Level Exceedances

Site ID	Sample Depth Range (ft bgs)	Total Dioxins/Furans Concentration (ng/kg) [(1)]	Qualifier	Sample Description from Boring Log	Lithologic Interpretation
MW24S	6.5-8	980		Black-stained decomposing wood with sand	Treated wood piling
TP02	2-2.5	650	J	Brown to gray silty fine to coarse sand with occassional gravel and brick debris	Pre-1982 fill with debris
TP01	2-2.5	430	J	Brown to gray silty fine to coarse sand with gravel and occassional debris (wood, brick, and rock)	Pre-1982 fill with debris (including wood debris)
DP52	12-13.5	330		Mixture of brown gravelly sand and brown sandy lean clay (no distinct lithology)	Pre-1982 fill with wood debris immediately beneath
DP42	7-8	160		Wood chunks and sawdust-sized wood debris with coarse gravel and lean clay	Wood debris within pre-1982 fill
TP04	1.5-2	85		Dark brown to black fine to coarse sand with silt, gravel, and debris (wood, ceramic, and brick)	Pre-1982 fill with debris (including wood debris)
MW24S	9-10	79	J	Dark brown to black silty lean clay with wood debris	Pre-1982 fill with treated wood piling debris
TP03	3.5-4	57	J	Dark brown to black fine to coarse sand with gravel, silt, and debris (concrete, brick, glass)	Pre-1982 fill with debris
DP30	7-7.5	56	J	Gray to black clayey silt with some fine sand	Pre-1982 fill with wood debris immediately beneath
DP26	1-2	45		Brown to gray silty fine to coarse gravel with variety of sand sizes	Pre-1982 fill
DP42	1-2	31		Gray to brown sandy gravel with silt	Pre-1982 fill
DP39	3-5	17	J	Brown to dark brown silty medium to coarse sand with fine gravel	Pre-1982 fill with wood debris immediately beneath
DP56	1-3	11		Brown to gray sandy gravel with silt	Pre-1982 fill

Notes:

J = value below calibration range

ft bgs = feet below ground surface

Does not include collected during the Parcel 4/5 Interim Action by City of Olympia and LOTT Clean Water Alliance since a copy of that Interim Action Report has not been provided.

(1) Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Dioxins/Furans, all congeners have been detected at least once in soil.

DECEMBER 2, 2011 SUBMITTAL OF SITE BOUNDARY FIGURE

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PIONEER
TECHNOLOGIES CORPORATION

5205 Corporate Ctr Ct, Ste A
Olympia, WA 98503-5901

Phone: 360.570.1700
Fax: 360.570.1777

www.uspioneer.com

December 2, 2011

Mr. Steve Teel, L.HG.
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504 - 7775

Subject: *Site Boundary*
East Bay Redevelopment Site, Olympia, Washington
Ecology Facility/Site No. 5785176, Agreed Order DE7830

Dear Mr. Teel:

On behalf of the Port of Olympia, I am enclosing for your approval a figure showing the site boundary for the East Bay Redevelopment Site (site) (see Figure 1). The site boundary is the same as the boundary proposed in the November 2010 *Site Boundary Technical Memorandum for the East Bay Redevelopment Site* prepared by PIONEER Technologies Corporation, with the exception that the boundary has been expanded slightly to the north pursuant to results from the data gap investigation and our November 30, 2011 meeting (see Figure 1). Once you provide your written approval of the site boundary shown in Figure 1, we will proceed with preparation of the draft Remedial Investigation / Feasibility Study Report.

If you have any questions or require further information, please do not hesitate to contact me at 570-1700 or Alex Smith at 528-8020.

Respectfully,

Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

cc: Mr. Scott Rose, Washington State Department of Ecology (electronic copy)
Ms. Alex Smith, Port of Olympia (electronic copy)
Mr. Eric Hielema, LOTT Clean Water Alliance (electronic copy)
Mr. Jay Burney, City of Olympia (electronic copy)
Mr. Josh Johnson, Brown and Caldwell (electronic copy)

Enclosures

Figure 1 – Site Boundary

Legend

Site Boundary

Area where site boundary proposed in November 2010 Site Boundary Technical Memorandum was expanded based on Data Gap Investigation results and November 30, 2011 meeting with Ecology

0 50 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

Site Boundary
East Bay Redevelopment Site
Port of Olympia

DWN:	PROJECT:
GM	
DATE:	FIGURE NO.:
December 2011	1

ECOLOGY APPROVAL OF SITE BOUNDARY

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

December 12, 2011

Ms. Alexandra K. Smith
Sr. Environmental Program Mgr./Environmental Legal Counsel
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

Re: Site Boundary Determination and Request to Prepare Draft Remedial Investigation/Feasibility Study Report, East Bay Redevelopment Site, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE7830.

Ref: ***Site Boundary, East Bay Redevelopment Site, Ecology Facility/Site No. 5785176, Agreed Order DE7830*, letter from Troy Bussey Jr., Pioneer Technologies Corp. to Steve Teel, Ecology, dated December 2, 2011.**

***East Bay Site Boundary Data Gap Investigation*, November 15, 2011 e-mail from Troy Bussey Jr., Pioneer Technologies Corp. to Steve Teel, Ecology.**

***Data Gap Investigation Work Plan and Schedule, East Bay Redevelopment Site, Olympia, Washington*, dated October 7, 2011, Prepared for the Port of Olympia by Pioneer Technologies Corporation.**

***Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site*, dated May 2011, prepared for the Port of Olympia by Pioneer Technologies Corporation.**

***Site Boundary Technical Memorandum for the East Bay Redevelopment Site*, dated November 2010, prepared for the Port of Olympia by Pioneer Technologies Corporation.**

Construction Drawings and Specifications for East Bay Marina, Phase One Construction of Retention Dikes, For the Port of Olympia, April 1981, Contract No. 186.

Dear Ms. Smith:

Thank you for the above-referenced letter of December 2, which provides a figure (attached) that shows the proposed boundary for the East Bay Redevelopment Site. **Ecology agrees with this boundary and agrees that the Port of Olympia (Port) may proceed with the preparation of the draft Remedial Investigation/Feasibility Study Report.** However, the Port still needs to complete the excavation of the P-1 geophysical anomaly as described in the data gap work plan.

The Site boundary was determined based on Ecology's review of the above-referenced documents and reports. Ecology reserves the right to adjust the Site boundary if additional information becomes available that indicates that the boundary shown on the figure does not incorporate the extent of Site contamination. Listed below is a summary of the process that led to this decision.

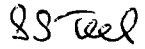
As required by Agreed Order DE7830, Section VII.B, the Port prepared a Site Boundary Technical Memorandum and submitted it to Ecology on November 24, 2010. In a letter dated December 14, 2010, Ecology provided comments on this document and requested that a data gap work plan be prepared. The Port provided a response

letter to Ecology dated February 18, 2011. The Port and Ecology met on February 24 to discuss the Port's response. On March 28, 2011, the Port provided updated figures and a table for Ecology review that summarized the work plan proposed by the Port. On August 12, 2011, Ecology requested that the Port provide additional information on the grading conducted in 1982 associated with dike construction. The Port provided this information to Ecology on August 26, 2011. The Port and Ecology met on September 1, 2011 to further discuss the proposed sampling locations and agreed on a due date of September 30, 2011 for the submittal of the data gap work plan. On September 16, 2011, the data gap work plan was sent electronically to Ecology. On October 3, 2011, Ecology provided the Port with comments on this document. The Port submitted a revised work plan to Ecology on October 7, 2011 and Ecology approved this work plan on October 10.

Sampling was performed on October 18-19, 2011, and Ecology was provided with laboratory reports, boring logs, summary tables, and figures in a November 15, 2011 e-mail. All of the data gap sample locations were below screening levels except for DP47 (just north of the East Bay Redevelopment Parcel 7), DP52 (just east of Parcel 5), and DP56 (just east of Parcel 4). Two soil samples (depths of 1-2 feet and 13-14 feet) from DP47 exceeded the carcinogenic polycyclic aromatic hydrocarbons screening level of 0.095 milligrams per kilogram (mg/kg); these results were 0.36 mg/kg and 0.45 mg/kg, respectively. Soil sample results from DP52 (12-13.5 feet depth) and DP56 (1-3 feet depth) exceeded the screening level for chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans toxic equivalent concentration of 9.8 nanograms per kilogram (ng/kg); the measured concentrations at these locations were 330 ng/kg and 11 ng/kg, respectively. Locations DP47, DP52, and DP56 are all located in pre-1982 fill materials and landward of the 1979 shoreline. According to the information provided to Ecology and available sampling data, the 1982 fill materials on the East Bay Redevelopment Site were from a non-contaminated upland source. The 1982 grading resulted in the moving of the shoreline from the 1979 location to its present location. Boring logs from DP50 and DP51, each located approximately 25 feet east of the former shoreline, indicated that the 1982 fill exceeds 15 feet in thickness at these locations. All of the above information was used to place the Site boundary at the vicinity of locations DP47, DP52, and DP56 at the location of the 1979 shoreline.

If you have any questions about any of the information presented in this letter, please contact me at (360) 407-6247 or via e-mail at stee461@ecy.wa.gov.

Sincerely,



Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:Final Site Boundary 12 6 2011

Attachment

By certified mail: (7010 0780 0002 3403 2742)

cc: Mr. Troy Bussey, Pioneer Technologies Corporation
Mr. Tom Morrill – City Attorney
LOTT Clean Water Alliance, c/o Mr. Eric Hielema, Senior Wastewater Engineer
City of Olympia, c/o Mr. Jay Burney, Assistant City Manager – Special Projects
Mr. Chris Cleveland, Brown and Caldwell
Ms. Maggie Yowell, Attorney, Foster Pepper PLLC
Rebecca Lawson - Department of Ecology
Scott Rose – Department of Ecology
Diana Smith - Department of Ecology
Ivy Anderson – Office of the Attorney General

Legend

Site Boundary

Area where site boundary proposed in November 2010 Site Boundary Technical Memorandum was expanded based on Data Gap Investigation results and November 30, 2011 meeting with Ecology

0 50 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

Site Boundary
East Bay Redevelopment Site
Port of Olympia

DWN:	PROJECT:
GM	
DATE:	FIGURE NO.:
December 2011	1

Appendix B

Wetland Assessment Report For Parcels 2 and 3

Troy Bussey

From: Alex Smith <AlexS@portolympia.com>
Sent: Monday, February 02, 2015 3:04 PM
To: Troy Bussey
Subject: Fw: Wetland Assessment Port of Olympia Property

Hi Troy -- this is what we received from Ecology on the wetland assessment report . . .

Alex Smith | Director of Environmental Programs
Port of Olympia | 915 Washington Street NE | Olympia, WA 98501
☎: 360.528.8020 | 🖷: 360.528.8090
✉: alexs@portolympia.com | www.portolympia.com

----- Forwarded by Alex Smith/Poly on 02/02/2015 03:00 PM -----

From:	"Callender, Alexander (ECY)" <acal461@ECY.WA.GOV>
To:	Alex Smith <AlexS@portolympia.com>,
Cc:	"Stamm, Todd" <tstamm@ci.olympia.wa.us>, Mike Reid <MikeR@portolympia.com>
Date:	01/21/2014 03:59 PM
Subject:	RE: Wetland Assessment Port of Olympia Property

Alex,

I am writing to tell you that I have read the wetland assessment by Mike Layes of Acera LLC. The Department of Ecology concurs with this assessment that the wetland features found on Parcels 2 and 3 are the result of Ecology required stormwater management on site and we will not regulate stormwater features as wetlands.

As I mentioned in our meeting, our stormwater specialist Lisa Cox (360) 690-7120 would like to speak to you about updating you management plans. I also talked to Darren Habel with the Corps of Engineers and let him know how we were going to view this property.

Let me know if you need anything else from me to allow your project to move forward.

Sincerely,

Alex Callender
Wetland/Shoreland Specialist for Lewis, Thurston, and Pierce Counties
Shorelands and Environmental Assistance Program
WA Department of Ecology
acal461@ecy.wa.gov
360-407-6167

From: Alex Smith [mailto:AlexS@portolympia.com]
Sent: Friday, January 10, 2014 12:42 PM
To: Callender, Alexander (ECY)
Cc: Stamm, Todd; Mike Reid
Subject: Wetland Assessment Port of Olympia Property

Hi Alex:

Thanks for getting back to me on our request to discuss a wetland assessment that was recently completed on two parcels of Port property in downtown Olympia. As promised, I am attaching a copy of the assessment for your review.

We would like to discuss the assessment with you and future management options for the property. If possible, we would like to have Todd Stamm from the City of Olympia join the conversation. As you and I discussed, Wednesday, January 15th at 11:00 works for our schedules. If it also works for Todd and Mike Reid (also from the Port), we are happy to come to Ecology's offices to discuss.

Thanks again, and Todd and Mike -- please let me know if the proposed date and time work for you.

Alex Smith | Director of Environmental Programs
Port of Olympia | 915 Washington Street NE | Olympia, WA 98501
☎: 360.528.8020 | 🖷: 360.528.8090
✉: alexs@portolympia.com | www.portolympia.com

EAST BAY REDEVELOPMENT SITE
PARCELS 2 AND 3
WETLAND ASSESSMENT REPORT

DECEMBER 2013

ACERA LLC
Advanced Concepts in Environmental Regulatory Assistance

EAST BAY REDEVELOPMENT SITE
PARCELS 2 AND 3
WETLAND ASSESSMENT REPORT

PREPARED FOR:
PIONEER TECHNOLOGIES CORPORATION
5205 CORPORATE CTR. CT. SE, STE. A
OLYMPIA, WA 98503-5901

PREPARED BY:
ACERA[LLC]
1409 7[TH] AVENUE SE
OLYMPIA WA 98501
(360) 292-9639

MIKE LAYES
PROFESSIONAL WETLAND SCIENTIST
DECEMBER 2013

ACERA[LLC]
Advanced Concepts in Environmental Regulatory Assistance

EXECUTIVE SUMMARY

The findings and conclusions presented in this report are based on an interpretation of information currently available to ACERA. This summary is for introductory purposes and should be used only with the full text of this report.

ACERA has completed a wetland delineation and assessment for proposed site development located at Thurston County Parcels 6613000402 and 6613000403 (Site), located in downtown Olympia, Washington. The Site was investigated for the presence of jurisdictional wetlands during fall of 2013. The site investigation resulted in delineation of one on-site wetland (Wetland A) that contained indicators of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation which satisfied the criteria set forth in the 1987 U.S. Army Corps of Engineers' *Wetlands Delineation Manual* (Corps 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region v2.0* (Corps 2010). Tables 1 and 2 below summarize the wetland(s) delineated at the Site. Appendix A contains wetland delineation maps.

Wetland A developed as the result of a recent infrastructure development project and associated stormwater management activities. Wetland A satisfies the City of Olympia's definition of a non-regulated wetland per *OMC 18.32.505.*

Table 1. Wetland Size, Category, and Buffer Width Summary

Wetland ID	Size (Sq. Ft.)	Size (Acres)	Wetland Category[1]	Buffer Width (Ft)[2]
A	~21,000	~0.5	IV	50

1. Washington State Wetland Rating System for Western Washington – revised, Hruby 2004.
2. City of Olympia Required Buffer Widths for Wetlands *OMC 18.32.535*

Table 2. Wetland Classification Summary

Wetland ID	Cowardin Class[1]	HGM Class[2]	Dominant Vegetation
A	PEM1C	Depressional	Coastal Salt Grass (FACW), Soft Rush (FACW), Needle Spike-Rush (OBL)

1. Classification of Wetlands and Deepwater Habitats of the United States, Cowardin 1979.
2. Hydrogeomorphic Classification - Washington State Wetland Rating System for Western Washington – Revised, Hruby 2004.

TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

ACERA LLC has completed a wetland delineation and assessment for the proposed development located at Thurston County Parcels 6613000402 and 6613000403 (Site), in downtown Olympia, Washington. The Project name for the Site is "Parcels 2 and 3" of the Port of Olympia's East Bay Redevelopment Site. The Site is located within Section 14, Township 18N, Range 02W, Willamette Meridian. The center of the Site is at Latitude 47°02'48.14"N and Longitude 122°53'44.76"W (Figure 1). Figures are provided in Appendix A, Wetland Determination Forms in Appendix B, and Wetland Rating Sheets in Appendix C.

1.1 Scope of Services

The scope of work for this study was limited to the following tasks:

- A review of documents readily available, including national and local wetland inventory maps and the *Soil Survey of the Thurston County Area* (1990).
- A visual assessment to observe existing site conditions and to identify wetland(s) and streams located on or within 300 feet of the Site. Methods defined in the *U.S. Army Corps of Engineers Wetland Delineation Manual* (1987), and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region v2.0* (2010) were used to determine the presence and extent of wetlands on the Site.
- Review federal, state, and local regulations pertaining to the wetlands identified on the Site. The review was used to classify the on-site wetlands.
- An assessment of on-site wetland functions and values.
- Delineation of wetland boundaries located within the Site.
- A report documenting the methods, results, and conclusions of this wetland assessment.

1.2 Site Description and Historical Land Use

The Site is comprised of two adjoining irregular shaped parcels totaling 3.89-acres. The Site is bounded by Olympia Avenue NE on the north, Chestnut Street NE on the east, State Avenue NE on the south and Jefferson Street NE on the west.

The Site is flat and sparsely vegetated with mowed grasses and forbs. A cyclone fence and paved sidewalk encircles the entire Site. The East Bay of Budd Inlet is located northeast, across Olympia Avenue NE. The remainder of the Site is surrounded by commercial development.

Historically the Site was tidal mud flats. It was converted to upland through legally placed fill in the East Bay of Budd Inlet. The Site was developed with warehouses through the early 1970's, then used for boat storage and parking up until around 2008-2009. The Site was then used for construction staging between June 2009 and May 2010 during an infrastructure development project which included new road construction of Olympia Avenue NE and Chestnut Street NE and improvements to State Avenue NE and Jefferson Street NE.

Hydrology within the Site was significantly altered as a result of the construction of this infrastructure project as well as the stormwater management activities required by the Individual NDPES permit and WA State Department of Ecology. All stormwater was required to be infiltrated on-site due to the presence of contaminated soils and no surface stormwater runoff was to leave the Site. In 2011, ditches and infiltration trenches were constructed on the Site. A soil berm was also was constructed around the perimeter of the Site, essentially making the entire Site a stormwater detention/infiltration pond.

1.3 Project Description

The current plan is for the Site to be developed in the next few years as a hotel and a restaurant, or similar uses. If that plan does not come to fruition, the backup plan is to cover the Site with a temporary gravel cover until the parcels are developed.

2.0 WETLAND DELINEATION METHODS

The following section discusses the methods used to identify, delineate, and categorize wetlands at the Site.

2.1 Preliminary Review

Prior to field work, background research of existing information was completed. Documents and websites reviewed included, but were not limited to: National and local wetland inventory maps; The Natural Resource Conservation Service's (NRCS) Web Soil Survey (NRCS 1995); Google Earth Aerial Photographs; and a preliminary review for threatened, endangered, and sensitive plant and animal species.

2.2 Field Methodology

An assessment of existing site conditions and visual observations were made to identify wetland(s) and streams located on or within accessible areas 300 feet of the study area boundary. Methods defined in the *U.S. Army Corps of Engineers Wetland Delineation Manual* (Corps 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region v2.0* (Corps 2010) were used to determine the presence and extent of wetlands on and near the site. Please note that *The Washington State Wetlands Identification and Delineation Manual* (Ecology 1997), was repealed March 14, 2011 and is not used by ACERA. The methods in the Corps manuals recognize that the three parameters of hydrology, hydric soils, and hydrophytic vegetation are found in wetlands and that these parameters are important in the establishment and maintenance of wetland communities. The methods evaluate each of the three parameters to determine if a wetland is present and to establish wetland boundaries.

Specific on-site methods included transecting the property at approximately 50-foot intervals, establishing formal data plots in and adjacent to areas where surface water or saturated soils were observed, as well as numerous test pits to evaluate near-surface water levels. Vegetation, soil, and hydrology data were collected at formal and informal data plots and recorded on *WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region v2.0* (Appendix B). Test pits were routinely excavated adjacent to the wetland boundary and prior to determining the actual boundary location by incorporating the criteria above.

The site assessment was performed on November 25, 2013. To mark the boundary between wetlands and uplands, pink surveyor's flagging labeled "WETLAND DELINEATION" was numerically labeled and tied to vegetation or placed in the substrate along the wetland boundary. To mark the points where data was collected, red surveyor's flagging was numerically labeled and placed at each sampling location.

2.3 Hydrophytic Vegetation

The USFWS and the NWI have established a rating system that has been applied to commonly occurring plant species on the basis of their frequency of occurrence in wetlands (Table 3). Species indicator status expresses the range in which plants may occur in wetlands and non-wetlands (uplands). Under this system, vegetation is considered hydrophytic when there is an indicator status of facultative (FAC),

facultative wetland (FACW) or obligate wetland (OBL) (Table 3). *The National Wetland Plant List: 2013 Wetland Ratings* (Lichvar 2013) was used to determine vegetation indicator status.

Table 3. Definitions for USFWS Plant Indicator Status

Plant Indicator Status Category	Indicator Status Abbreviation	Definition (Estimated Probability of Occurrence)
Obligate Upland	UPL	Occur rarely (<1 percent) in wetlands, and almost always (>99 percent) in uplands
Facultative Upland	FACU	Occur sometimes (1 percent to <33 percent) in wetlands, but occur more often (>67 percent to 99 percent) in uplands
Facultative	FAC	Similar likelihood (33 percent to 67 percent) of occurring in both wetlands and uplands
Facultative Wetland	FACW	Occur usually in wetlands (>67 percent to 99 percent), but also occur in uplands (1 percent to 33 percent)
Obligate Wetland	OBL	Occur almost always (>99 percent) in wetlands, but rarely occur in uplands (<1 percent)
No Indicator	NI	Not an Indicator due to insufficient information to determine status
Not Listed	NL	Not listed - either non-native species or does not occur in wetlands (UPL)

Indicators of Hydrophytic Vegetation include: 1 Rapid Test for Hydrophytic Vegetation; 2 Dominance Test; 3 Prevalence Index; 4 Morphological Adaptions; and 5 Wetland Non-Vascular Plants. Indicator 1 is met when all dominant species across all strata are FACW and/or OBL. Indicator 2 is met when ***more than*** 50 percent of the dominant species in the plant community are FAC or wetter. Indicator 3 is an index of weighted-average wetland indicator status of all plant species within the sampling plot. This indicator is met when the Prevalence index equals 3 or less ***and*** indicators of wetland hydrology and hydric soils are also met. Indicator 4 allows for conversion of FACU plants to FAC if morphological adaptions to wetland hydrology are observed on those plants; the plot is then reassessed and must meet either Indicator 2 or 3. Indicator 5 is used for bryophyte dominant plant communities. This indicator is met when more than 50 percent of the total coverage of bryophytes consists of species known to be highly associated with wetlands.

2.4 Wetland Hydrology

Hydrologic conditions identifying wetland characteristics occur during those periods when the soils are inundated permanently or periodically, or the soil is continuously saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic conditions. Research has indicated that the ***duration*** of soil saturation and inundation during the growing season is more influential on the plant community than the ***frequency*** of soil saturation and inundation during the growing season. For the purposes of this wetland delineation, the wetland hydrology criterion was considered to be satisfied if it appeared that wetland hydrology was present for at least 5 to 12 percent (12 to 29 days) of the growing season. The growing season begins when the soil reaches a temperature of 41 degrees Fahrenheit at 19.7" below the surface, or observable plant biological activity has begun at the Site (bud burst, seed sprout, emergence of herbaceous plants, etc.).

Wetland Hydrology indicators are split into four groups (A through D). These include: A. direct observations of surface or ground water; B. evidence that the site is subject to flooding or inundation (water marks, drift deposits, etc.); C. evidence that the soil is saturated or was saturated recently (oxidized rhizoshperes, the presence of reduced iron or sulfur in the soil profile, etc.); and D. landscape, soil, and vegetation features that indicate contemporary wet conditions. Each indicator group is further

divided into primary and secondary indicators. Wetland hydrology is met when one primary or two secondary indicators are observed.

Hydrology is evaluated by direct visual observation of surface inundation or soil saturation within 16 inches below the existing ground surface in data plots. According to the 1987 Corps Manual, *"for soil saturation to impact vegetation, it must occur within a major portion of the root zone (usually within 12 inches of the surface) of the prevalent vegetation."* Therefore, if saturated soils or indicators were observed within 12 inches of the surface, positive indicators of wetland hydrology are noted. The area near each data plot is also examined for indicators of wetland hydrology. It was not possible to observe conditions during the entire growing season. Areas where several positive indicators of hydrology were observed, and other indicators of wetland conditions were observed, it is assumed that wetland hydrology occurs for a sufficient period of the growing season to meet the wetland criteria.

2.5 Hydric Soils

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as "*a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part*" (USDA Soil Conservation Service 1994). These conditions favor the growth and regeneration of hydrophytic vegetation. Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. As a result of anaerobic conditions, hydric soils exhibit characteristics directly observable in the field, including high organic matter content, greenish or bluish gray color (gley formation), accumulation of sulfidic material, spots of orange or yellow color (redoximorphic features), and dark soil colors (low chromas).

Soil observations were completed within soil data plots dug with a shovel to a depth of at least 16 inches below the existing ground surface. Soil organic content was estimated visually and textually. The presence of sulfidic material was determined by the presence of sulfide gases (i.e., a "rotten egg" odor). Soil colors were recorded after being determined through use of the three aspects of color in the Munsell® Soil Color Chart: hue, value, and chroma (e.g., a soil designated as 10YR 6/2 has a hue of 10YR, a value of 6, a chroma of 2, and a soil color name of light brownish gray) (Munsell 2000).

Soil samples were then examined for a match of color and texture characteristics with hydric soil indicators listed in the manual: *Field Indicators of Hydric Soils in the United States v7.0* (USDA 2010). Hydric soil indicators used in this region include: A1 Histosol; A2 Histic Epipedon; A3 Black Histic; A4 Hydrogen Sulfide; A11 Depleted Below Dark Surface; A12 Thick Dark Surface; S1 Sandy Mucky Mineral; S5 Sandy Redox; S6 Stripped Matrix; F1 Loamy Mucky Mineral; F2 Loamy Gleyed Matrix; F3 Depleted Matrix; F6 Redox Dark Surface; F7 Depleted Dark Surface; and F8 Redox Depressions.

2.6 Wetland Categorization and Buffers

Wetlands were rated during the site assessment using Ecology's *Washington State Wetlands Rating System for Western Washington – Revised* (Hruby 2004), as well as the wetland classification guidelines in *OMC 18.32.515.* Wetland Rating Sheets are provided in Appendix C. Wetland buffers were assigned to each wetland based on the criteria set forth in *OMC 18.32.535.*

3.0 BACKGROUND INFORMATION AND DOCUMENT REVIEW

The preparation of this report included review of several existing sources of documentation, review of agency databases and maps, and correspondence with resource agency staff. A field reconnaissance was

conducted to review habitat conditions and verify written documentation. The review of existing information includes, but was not limited to, the following documents and information sources:

3.1 Aerial Photograph Review

Google Earth (1990 through 2013) and Thurston County Geodata Viewer (2012) were accessed to review aerial imagery of the Site and surrounding areas. According to the aerial imagery, the site is currently undeveloped and recently graded (Figures 2a, 2b, 2c).

3.2 U.S. Fish and Wildlife Service's National Wetland Inventory Map

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) was queried to determine if previously identified wetlands are present on or near the Site (USFWS 2013). According to the NWI Interactive Online Mapper (Figure 3), the portion of East Bay adjacent to the Site is identified as both E2USN and E1UBL (Estuarine Intertidal Unconsolidated Shore Regularly Flooded and Estuarine Subtidal Unconsolidated Bottom Subtidal, respectively) (Cowardin 1979). The southern portion of these wetlands are inaccurately mapped within upland areas including roads and buildings.

3.3 Soil Survey Information

The Natural Resource Conservation Service's (NRCS 1990) Soil Survey of The Thurston County Area, Washington was reviewed to determine areas likely to contain Hydric Soils indicative of wetland conditions (Figure 4). The soil survey identifies one soil type: Xerorthents (Not Hydric), 0 to 5 percent slopes (Map Number 125) as present within the entire Site.

3.4 Topographical Information

The Tumwater, WA 1997, USGS 7.5 Minute Topographical Map was reviewed to determine the presence of large depressions and general drainage patterns of the Site and surrounding areas (Figure 5). The Topographical Map shows that Site is flat and surrounded by flat urban developed land that eventually slopes up to the east, east of East Bay Drive.

3.5 DNR and Fish and Wildlife Database Reviews

The Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) database was queried on December 3rd, 2013 to determine if state or federally listed fish or wildlife species or their habitats occur on or within 0.5 mile of the Site. According to the PHS database, the same estuarine wetland systems mapped by NWI (Section 3.2) are mapped within the vicinity of the Site as "Aquatic Habitat". Purple Martin (*Progne subis*) "Breeding Area" is mapped approximately 200' north of the site within the southwestern portion of East Bay. Shorebird Concentrations "Regular Concentration" is mapped approximately 300' northeast of the Site within the eastern portion of Budd Bay.

In addition, the PHS Database maps a stream (Moxlie Creek) approximately 50' east of the Site that contains "Occurrence/Migration" of Coho Salmon (*Oncorhynchus kisutch*), Chinook Salmon (*Oncorhynchus tshawytscha*), Chum Salmon (*Oncorhynchus keta*), and Cutthroat Trout (*Oncorhynchus clarki*).

The Washington Department of Natural Resources' (WDNR) Natural Heritage Information System was queried to determine if the Site occurs in a location reported to contain high quality natural heritage wetland occurrences or occurrences of natural heritage features commonly associated with wetlands. According to WDNR data dated March 1st, 2013, there are no records of rare plants or high quality native ecosystems occurring in the vicinity of the Site.

In addition, the WDNR Forest Practices data base was consulted December 3rd, 2013 to determine if water bodies occur on or in the vicinity of the Site that are previously mapped and classified under the water typing system detailed in *WAC 222-16-030*. According to the Water Type Map, Moxlie Creek, a

Type F Stream (Fish Presence) is mapped approximately 50' east of the Site. Puget Sound a Type S Waterbody (Shoreline of the State) is mapped approximately 100' north of the Site.

4.0 RESULTS

An assessment for the presence of wetlands was performed on November 25th, 2013. One wetland (Wetland A) was delineated as a result (Figure 6). Indicators of wetland hydrology, hydric soil characteristics, and dominant hydrophytic vegetation observed at each wetland are summarized in Table 4 below.

Table 4. Wetland Indicator Summary

Wetland ID	Hydric Soil Indicators	Wetland Hydrology Indicators	Hydrophytic Vegetation (FAC, FACW, or OBL)
A	None Observed	Saturation (A3)	Coastal Salt Grass (FACW), Soft Rush (FACW), Needle Spike-Rush (OBL)

4.1 Wetland A

Wetland A is located within the central portion of the Site (Figure 6). It is a shallow ditched depressional wetland approximately 0.5 acre in size and has a Cowardin Classification of Palustrine Emergent Persistent Seasonally Flooded (PEM1C) (Cowardin 1979). This wetland is rated Category IV (Hruby 2004). Rating forms are included in Appendix C. According to *OMC 18.32.535,* the standard regulated buffer for Category IV wetlands is 50 feet.

Hydrologic support for Wetland A is from impounded rainfall and surface runoff from within the Site. The presence of compacted soils created a shallow, perched water table beneath Wetland A. Overflow from wetland A is drained north through a ditch and then flows into an infiltration trench.

Soils within Wetland A are considered "problematic" because they are highly compacted non-native sand and gravel fill material and recently disturbed by land use activities. Recently developed wetlands may not exhibit field indicators of Hydric Soils and no such indicators were observed at any sample soil pit within the Site. According to *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region v2.0*, recently developed wetlands are defined as:

> *Recently developed wetlands include mitigation sites, wetland management areas (e.g., for waterfowl), other wetlands intentionally or unintentionally produced by human activities, and naturally occurring wetlands that have not been in place long enough to develop hydric soil indicators.*

Wetland A contains an emergent plant community dominated by Coastal Salt Grass, Soft Rush, and Needle Spike-Rush. Plants within Wetland A and the entire Site are regularly mowed.

5.0 FLORA AND FAUNA OBSERVATIONS

Observations of plants and animals during field work activities were noted. Tables 5 and 6 below provide a summary of these observations. These observations are not intended to provide a complete inventory, but a basic list of common flora and fauna found at the Site.

Table 5. Plant Species List

Common Name	Scientific Name	Wetland Indicator Status
Trees		
Black Cottonwood (seedlings)	*Populus balsamifera*	FAC
Shrubs		
Scotch Broom	*Cytisus scoparious*	NL(UPL)
Herbs, grasses, sedges, rushes, and ferns		
Coastal Salt Grass	*Distichlis spicata*	FACW
Colonial Bent Grass	*Agrostis capillaris*	FAC
Common plantain	*Plantago major*	FACU
Dagger-Leaf Rush	*Juncus ensifolius*	FACW
Dandelion	*Taraxacum officinale*	FACU
Heal-all	*Prunella vulgaris*	FACU
Narrow-leaf plantain	*Plantago lanceolata*	FAC
Needle Spike-Rush	*Eleocharis acicularis*	OBL
Perennial Ryegrass	*Lolium perenne*	FACU
Reed Canarygrass	*Phalaris arundinacea*	FACW
Small Fruit Bulrush	*Scirpus microcarpus*	OBL
Soft Rush	*Juncus effusus*	FACW
Velvet Grass	*Holcus lanatus*	FAC
Watson's Willowherb	*Epilobium ciliatum*	FACW
White Clover	*Trifolium repens*	FAC
This listing represents the major plant species identified by ACERA in November 2013. There may be other species present on the Site that are not listed.		

Table 6. Wildlife Observations

AMPHIBIANS		
Species (Common)	**Species (Scientific)**	**Comments / Observations**
None observed		
BIRDS		
Species (Common)	**Species (Scientific)**	**Comments / Observations**
American crow	*Corvus brachyrhynchos*	Observed several times during visit
Killdeer	*Charadrius vociferus*	Several seen and heard during visit
MAMMALS		
Species (Common)	**Species (Scientific)**	**Comments / Observations**
None observed		
This listing represents the major wildlife species identified by ACERA in November 2013. There may be other species present on the Site that are not listed.		

6.0 REGULATORY CONSIDERATIONS

The City of Olympia defines wetlands as follows:

> *OMC 18.32.505: Wetlands and Small Lakes – Definition "Wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.*

Based on the above definition, none of the aquatic features within the Site, including Wetland A should be regulated as wetland by the City of Olympia. Stormwater management requirements and recent infrastructure development actions have undoubtedly created these features.

According to *OMC 18.32.505, "Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to,…drainage ditches,…detention facilities."* Recent stormwater management activities and requirements within the Site are documented in the Individual NDPES permit, correspondence letters between the Port of Olympia and WA State Department of Ecology, and the ESM Interim Stormwater Stabilization Phase Report. In summary, these documents require that no surface stormwater runoff leave the Site, and all stormwater be infiltrated on-site due to the presence of contaminated soils. In order to meet these requirements, ditches and infiltration trenches were constructed on the Site in 2011. In addition, an earthen berm was intentionally constructed around the perimeter of the Site, essentially making the entire Site a stormwater detention/infiltration pond, thus creating hydrological conditions favorable for the development of wetlands. These recently developed wetlands meet the City's definition of a non-regulated wetland.

Documents detailing the recent history of stormwater management requirements and activities within the Site are available for review upon request from Pioneer Technologies. These include the following:

- Correspondence between the Port of Olympia and WA State Department of Ecology dated: 7/17/2008, 3/29/2010, and 5/10/2010.
- Final Individual NDPES Permit dated 6/25/2009
- ESM Interim Stormwater Stabilization Phase Report dated 11/30/2010

In addition, *OMC 18.32.505*, states that *"Wetlands do not include… those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway."* The new sidewalk construction around the entire perimeter of the Site, new road construction on the east and south side of the Site and road improvements on the north and west side of the Site are higher in elevation than the interior of the Site. These infrastructure improvements unintentionally impound

stormwater within the Site creating hydrological conditions favorable for the development of wetlands. This new construction activity took place after July 1, 1990; therefore these recently developed wetlands meet the City's definition of a non-regulated wetland.

7.0 CONCLUSION

Based on criteria of the CORPS 1987 and 2010 manuals, one Category IV wetland (Wetland A) was identified and delineated on the Site. However, this wetland satisfies the City of Olympia's definition of a non-regulated wetland per *OMC 18.32.505.* A recent infrastructure development project and associated stormwater management activities have created the conditions for the development of this wetland area.

The findings and conclusions documented in this report have been prepared for specific application to this Site. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Because of such changes, our observations and conclusions applicable to this Site may need to be revised wholly or in part.

Wetland boundaries identified by ACERA are considered preliminary until the flagged wetland boundaries are validated by the regulating agency(ies). Validation of the wetland boundaries by the regulating agency(ies) provides a certification, usually written, that the wetland boundaries verified are the boundaries that will be regulated by the agency(ies) until a specific date or until the regulations are modified. Only the regulating agency(ies) can provide this certification.

Since wetlands are dynamic communities affected by both natural and human activities, changes in wetland boundaries may be expected; therefore, wetland delineations cannot remain valid for an indefinite period of time. Local agencies typically recognize the validity of wetland delineations for a period of 5 years after completion of a wetland delineation report. Development activities on a site 5 years after the completion of this wetland delineation report may require revision of the wetland delineation. In addition, changes in government codes, regulations, or laws may occur. Because of such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

8.0 REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Publication FSW/OSB-79/31.

Hruby, T. 2004. Washington State wetland rating system for western Washington –Revised. Washington State Department of Ecology Publication # 04-06-025.

Lichvar, R.W. 2013. The National Wetland Plant List: 2013 wetland ratings. Phytoneuron 2013-49: 1-241.

Munsell Soil Color Chart. 2000. *Munsell Soil Color Charts*. Gretag Macbeth, New Windsor, New York.

United States Department of Agriculture, Natural Resource Conservation Service (NRCS). 2010. F*ield Indicators of Hydric Soils in the United States, Version 7.0*, Hurt, G.W., P.M. Whited, and R.F. Pringle (eds.). USDA, NRCS, Ft. Worth, TX.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 1995. *Hydric Soils of Washington*. 19 pp.

US Army Corps of Engineers (Corps). 1987. *U.S. Army Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Waterways Experiment Station. Vicksburg, Mississippi.

US Army Corps of Engineers (Cops). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region v2.0.*

US Department of Agriculture, Soil Conservation Service, 1990. Soil Survey of the Thurston County Area, Washington.

US Fish and Wildlife Service (USFWS). 2013. National Wetlands Inventory online mapper. Available: http://www.fws.gov/wetlands/.

Washington State Department of Ecology. 2004. *Revised Washington State Wetlands Rating System, Western Washington*. Washington State Department of Ecology, Publication No. 04-06-025.

Washington State Department of Fish and Wildlife. 2013. Priority Habitats and Species Maps, Thurston County Area.

Washington State Department of Natural Resources. 2012. Washington Natural Heritage Information, Thurston County Area.

Appendix A. Figures

Legend

- East Bay Redevelopment Project Boundary
- Parcel Boundaries
- Roads Paved During Infrastructure Interim Action

Property Owners

- City of Olympia
- LOTT
- Port of Olympia

Area of Interest for Wetlands Assessment

0 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

Parcel Locations and Property Ownership for the East Bay Redevelopment Site

Figure 1

Figure 2a. 5/5/2013 Aerial

Figure 2b. 4/30/2009 Aerial

Figure 2c. 5/15/2006 Aerial

U.S. Fish and Wildlife Service

National Wetlands Inventory

FIGURE 3

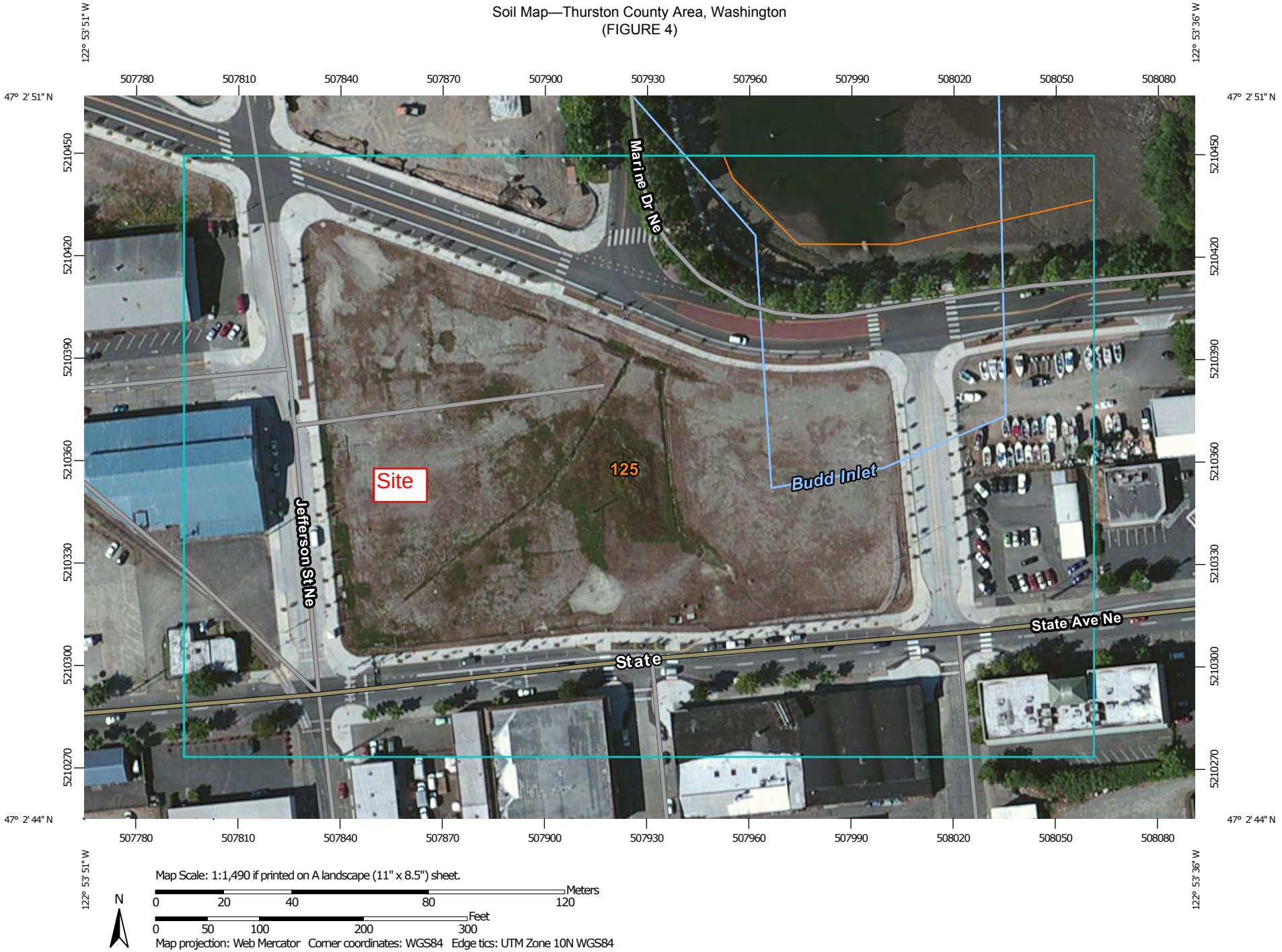
Dec 3, 2013

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

User Remarks:

Soil Map—Thurston County Area, Washington
(FIGURE 4)



47°02.846' N, 122°53.625' W WGS84TOPO! map printed on 12/03/13

Figure 5

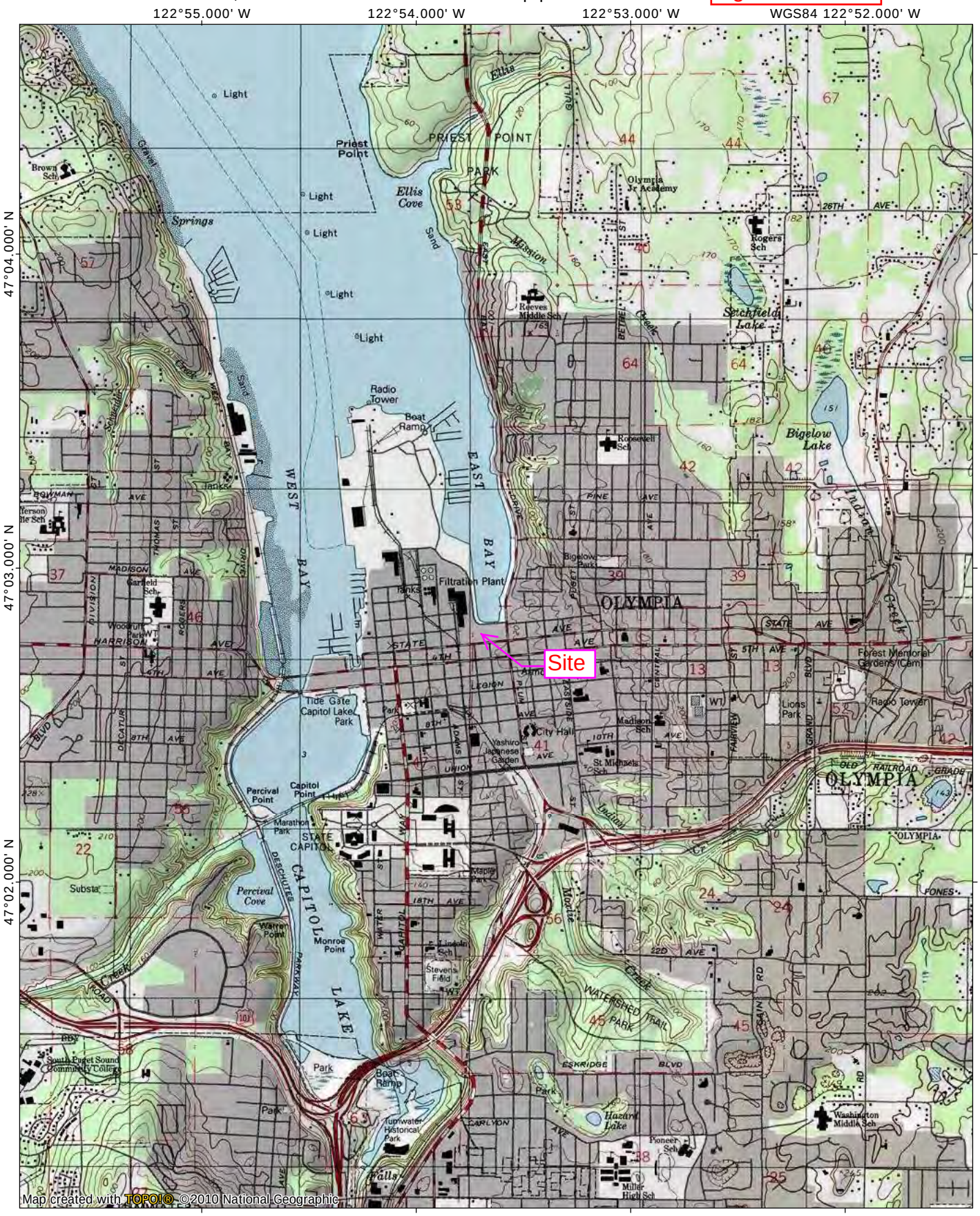


Figure 6. Wetland Delineation Map

Appendix B. Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP1
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Juncus effusus*	10	no	FACW
2. *Epilobium ciliatum*	5	no	FACW
3. *Populus balsamifera*	5	no	FAC
4. *Trifolium repens*	20	yes	FAC
5. *Taraxacum officinale*	10	no	FACU
6. *Agrostis capillaris*	20	yes	FAC
7. *Eleocharis acicularis*	30	yes	OBL
8.			
9.			
10.			
11.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	10YR3/2	100					V/G/Sa/L	
3-16+	10YR4/1	100					V/G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	1
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped, undrained surface water due to the compacted soils onsite. No "High Water Table" present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP2
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☒	No	☐	

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Distichlis spicata*	50	yes	FACW
2. *Scirpus microcarpus*	20	yes	OBL
3. *Plantago lanceolata*	10	no	FACU
4. *Trifolium repens*	10	no	FAC
5. *Juncus effusus*	5	no	FACW
6. *Epilobium ciliatum*	5	no	FACW
7.			
8.			
9.			
10.			
11.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR3/2	100					V/G/Sa/L	
4-16+	10YR4/1	100					V/G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	3
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped or "perched" undrained surface water due to the compacted soils onsite. No "High Water Table" present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP3
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Taraxacum officinale*	20	yes	FACU
2. *Eleocharis acicularis*	10	yes	OBL
3. *Plantago lanceolata*	10	yes	FACU
4. *Populus balsamifera*	10	yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 25, 20% = 10	50	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 50			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	4	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☐ **No** ☒

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-16+	10YR4/1	100					G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped or "perched" undrained surface water due to the compacted soils onsite. No "High Water Table" present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP4
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Distichlis spicata*	60	yes	FACW
2. *Taraxacum officinale*	5	no	FACU
3. *Trifolium repens*	5	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 35, 20% = 14	70	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	10YR3/2	100					V/G/Sa/L	
3-16+	10YR4/1	100					V/G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped or "perched" undrained surface water due to the compacted soils onsite. No "High Water Table" present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP5
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Moss*	80	n/a*	NI
2. *Juncus ensifolius*	10	yes	FACW
3. *Distichlis spicata*	10	yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	10YR3/2	100					G/Sa/L	
3-16+	10YR4/1	100					V/G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped or "perched" undrained surface water due to the compacted soils onsite. No "High Water Table" present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP6
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes** ☐	**No** ☒
Hydric Soil Present?	Yes ☐	No ☒			
Wetland Hydrology Present?	Yes ☒	No ☐			

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Distichlis spicata*	60	yes	FACW
2. *Populus balsamifera*	20	yes	FACW
3. *Eleocharis acicularis*	10	no	OBL
4. *Moss*	5	n/a*	NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
50% = 47.5, 20% = 18.5	95	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 5			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL Sampling Point: SP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-5	10YR3/2	100					G/Sa/L	
3-16+	10YR4/1	100					V/G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☒	No	☐	Depth (inches):	1
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped or "perched" undrained surface water due to the compacted soils onsite. No "High Water Table" present.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project Site: Parcel 2 and 3, East Bay Redevelopment Site City/County: Olympia/Thurston Sampling Date: 11/25/2013
Applicant/Owner: Port of Olympia State: WA Sampling Point: SP7
Investigator(s): Mike Layes, PWS Section, Township, Range: 14/18N/2W
Landform (hillslope, terrace, etc.): Legal Fill Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: 125 - Xerorthents, 0 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐, significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐, naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	☒	No	☐	
Hydric Soil Present?	Yes	☐	No	☒	**Is the Sampled Area within a Wetland?** **Yes** ☐ **No** ☒
Wetland Hydrology Present?	Yes	☐	No	☒	

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *n/a*			
2.			
3.			
4.			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. *n/a*			
2.			
3.			
4.			
5.			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Moss*	60	n/a*	NI
2. *Distichlis spicata*	10	yes	FACW
3. *Taraxacum officinale*	10	yes	FACU
4. *Trifolium repens*	10	yes	FAC
5. *Plantago lanceolata*	10	yes	FAC
6.			
7.			
8.			
9.			
10.			
11.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft)			
1. *N/A*			
2.			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum 0			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	75	(A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x1 =	0
FACW species	0	x2 =	0
FAC species	0	x3 =	0
FACU species	0	x4 =	0
UPL species	0	x5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☒ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ☒ **No** ☐

Remarks:

Project Site: Parcel 2 and 3, East Bay Redevelopment Site

SOIL Sampling Point: SP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10YR3/3	100					V/G/Sa/L	
3-16+	10YR4/1	100					V/G/Sa	Layer is highly compacted and cemented
								[3]Sa = Sand, Si = Silt, C= Clay, L=Loam
								G= Gravel, M= Muck, P =Peat, V=Very

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Soils are legal fill consisting of extremely compacted sands and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stresses Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	☐	No	☒	Depth (inches):	
Water Table Present?	Yes	☐	No	☒	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	☐	No	☒	Depth (inches):	

Wetland Hydrology Present? **Yes** ☒ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water presence is a result of trapped or "perched" undrained surface water due to the compacted soils onsite. No "High Water Table" present.

Appendix C. Wetland Rating Forms

Wetland name or number A _____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct. 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): A Date of site visit: 11/25/2013

Rated by: Mike Layes, PWS Trained by Ecology? Yes ☒ No ☐ Date of training: 4/20/2006

SEC: 14 TOWNSHP: 18N RNGE: 2W Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure 6 Estimated size ~0.5 acre

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland: ☐ **I** ☐ **II** ☐ **III** ☒ **IV**

Category I =	Score > 70
Category II =	Score 51 - 69
Category III =	Score 30 – 50
Category IV =	Score < 30

Score for Water Quality Functions	**10**
Score for Hydrologic Functions	**6**
Score for Habitat Functions	**8**
TOTAL Score for Functions	**24**

Category based on SPECIAL CHARACTERISTCS of Wetland ☐ **I** ☐ **II** ☒ **Does not apply**

Final Category (choose the "highest" category from above") **IV**

Summary of basic information about the wetland unit.

Wetland Unit has Special Characteristics	
Estuarine	☐
Natural Heritage Wetland	☐
Bog	☐
Mature Forest	☐
Old Growth Forest	☐
Coastal Lagoon	☐
Interdunal	☐
None of the above	☒

Wetland HGM Class used for Rating	
Depressional	☒
Riverine	☐
Lake-fringe	☐
Slope	☐
Flats	☐
Freshwater Tidal	☐
	☐
Check if unit has multiple HGM classes present	☐

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered **animal or plant** species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.	☐	☒
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered **animal** species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).	☐	☒
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*	☐	☒
SP4. *Does the wetland unit have a local significance in addition to its functions?* For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	☐	☒

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands in to those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number A _____

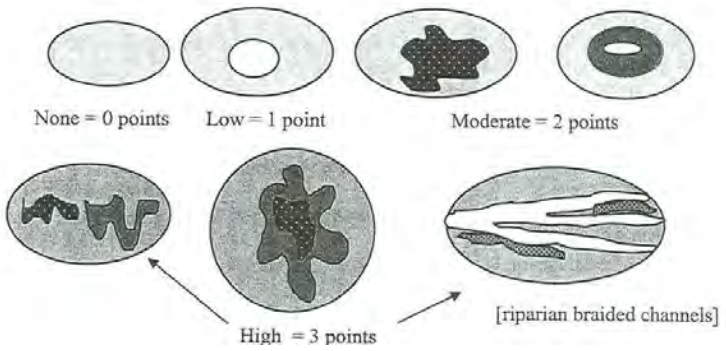
D	Depressional and Flat Wetlands	Points
	WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.	(only 1 score per box)
D 1	**Does the wetland have the <u>potential</u> to improve water quality?**	*(see p.38)*
	D 1.1 Characteristics of surface water flows out of the wetland: • Unit is a depression with no surface water leaving it (no outlet) ..... points = 3 ☐ • Unit has an intermittently flowing, OR highly constricted, permanently flowing outlet ... points = 2 ☐ • Unit has an unconstricted, or slightly constricted, surface outlet (*permanently flowing*) .. points = 1 ☐ • Unit is a "flat" depression (Q.7 on key), or in the Flats class, with permanent surface outflow **and no obvious natural outlet** and/or outlet is a man-made ditch ..... points = 1 ☒ *(If ditch is not permanently flowing treat unit as "intermittently flowing")* **Provide photo or drawing**	**Figure** ☐ **1**
	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (*use NRCS definitions*) **YES** points = 4 **NO** points = 0	0
	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class): • Wetland has persistent, ungrazed vegetation > = 95% of area ..... points = 5 ☐ • Wetland has persistent, ungrazed vegetation > = 1/2 of area ..... points = 3 ☐ • Wetland has persistent, ungrazed vegetation > = 1/10 of area ..... points = 1 ☐ • Wetland has persistent, ungrazed vegetation < 1/10 of area ..... points = 0 ☒ **Map of Cowardin vegetation classes**	**Figure** ☐ **0**
	D 1.4 Characteristics of seasonal ponding or inundation: *This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 years.* • Area seasonally ponded is > 1/2 total area of wetland ..... points = 4 ☒ • Area seasonally ponded is > 1/4 total area of wetland ..... points = 2 ☐ • Area seasonally ponded is < 1/4 total area of wetland ..... points = 0 ☐ **Map of Hydroperiods**	**Figure** ☐ **4**
	Total for D 1 *Add the points in the boxes above*	**5**
D 2	**Does the wetland have the <u>opportunity</u> to improve water quality?**	*(see p. 44)*
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft. of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☒ Residential, urban areas, golf courses are within 150 ft. of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other _____ ☒ **YES** multiplier is 2 ☐ **NO** multiplier is 1	Multiplier 2
◆	**<u>TOTAL</u> – Water Quality Functions** Multiply the score from D1 by D2; then ***add score to table on p. 1***	**10**
	HYDROLOGIC FUNCTIONS – Indicators that wetland unit functions to reduce flooding and stream degradation.	
D 3	**Does the wetland have the <u>potential</u> to reduce flooding and erosion?**	*(see p.46)*
	D 3.1 Characteristics of surface water flows out of the wetland unit • Unit is a depression with no surface water leaving it (no outlet) ..... points = 4 ☐ • Unit has an intermittently flowing, OR highly constricted permanently flowing outlet .... points = 2 ☐ • Unit is a "flat" depression (Q.7 on key) or in the Flats class, with permanent surface outflow **and no obvious natural outlet** and/or outlet is a man-made ditch ..... points = 1 ☒ *(If ditch is not permanently flowing treat unit as "intermittently flowing")* • Unit has an unconstricted, or slightly constricted, surface outlet *(permanently flowing)* ..... points = 0	1
	D 3.2 Depth of storage during wet periods. *Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).* • Marks of ponding are 3 ft. or more above the surface or bottom of the outlet ..... points = 7 ☐ • The wetland is a "headwater" wetland ..... points = 5 ☐ • Marks of ponding between 2 ft. to < 3 ft. from surface or bottom of outlet ..... points = 5 ☐ • Marks are at least 0.5 ft. to < 2 ft. from surface or bottom of outlet ..... points = 3 ☐ • Wetland is flat (yes to Q.2 or Q.7 on key) but has small depressions on the surface that trap water .points = 1 ☐ • Marks of ponding less than 0.5 ft ..... points = 0 ☒	0
	D 3.3 Contribution of wetland unit to storage in the watershed: *Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.* • The area of the basin is less than 10 times the area of unit ..... points = 5 ☒ • The area of the basin is 10 to 100 times the area of the unit ..... points = 3 ☐ • The area of the basin is more than 100 times the area of the unit ..... points = 0 ☐ • Entire unit is in the FLATS class ..... points = 5 ☐	5
	Total for D 3 *Add the points in the boxes above*	6

Wetland name or number A _____

D 4	**Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?** *(see p. 49)* Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. *Note which of the following indicators of opportunity apply.* ☐ Wetland is in a headwater of a river or stream that has flooding problems. ☐ Wetland drains to a river or stream that has flooding problems ☐ Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems ☐ Other _____ ☐ **YES** multiplier is 2 ☒ **NO** multiplier is 1	Multiplier 1
◆	**<u>TOTAL</u> – Hydrologic Functions** Multiply the score from D3 by D4; then ***add score to table on p. 1***	**<u>6</u>**

Comments: _____

Wetland name or number A _____

These questions apply to wetlands of all HGM classes.		**Points** (only 1 score per box)
	HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.	
H 1	**Does the wetland have the <u>potential</u> to provide habitat for many species?**	
	H 1.1 <u>Vegetation structure</u> *(see P. 72)*: *Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres.* ☐ Aquatic Bed ☒ Emergent plants ☐ Scrub/shrub (areas where shrubs have > 30% cover) ☐ Forested (areas where trees have > 30% cover) *If the unit has a forested class check if:* ☐ The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon. *Add the number of vegetation types that qualify. If you have:* **Map of Cowardin vegetation classes** 4 structures or more ..... points = 4 ☐ 3 structures ..... points = 2 ☐ 2 structures ..... points = 1 ☐ 1 structure ..... points = 0 ☒	**Figure** ☐ **0**
	H 1.2 <u>Hydroperiods</u> *(see p.73)*: *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods).* ☐ Permanently flooded or inundated — 4 or more types present — points = 3 ☐ ☒ Seasonally flooded or inundated — 3 or more types present — points = 2 ☐ ☐ Occasionally flooded or inundated — 2 types present — points = 1 ☒ ☒ Saturated only — 1 type present — points = 0 ☐ ☐ Permanently flowing stream or river in, or adjacent to, the wetland ☐ Seasonally flowing stream in, or adjacent to, the wetland ☐ **Lake-fringe wetland ..... = 2 points** ☐ **Freshwater tidal wetland ..... = 2 points** **Map of hydroperiods**	**Figure** ☐ **1**
	H 1.3 <u>Richness of Plant Species</u> *(see p. 75)*: Count the number of plant species in the wetland that cover at least 10 ft^2 *(different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle.* If you counted: > 19 species ..... points = 2 ☐ 5 – 19 species ..... points = 1 ☒ List species below if you want to: < 5 species ..... points = 0 ☐ _____	1
	H 1.4 Interspersion of Habitats *(see p. 76)*: Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always "high". **Use map of Cowardin classes.**	**Figure** ☐ **0**
	H 1.5 <u>Special Habitat Features</u> *(see p. 77)*: *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ☐ Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland ☐ Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet turned grey/brown)* ☐ At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants *NOTE: The 20% stated in early printings of the manual on page 78 is an error.*	1
	H 1 TOTAL Score – potential for providing habitat *Add the points in the column above*	**3**

Wetland name or number A _____

H 2	**Does the wetland have the <u>opportunity</u> to provide habitat for many species?**	(only 1 score per box)
	H 2.1 <u>Buffers</u> *(see P. 80)*: *Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed".* ☐ 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)..... **points = 5** ☐ 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference ..... **points = 4** ☐ 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference ..... **points = 4** ☐ 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference ..... **points = 3** ☐ 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference ..... **points = 3** **If buffer does not meet any of the criteria above:** ☐ No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. Light to moderate grazing or lawns are OK ..... **points = 2** ☐ No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK ..... **points = 2** ☒ Heavy grazing in buffer ..... **points = 1** ☐ Vegetated buffers are < 2m wide (6.6 ft) for more than 95% circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) ..... **points = 0** ☐ Buffer does not meet any of the criteria above ..... **points = 1** **Arial photo showing buffers**	**Figure ☐** **1**
	H 2.2 <u>Corridors and Connections</u> *(see p. 81)* H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? *(Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).* ☐ **YES** = **4 points** (go to H 2.3) ☒ **NO** = go to H 2.2.2 H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR a Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? ☐ **YES** = **2 points** (go to H 2.3) ☒ **NO** = go to H 2.2.3 H. 2.2.3 Is the wetland: • Within 5 mi (8km) of a brackish or salt water estuary OR • Within 3 miles of a large field or pasture (> 40 acres) OR ☒ **YES** = 1 point • Within 1 mile of a lake greater than 20 acres? ☐ **NO** = 0 points	1

Comments: _____

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 82): *(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)*
Which of the following priority habitats are within 330 ft. (100m) of the wetland unit?
NOTE: the connections do not have to be relatively undisturbed.

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
- ☐ **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*).
- ☐ **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- ☐ **Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. **(**Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.
- ☐ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158*).
- ☐ **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ☐ **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*).
- ☐ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- ☒ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).*
- ☐ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- ☐ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ☐ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats **= 4 points**
If wetland has **2** priority habitats = **3 points**
If wetland has **1** priority habitat **= 1 point**
No habitats = 0 points → **1**

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.
Nearby wetlands are addressed in question H 2.4)

H 2.4 Wetland Landscape: *Choose the **one** description of the landscape around the wetland that best fits (see p. 84)*

- There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.... points = 5 ☐
- The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile ..... points = 5 ☐
- There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. ..... points = 3 ☐
- The wetland fringe on a lake **with** disturbance and there are 3 other lake-fringe wetlands within 1/2 mile ..... points = 3 ☐
- There is at least 1 wetland within 1/2 mile ..... points = 2 ☒
- There are no wetlands within 1/2 mile..... points = 0 ☐

→ **2**

H 2 TOTAL Score – opportunity for providing habitat *Add the scores from H2.1, H2.2, H2.3, H2.4* → **5**

TOTAL for H 1 from page 8 → **3**

◆ **Total Score for Habitat Functions** Add the points for H 1 and H 2; then ***record the result on p. 1*** → **8**

Comments: _____

Appendix C

Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

August 10, 2011

Ms. Alex Smith
Sr. Environmental Program Manager & Environmental Legal Counsel
Port of Olympia
915 Washington Street NE
Olympia, WA 98501

Re: Transmittal of Ecology Acceptance on the *Empirical Evaluation of the Potential for Soil Contaminants to Migrate to Surface Water Via Groundwater at the Port of Olympia's East Bay Redevelopment Site,* Prepared for the Port of Olympia by Pioneer Technologies Corporation, May 2011; East Bay Redevelopment, Olympia, Washington, Ecology Facility/Site No. 5785176, Agreed Order DE5471.

Dear Ms. Smith:

Thank you for submitting the above-referenced revised Empirical Evaluation report for our review in response to our May 16, 2011 comment letter. We have no further comments on this report. **Therefore, we consider the above-referenced report to be approved.**

If you have any questions, please contact me at (360) 407-6247 or via e-mail at steve.teel@ecy.wa.gov.

Sincerely,

SSTeel

Steve Teel, LHG
Site Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

ST/ksc:Final Approval EMP GW 8102011

By certified mail: (7010 1670 0002 4158 9025)

cc: Mr. Troy Bussey, PIONEER Technologies Corporation
Mr. Tom Morrill – City Attorney
Mr. Chris Cleveland, Brown and Caldwell
Ms. Maggie Yowell, Attorney, FOSTER PEPPER PLLC
Rebecca Lawson - Department of Ecology
Scott Rose – Department of Ecology
Ivy Anderson – Office of the Attorney General

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May 31, 2011

Mr. Steve Teel, L.HG.
Washington State Department of Ecology
Toxics Cleanup Program – Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Subject: Final *Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water Via Groundwater at the East Bay Redevelopment Site*

Dear Mr. Teel:

On behalf of the Port of Olympia, I am enclosing a final report titled "Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water Via Groundwater at the East Bay Redevelopment Site" for your review and approval. This final report was prepared pursuant to your May 16, 2011 letter accepting and commenting on the September 2010 version of the report, and my May 25, 2011 response letter.

As with the September 2010 version of the report, I am providing one complete hardcopy of the entire final report and a second hardcopy that includes the appendices on a CD. Please note that the May 2011 appendices are exactly the same as the appendices in the September 2010 version of the report.

If you have questions about the enclosed report, please feel free to contact me at 570-1700.

Respectfully,

Troy Bussey Jr., P.E. (WA, CA), L.G. (WA), L.HG. (WA)
Senior Professional Engineer

Enclosure

Electronic copies of report distributed to:
- Mr. Scott Rose, Washington State Department of Ecology
- Mr. Rick Anderson, Port of Olympia
- Mr. Eric Hielema, LOTT Clean Water Alliance
- Mr. Jay Burney, City of Olympia
- Mr. Josh Johnson, Brown and Caldwell

Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water Via Groundwater at the East Bay Redevelopment Site

PREPARED FOR:

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OLYMPIA, WA 98501

IN COORDINATION WITH:

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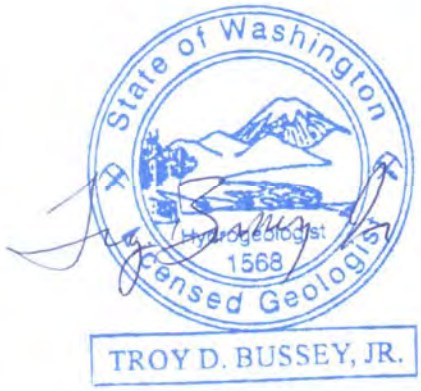
MAY 2011

This document was prepared under my direction. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete.



05/31/11

Troy D. Bussey Jr., P.E., L.G., L.HG. Date
Senior Professional Engineer
PIONEER Technologies Corporation
Washington PE Registration No. 38877
Washington L.G. and L.HG. Registration No. 1568

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ACRONYMS AND ABBREVIATIONS

Acronym	Explanation
AO	Agreed Order
ARAR	Applicable or Relevant and Appropriate Requirement
BGS	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Cleanup Action Plan
CFR	Code of Federal Regulations
City	City of Olympia
CLARC	Cleanup Levels and Risk Calculations
COI	Constituent of Interest
COPC	Constituent of Potential Concern
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons
CSEM	Conceptual Site Exposure Model
CWA	Clean Water Act
DAL	Dragon Analytical Laboratory
Dioxins/Furans	Chlorinated Dibenzo-p-dioxins and Chlorinated Dibenzofurans
Ecology	Washington State Department of Ecology
EIMS	Environmental Information Management System
FS	Feasibility Study
GWM	Groundwater Monitoring
IA	Interim Action
IAWP	Interim Action Work Plan
LOTT	LOTT Clean Water Alliance
LNAPL	Light Non-Aqueous Phase Liquid
MTCA	Model Toxics Control Act
MW	Monitoring Well
NGVD 29	1929 National Geodetic Vertical Datum
NTU	Nephelometric Turbidity Units
PACE	PACE Analytical Services
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PIONEER	PIONEER Technologies Corporation
Port	Port of Olympia
PQL	Practical Quantitation Limit
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
SAP	Sampling and Analysis Plan
site	East Bay Redevelopment Site

Acronym	Explanation
SVOC	Semi-volatile Organic Compound
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons in the Diesel Range
TPH-G	Total Petroleum Hydrocarbons in the Gasoline Range
TPH-HO	Total Petroleum Hydrocarbons in the Heavy Oil Range
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
WSDOH	Washington State Department of Health

SECTION 1 – INTRODUCTION

1.1. East Bay Redevelopment Project

The Port of Olympia (Port), in conjunction with a wide variety of partners (e.g., State of Washington, City of Olympia [City], LOTT Clean Water Alliance [LOTT], Hands On Children's Museum) are redeveloping the downtown Olympia property known as the East Bay Redevelopment Project. Cleanup activities pursuant to Model Toxics Control Act (MTCA) regulations are being conducted in conjunction with redevelopment. This Brownfield redevelopment project is very important to the Port, its partners, and the Olympia community due to the project's anticipated role in revitalizing downtown Olympia. The location of the project is shown on Figure 1.

The Port currently owns six parcels within the East Bay Redevelopment Project boundary (Parcels 1, 2, 3, 6, 7, and 9).[1] LOTT and the City purchased Parcel 4 and Parcel 5, respectively, from the Port in June 2010.[2] LOTT purchased Parcel 8 from the Port in 2009.[3] The locations of the abovementioned parcels are shown on Figure 2.

In 2010, the Port completed installation of utilities, roads, sidewalks, and associated cleanup activities within the public right-of-ways of the East Bay Redevelopment Project in order to facilitate ongoing and pending redevelopment (PIONEER 2010). LOTT completed construction of the LOTT Administrative Building and Water Education and Technology Center on its property (including Parcel 8) in 2010. Construction of the Hands On Children's Museum on Parcel 5 and a public plaza on Parcel 4 is scheduled to occur in 2010 and 2011. The Port has a conceptual plan for construction of a variety of mixed-use, urban buildings (e.g., commercial office space, retail/restaurants, a hotel, parking, and urban housing such as condominiums above ground-level retail) on the other six parcels.

1.2. Report Purpose

The purpose of this report is to evaluate empirical data at the Port's East Bay Redevelopment site (site) in accordance with MTCA regulations in Washington Administrative Code (WAC) 173-340-747(9) and 173-340-747(10)(c) in order to determine if constituents in soil will leach to groundwater and subsequently be transported to surface water. This report will support the Remedial Investigation (RI) / Feasibility Study (FS) Report for the site, and will be included as an appendix to the RI/FS Report.

[1] The addresses for Port property known as Parcels 1, 2, 3, 6, 7, and 9 are 715 Olympia Avenue NE/724 State Avenue NE, 625 Olympia Avenue NE, 510 State Avenue NE, 427 Marine Drive NE, 517 Marine Drive NE, and 323 Jefferson Street NE, respectively.

[2] The address for the LOTT property known as Parcel 4 is 325 Marine Drive NE. The address for the City of Olympia property known as Parcel 5 is 410 Jefferson Street NE.

[3] The address for the LOTT property known as Parcel 8 is 421 Jefferson Street NE.

SECTION 2 – SITE BACKGROUND

2.1. Site Description

The approximately 14.6-acre site is located in the southeast corner of the Port Peninsula adjacent to the East Bay of Budd Inlet, Olympia, Washington (see Figure 2).[4,5] The site has been used for commercial and light industrial purposes from the late 1800s to 2008 (e.g., wood processing and milling operations from the late 1800s to mid 1900s; warehouse and storage operations since circa 1970). More detailed information about site history, features, and land uses are presented in the RI Work Plan (RIWP) (GeoEngineers and PIONEER 2008).

2.2. Regulatory Context

The site originally entered into Washington State Department of Ecology's (Ecology's) Voluntary Cleanup Program per WAC 173-340-515 in 2007. Subsequently, the Port and Ecology entered Agreed Order (AO) DE5471 for the site in October 2008. In AO DE5471, the Port agreed to submit to Ecology a RIWP, Interim Action (IA) Work Plan (IAWP) for infrastructure improvements, IA Report for infrastructure improvements, RI Report, Supplemental RIWP (if necessary), and Supplemental RI Report (if necessary). The Infrastructure IAWP was approved by Ecology in May 2009. The RIWP was approved by Ecology in September 2009. The Infrastructure IA Report was approved by Ecology in June 2010.

In September 2010, the Port, City, LOTT, and Ecology entered AO DE7830, which supersedes AO DE5471. In AO DE7830, the Port, City, and LOTT agreed to submit to Ecology a Site Boundary Technical Memorandum, Data Gap Work Plan (if necessary), RI/FS Report, draft Cleanup Action Plan (CAP), and Parcels 4 and 5 IA Report. The Parcels 4 and 5 IAWP was included as an exhibit to AO DE7830. Although not a specified deliverable in AO DE7830, this soil-to-surface water empirical evaluation report is a key document supporting the site-wide RI/FS Report. In addition, a previous draft version of this report provided preliminary support to the Parcels 4 and 5 IAWP.

WAC 173-340-747 offers options for determining soil concentrations that are protective of groundwater (as well as potential groundwater migration to surface water). One of the acceptable approaches for evaluating this potential transport pathway is with empirical demonstration procedures in WAC 173-340-747(9) and WAC 173-340-747(10)(c). This report documents the empirical evaluation conducted in

[4] The final site boundary has not been determined yet. For the purposes of this report only, the site boundary is currently defined as shown on Figure 2.

[5] Although Parcel 8 is part of the overall East Bay Redevelopment Project, Parcel 8 is not part of the East Bay Redevelopment site. Parcel 8 is part of the LOTT Expansion site.

accordance with WAC 173-340-747(9) and WAC 173-340-747(10)(c). This empirical evaluation is designed to support development of soil cleanup levels and remediation levels in the site-wide RI/FS.

The adjacent 3.4-acre LOTT Expansion site (which includes Parcel 8) is owned by LOTT and is being addressed by LOTT as a separate Voluntary Cleanup Program site. This soil-to-surface water empirical evaluation report does not address the LOTT Expansion site. However, groundwater data from LOTT Expansion site Monitoring Wells (MWs) MW02R and MW17 are mentioned in this report and included in the preliminary screening of groundwater results since these MWs were part of the original MW network prior to creation of the LOTT Expansion site.

2.3. Groundwater Investigation Chronology

Table 1 summarizes the groundwater-related investigation chronology for the site. In general terms, groundwater-related investigation activities have been documented in the following major deliverables:

- The December 20, 2007 draft RI/FS and Conceptual CAP comprehensively documents most of the relevant groundwater investigation activities conducted in 2007 (GeoEngineers 2007d). Key excerpts of supporting groundwater information from the December 20, 2007 report are included in Appendix A of this report.
- The October 22, 2008 RIWP (GeoEngineers and PIONEER 2008) documents the groundwater investigation approach to be used during the RI as well as the groundwater investigation activities conducted between December 2007 and October 2008 (e.g., sampling of MW16 in July 2008, tidal study and dewatering pilot test conducted by Greylock Consulting).
- This report documents all groundwater-related investigation activities conducted pursuant to the October 22, 2008 RIWP (GeoEngineers and PIONEER 2008). In addition, this report includes key excerpts from previous reports (e.g., GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers 2007d, GeoEngineers and PIONEER 2008).

SECTION 3 – HYDROLOGIC SETTING

3.1. Topography and Drainage

The site is relatively flat, with ground surface elevations ranging from approximately 9 to 12 feet based on the National Geodetic Vertical Datum of 1929 (NGVD29). The average annual precipitation for Olympia between 1897 and 2008 was 50 inches (Thurston County 2010).

Before the former on-site warehouses were demolished in 2008, the majority of the site was covered with buildings or pavement. Several catch basins and outfall culverts associated with the City's storm water collection and conveyance system were formerly located on the site. These catch basins and culverts have since been demolished as part of Infrastructure IA construction activities.

Since the former warehouses were demolished in 2008, the majority of the site has been covered with crushed rock, bare land, or grass. A new storm water collection and conveyance system was constructed along the infrastructure corridor as part of the IA infrastructure improvements. The majority of the site will be covered by buildings, pavement, or hardscaped features following site development activities, with drainage eventually flowing towards the paved roads and this new storm water collection and conveyance system.

Ponded water has been present in the southeast corner of Parcel 3 since at least 2006. Since other investigation activities have ruled out the most plausible explanations for this ponded water (e.g., artesian well, leaking water main), it is speculated that this ponded water represents natural artesian flow resulting from a previous breach of the regional confining layer (GeoEngineers 2007c).

3.2. Geologic Setting

The primary soil type and lithologic unit of interest for this report is fill material. The site is situated on fill material deposited during a series of fill events occurring since the late 1800s. The fill material is generally sandy gravel or gravelly sand, with some silt and woody debris. The fill material includes dredge spoils from Budd Inlet, debris derived from historical lumber milling operations (e.g., wood debris and shredded wood), construction debris, and more recent gravel roadway fill. Fill thicknesses under the site are typically on the order of five to 15 feet (GeoEngineers and PIONEER 2008, PIONEER 2009a, Landau Associates 2009).

Native sand, silts, and clays underlie the fill material. Of note is the presence under the site of the regional confining layer which creates artesian groundwater conditions in Olympia. The low-permeability silt and clay deposits are estimated to be at least 30 feet thick under the site (GeoEngineers and PIONEER 2008, Landau Associates 2009). Additional geologic information is presented in the RIWP (GeoEngineers and PIONEER 2008).

3.3. Hydrogeologic Setting

This section summarizes the hydrogeologic setting in order to provide context for subsequent report sections. Please note that this text is partially based on data collected from on-site MWs that are presented in subsequent sections of this report. The locations of on-site MWs are shown on Figure 2.

3.3.1 General Characteristics

The hydrogeologic unit of interest for this report is the groundwater bearing unit located within the fill material, which is the shallowest groundwater encountered at the site. Groundwater can be encountered within this unit at depths ranging from ground surface to approximately 11 feet below ground surface (bgs), depending on location and tidal fluctuation. The direction of groundwater flow is generally to the northeast, although localized variations do exist. Most notably, a groundwater mound is present in Parcel 3, which is likely associated with natural artesian flow conditions as mentioned in Section 3.1. The groundwater gradient is on the order of 0.01 foot/foot, although localized variations likely exist. The discharge location for site groundwater is the East Bay of Budd Inlet (e.g., Seep #1 through Seep #4 as shown in Figure 2). However, due to tidal influence of near-shore groundwater, shallow on-site groundwater contributes a minimal amount of water flowing into East Bay at Seep #1 through Seep #4 (see Sections 4.3 and 5.3). In other words, the majority of water flowing into East Bay at these locations is a release of marine water from bank storage rather than groundwater.

3.3.2 Tidal Fluctuations

Two formal tidal influence studies have been conducted at the site for the uppermost groundwater-bearing zone. Documentation from these two studies is included in Appendix B. The first study was conducted by GeoEngineers in February 2007 over an approximately 72-hour period using four MWs in Parcel 3 (MW05, MW06, MW07, and MW09). This first study concluded that shallow groundwater within Parcel 3 does not appear to be tidally influenced (GeoEngineers 2007b). A second tidal study was conducted by Greylock Consulting. The Greylock Consulting study compared low tide and high tide groundwater elevations during a 15.8-foot tidal fluctuation on July 16, 2008. Since significant changes in groundwater elevation were only observed in MW12 and MW18, the Greylock Consulting study concluded that tidal influence on groundwater elevations is limited to the area of coarse fill within 110 feet of the shoreline (Greylock Consulting 2008a).

Subsequent to these two formal tidal influence studies, additional tidal information has been gained. Salinity concentrations measured during groundwater monitoring (GWM) events conducted between June 2009 and August 2010 indicate that marine water mixes with groundwater in MW04, MW12, MW16, and MW18 (all of which are located relatively close to the shoreline). In addition, salinity measurements and anecdotal trench observations in Infrastructure IA trenches (Port of Olympia 2009) suggest that the tidal influence may extend further inland at certain locations and/or times. A quantifiable example of this was the nearly one-foot tidal fluctuation that was observed in MW03 during the Greylock Consulting tidal study, which was apparently assumed to be anomalous at the time of the report. However, this tidal change was later supported by salinity concentrations in MW03 (See Sections 5.3 and 6.1).

3.3.3 Seasonal Fluctuations

There does not appear to be significant seasonal fluctuation within the uppermost groundwater-bearing zone as discussed in Sections 5.1 and 6.1. Any seasonal fluctuation is likely relatively insignificant compared to tidal fluctuation in the context of potential constituent transport from soil to surface water via groundwater.

3.3.4 Other Hydrogeologic Considerations

The presence of artesian wells was considered an important hydrogeologic consideration at the time the RIWP was prepared. The Port has subsequently conducted a significant amount of work to locate potential artesian wells and then decommission probable wells. Appendix C includes the relevant documentation related to the search for and decommissioning of artesian wells at the site. In summary, investigation work included literature searches, geophysical surveys, and exploratory excavations. Only one definite artesian well (designated as AW-1) was discovered on site. The location of AW-1 is shown in Appendix C. AW-1 was decommissioned between July 20 and July 21, 2009. A second suspected artesian well (designated as AW-2) was determined to be non-existent upon closer inspection.

Another hydrogeologic consideration is dewatering of utility trenches that occurred during the Infrastructure IA. From June 2009 until at least March 2010 (but no later than May 2010), Stan Palmer Construction periodically pumped groundwater to assist with utility infrastructure construction. Pumping associated with groundwater dewatering was not occurring during the June 2009, September 2009, or March 2010 GWM events, but groundwater was periodically pumped from a location approximately 100 feet northeast of MW16 during the November 2009 and December 2009 GWM events. Due to the extremely limited radius of influence associated with Stan Palmer Construction's point-localized and relatively short duration dewatering efforts, there is no anticipated impact on the GWM results from this pumping. As shown in Appendix D, the radius of influence associated with pumping up to 20 gallons per minute was measured to be less than 100 feet during a pilot dewatering test (Greylock Consulting 2008b). This limited influence was further supported by Stan Palmer Construction's inability to achieve suitable drawdown within utility trenches when using dewatering wells located adjacent to the trenches (Port of Olympia 2009). The only effective method that Stan Palmer Construction was able to use to achieve suitable drawdown within the utility trenches was direct pumping from the utility trenches (Port of Olympia 2009).

3.4. Downgradient Surface Water (East Bay)

As shown in Figure 2, the East Bay of Budd Inlet is located northeast of the site. East Bay is located downgradient of shallow site groundwater. Shallow groundwater discharges to East Bay at Seep #1 through Seep #4 (although the percentage of fresh water relative to sea water in these seeps is relatively low as discussed in Sections 4.3 and 5.3). Tidal fluctuations within Budd Inlet near Olympia can be up to 18 feet (Ecology 2010a). Tidal mud flats are present daily within the portion of East Bay located downgradient of the site. East Bay is a Category 5 impaired water body on the Clean Water Act (CWA) 303(d) impaired water list due to polychlorinated biphenyls (PCB) contamination, carcinogenic

polycyclic aromatic hydrocarbons (cPAHs) contamination, and decreased dissolved oxygen concentrations (Ecology 2010b). A Category 5 impaired water body means that water quality standards have been exceeded for one or more constituents (Ecology 2010b).

Moxlie Creek flows into the south end of East Bay, but is not directly linked to the groundwater and surface water flow system in this area since the creek is contained within enclosed pipes that extend for greater than ½ mile from Union Avenue to its discharge at East Bay (City of Olympia 2010). Moxlie Creek is a Category 5 impaired water body on the CWA 303(d) impaired water list due to fecal coliform contamination (Ecology 2010b).

3.5. Potential Groundwater-Based Exposure Pathways

A conceptual site exposure model (CSEM) has been developed for the site. The most recent CSEM is included in the Infrastructure IAWP (PIONEER 2009a). This section discusses potentially complete groundwater-based exposure pathways associated with the construction phase and future land use that are included in the most recent CSEM in light of new information and further evaluation.

There is no construction-phase or anticipated future use of on-site groundwater as drinking water. In addition, there are no potential future drinking water beneficial uses that could be impacted by the site for the following reasons:

- A suitable drinking water well could not be installed in shallow on-site groundwater per WAC 173-340-720(2)(b)(i) given the regulatory requirements of Chapter 173-160 WAC and Chapter 246-190 WAC, the extremely shallow depth to water, the low sustainable yield available from shallow groundwater, and the proximity to salt water.
- There is no fresh groundwater located within the shallow groundwater bearing zone downgradient of the site since shallow groundwater mixes with marine water on site prior to discharge to Budd Inlet.
- The shallow groundwater bearing zone is separated from the next deepest groundwater bearing unit, which is the confined artesian aquifer, by at least 30 feet of low permeability silts and clays that compose the regional aquitard (GeoEngineers and PIONEER 2008, Landau Associates 2009). Because this regional aquitard separates the groundwater bearing zones and because there is an upward vertical gradient between the shallow groundwater bearing zone and the deeper confined aquifer (i.e., the static water levels in the monitoring wells completed within the shallow groundwater bearing zone are below ground surface while the static water levels in former on-site artesian wells were above ground surface), it is not possible for any constituents in the shallow groundwater bearing zone to migrate downward to deeper aquifers.
- Budd Inlet is not a current or potential source of drinking water because it is comprised of salt water.

In addition, there are no complete and significant exposure pathways associated with dermal contact with shallow groundwater for the following reasons:

- Dermal contact with groundwater in utility excavations by construction-phase utility installation workers and utility installation trespassers are incomplete pathways since utility construction is complete.
- Dermal contact with groundwater by future utility workers is an insignificant pathway given constituent concentrations observed in groundwater and expectations for engineering controls and health and safety measures to be in place for future subsurface construction activities.
- Dermal contact with ponded groundwater in Parcel 3 by construction-phase trespassers is an insignificant pathway given existing engineering controls (e.g., site control measures), the reasonable maximum exposure frequency and exposure duration for any trespassers, and constituent concentrations in MW06 and MW22S.
- Dermal contact with ponded groundwater in Parcel 3 by future receptors is an incomplete pathway since the ponded water is not part of future development plans and will be addressed prior to future land use.

Thus, there are no complete and significant groundwater exposure pathways for the site.

Surface water exposure pathways associated with Budd Inlet (i.e., aquatic ecological pathways, incidental ingestion of and dermal contact with surface water by recreators and subsistence fishers, consumption of seafood by recreators and subsistence fishers) are likely incomplete or insignificant for a variety of reasons such as low constituent concentrations detected in site groundwater, minimal percentage of fresh groundwater entering Budd Inlet at Seep #1 through Seep #4, lack of resident fish populations due to the daily presence of tidal mud flats, limited migratory salmon fishing potential (PIONEER 2009a), lack of designated public beach area or public swimming facilities within the portion of Budd Inlet located downgradient of the site, and the fact that Budd Inlet is closed to recreational shellfish harvesting (Washington State Department of Health [WSDOH] 2009) and commercial shellfish growing (WSDOH 2007b). Nonetheless, surface water exposure pathways are being considered potentially complete and significant for the purposes of this report at the request of Ecology.

3.6. Transport Pathways Being Evaluated in this Report

Because aquatic ecological and human exposures associated with East Bay surface water are currently being considered as potentially complete and significant exposure pathways as described in the previous section, this report evaluates potential transport from soil-to-surface water via groundwater. This report does not evaluate potential transport from soil-to-groundwater because there are no complete and significant groundwater exposure pathways (see Section 3.5).

SECTION 4 – GROUNDWATER SAMPLING AND ANALYSIS PROCEDURES

The purpose of this section is to document the groundwater sampling and analysis procedures used at the site. This section primarily focuses on groundwater sampling and analysis activities conducted pursuant to AO DE5471 because these activities have not been formally documented previously and pre-AO activities have already been formally documented (i.e., GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers 2007d).

4.1. MW Installation and Development

As formally documented in the Draft RI/FS and Conceptual CAP (GeoEngineers 2007d), MW01 through MW20 were installed in 2007 by a licensed Washington driller in accordance with Chapter 173-160 WAC Part II. Appendix A is an excerpt of draft RI/FS and Conceptual CAP document by GeoEngineers and includes the MW installation and development field procedures used by GeoEngineers as well as MW construction logs for MW01 through MW20.

MW21S through MW25S and MW02R were installed in 2009 by a licensed Washington driller in accordance with Chapter 173-160 WAC Part II. A truck-mounted, hollow-stem auger drill rig was used to drill the borehole for each MW. Each MW was constructed with thread-coupled, flush-joint, two-inch diameter polyvinyl chloride (PVC) casing, five feet or 10 feet of 10-slot PVC screen, and a sand filter pack extending above the top of the screen. A variance from the filter pack requirements in WAC 173-160-450(1) was necessary and granted for some of these MWs due to the extremely shallow screen intervals (Ecology 2009a). Each MW was developed by overpumping with a submersible pump and/or hand bailing until the development water contained no visible sediment. Field notes and logs associated with installation and development of MW21S through MW25S and MW02R (as well as decommissioning of MW02 and MW05 – two MWs that were decommissioned in 2009 due to being located within new roadways) are included in Appendix E.

A summary of relevant construction details for all current and former MWs is included in Table 2. The locations of all current and former MWs are shown in Figure 2.

4.2. MW Survey

A licensed surveyor from Skillings Connolly performed a vertical and horizontal survey for all MW locations. The vertical elevation of the top of the PVC casing was surveyed to an accuracy of 0.01-foot with the NGVD29 datum. It should be noted that the surveyed vertical elevations for MW07 and MW12 were updated in September 2009 because the surface seals for these two MWS were adjusted between the June 2009 and September 2009 GWM events as a result of Infrastructure IA construction activities. Surveying documentation provided by the surveyor is included in Appendix F.

4.3. Groundwater Monitoring Procedures

Appendix A includes an excerpt of the GWM procedures used by GeoEngineers for the January 2007 and June-August 2007 GWM events (GeoEngineers 2007d). It is assumed that GeoEngineers did not measure for light non-aqueous phase liquid (LNAPL) with an interface probe while obtaining groundwater measurements during these GWM events since no records of such activity was discovered during a review of the GeoEngineers investigation reports (GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers 2007d). It is also assumed that all metals analyses for groundwater samples collected by GeoEngineers represent total metals since it is unclear based on a review of the GeoEngineers investigation reports (GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers 2007d) as to whether or not samples were field filtered.

PIONEER Technologies Corporation (PIONEER) conducted the June 2009 through August 2010 GWM events using the following field procedures:

- For each MW being sampled during a given GWM event, an electronic interface probe was used to measure depth to water to the nearest 0.01-foot from the top of the PVC casing as well as any measurable LNAPL thickness in the MW. Water level measurements during the March 2010 and August 2010 GWM events were obtained synoptically. Water level measurements during the June 2009 through December 2009 GWM events were not obtained synoptically because the RIWP did not specify collection of synoptic measurements and previous tidal studies had concluded there was minimal tidal influence at the site.
- The following low-flow purging standard operating procedures were used to purge water from each MW being sampled. A peristaltic pump, equipped with dedicated polyethylene tubing, was used to purge water from the MW. A variable-frequency drive controller on the pump was used to limit the purging flow rate to less than one liter per minute. During purging, relative water levels were monitored with an interface probe or electronic water level indicator, and water quality parameters such as pH, specific conductivity, total dissolved solids, dissolved oxygen, temperature, oxidation-reduction potential, and salinity were measured with a calibrated YSI 556 water quality meter. In addition, turbidity was measured with a LaMotte 2020e turbidity meter during the March 2010 and August 2010 GWM events. Purging continued until the stabilization criteria shown on the GWM field forms were satisfied. Groundwater samples were collected after the field measurements had stabilized without turning off the pumping system.
- All sample containers (with preservative added as necessary) were supplied by the laboratory conducting the analyses. Sample containers for analyses of volatile organic compounds (VOCs), benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) were filled first. Separate containers were used for analyses of total metals and dissolved metals since the laboratories filtered samples for dissolved metals analysis in the laboratory prior to any scheduled dissolved metals analysis (with the exception of the sample collected from MW13 during the June 2009 GWM event, which was field filtered with a 0.45 micron in-line filter).
- Water quality measurements of pH, specific conductivity, total dissolved solids, dissolved oxygen, temperature, oxidation-reduction potential, and salinity were obtained with a YSI 556

water quality meter from Seep #1 through Seep #4, the Moxlie Creek outfall (freshwater), and the dock at Swantown Marina (which is representative of marine water of Budd Inlet and is located approximately 1,000 feet north of Seep #4) during the June 2009 GWM event. Based on visual observations of the seep locations and a comparison of these water quality measurements with measurements obtained from on-site MWs, it was determined that the water in the four seeps is comprised primarily of marine water being released from bank storage, mixed with a lesser amount of groundwater. As a result, samples were not collected from Seep #1 through Seep #4 during any GWM event in accordance with the RIWP Sampling and Analysis Plan (SAP) (GeoEngineers and PIONEER 2008). Water quality measurements were obtained from Seep #1, Seep #3, and the dock at Swantown Marina during the September 2009 GWM event (readings could not be obtained from Seep #2 or Seep #4 because those seeps were below the surface water level) to confirm the June 2009 GWM measurements.

- Before use at each monitoring location, the affected portions of the non-dedicated GWM equipment were decontaminated in accordance with the RIWP SAP (GeoEngineers and PIONEER 2008).

Copies of the completed PIONEER field forms for the GWM events conducted by PIONEER are included in Appendix G.

4.4. Analytical Procedures

The constituents and analytical methods used for the GWM events were:

- VOCs or BTEX by United States Environmental Protection Agency (USEPA) Method SW846-8260B.
- TPH-G by Ecology Method NWTPH-G.
- TPH in the diesel range (TPH-D) and heavy oil range (TPH-HO) by Ecology Method NWTPH-Dx.
- Semi-volatile organic compounds (SVOCs) or polycyclic aromatic hydrocarbons (PAHs) by USEPA Method SW846-8270C.
- Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver), copper, and nickel by USEPA Methods SW846-6010B (7471 for mercury), SW846-6020A (7470A for mercury), or 200.8.
- PCBs by USEPA Method SW846-8082.
- Chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans) by USEPA Method SW846-8290.

See the groundwater investigation chronology in Table 1 for a list of which analyses were performed during each GWM event. It should also be noted that in accordance with the RIWP SAP (GeoEngineers and PIONEER 2008), not all analyses were performed on every groundwater sample.

The following analytical laboratories performed the analyses:

- Severn Trent Laboratories performed all analyses for the January 2007 GWM event.

- TestAmerica Tacoma performed all analyses for the June-August 2007 GWM event. TestAmerica Tacoma also performed all analyses for the July 2008 sample collected from MW16, with the exception of the dioxins/furans analysis, which was performed by Columbia Analytical Services.
- Dragon Analytical Laboratory (DAL) was the primary laboratory for the June 2009 and September 2009 GWM events.
- Anatek Labs was the primary laboratory for the November 2009 through August 2010 GWM events. Anatek Labs also analyzed a split NWTPH-Dx sample collected during the re-sampling of MW02R in October 2009.
- PACE Analytical Services (PACE) was the secondary laboratory for the June 2009 through December 2009 GWM events. PACE performed all dioxins/furans analyses conducted for the June 2009 through December 2009 GWM events. PACE also performed the analyses of split PAH samples collected during the September 2009 through December 2009 GWM events.

4.5. Deviations from the RIWP SAP

The June 2009 through August 2010 GWM events were conducted pursuant to the RIWP SAP (GeoEngineers and PIONEER 2008). A copy of the RIWP SAP is included in Appendix H. Minor deviations from the SAP are noted in Table 3 along with reasons for the deviations. These minor deviations do not have a significant impact on the use of the groundwater data collected from this site. In fact, many of the deviations were associated with improvements to the SAP methodology or collection of additional data beyond what the SAP specified.

4.6. Disposition of Investigation-Derived Waste

Investigation-derived waste generated during GWM events was handled as follows:

- Water generated by GeoEngineers between January 2007 and July 2008 (i.e., development water, purge water, decontamination water) was temporarily stored on-site in labeled 55-gallon drums before being disposed of off-site.
- Water generated by PIONEER between June 2009 through March 2010 (i.e., development water, purge water, decontamination water) was added to the groundwater treatment system being operated by Clear Water Compliance Systems for Stan Palmer Construction.
- Water generated by PIONEER during the August 2010 GWM event (i.e., purge water, decontamination water) was infiltrated on-site.
- Personal protective equipment (e.g., nitrile gloves) and other disposable sampling equipment were disposed of as solid waste.

SECTION 5 – RESULTS

5.1. Groundwater Elevations

Table 4 shows the measured depth to groundwater and calculated groundwater elevations for all known groundwater measurements. Figures 3 through 9 are groundwater elevation contour maps for the August 2007, June 2009, September 2009, November 2009, December 2009, March 2010, and August 2010 GWM events, respectively. In addition, groundwater elevation contour maps for the July 2008 tidal study are included in Appendix C. Groundwater elevation contour maps were not generated in this report for any of the depth to water measurements prior to August 2007 because the measurements in January 2007, June 2007, and July 2007 included 10 or less MWs. The raw depth to water data for the January 2007, June 2007, and July 2007 measurements, which were documented in previous GeoEngineers investigation reports (GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c), but were not reiterated in the draft RI/FS and Conceptual CAP document (GeoEngineers 2007d) excerpted in Appendix A, are excerpted and included as Appendix I.

Figure 10 presents a hydrograph of groundwater elevations for all MWs.

5.2. LNAPL Measurements

Table 5 presents the results of LNAPL thickness measurements for all GWM events conducted to date. A measurable thickness of LNAPL has not been detected in any MW at the site. In addition, although it is assumed in Table 5 that GeoEngineers did not measure for LNAPL thicknesses when conducting the January 2007 and June-August 2007 GWM events, it is unlikely that LNAPL was present in any MW during those events given the dissolved-phase concentrations of TPH-G, TPH-D, and TPH-HO detected during these GWM events and the likelihood that GeoEngineers investigation reports (GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers 2007d) would have mentioned the presence of a significant petroleum sheen on purge water if it was encountered.

5.3. Water Quality Measurements

Appendix G includes the field measurements of pH, specific conductivity, total dissolved solids, dissolved oxygen, temperature, oxidation-reduction potential, salinity, and turbidity obtained with water quality meters during the June 2009 through August 2010 GWM events.

Field salinity measurements are of particular importance for this report because of what the salinity concentrations indicate about the extent to which marine water mixes with on-site groundwater. Table 6 presents a tabular summary of the salinity concentrations. Salinity concentrations for Puget Sound are typically 20 to 30 parts per thousand (Ecology 2006). Salinity concentrations for freshwater are typically less than 0.5 parts per thousand (Groundwater Foundation 2010). As shown in Table 6, salinity concentrations in Seep #1 through Seep #4 are typical of Puget Sound marine water.

Field turbidity measurements are also of importance for this report because of what the turbidity concentrations indicate about the ability to collect representative groundwater samples for metals analyses. USEPA guidance recognizes that turbidity cannot always be reduced to ambient levels in some MWs even when appropriate MW construction, development, and sampling procedures are used (USEPA 1992, USEPA 2002, USEPA 2010a). Moreover, it is difficult to fully develop very small diameter MWs such as MW01 through MW15, which have diameters ranging from 0.75 inches to 1 inch. Satisfactory long-term MW development may also be difficult in MWs where the groundwater depth is very near ground surface (e.g., MW06, MW22S, MW25S). USEPA guidance indicates that elevated and potentially unacceptable turbidity in a groundwater sample collected from a MW is considered to be greater than 5 nephelometric turbidity units (NTU) (USEPA 1992, USEPA 2010a) or greater than 10 NTU (USEPA 2002). By contrast, it is much easier to consistently achieve low turbidity in developed drinking water wells, which are typically much deeper and have a much larger diameter than MWs. For instance, the turbidity threshold for filtering drinking water sources under Safe Drinking Water Act regulations is typically 1 NTU (USEPA 2010b). USEPA guidance suggests that using filtered samples for metals analyses may be appropriate for groundwater samples collected from MWs with elevated turbidity (e.g., greater than 5 to 10 NTU) since an unfiltered sample may not be representative of actual groundwater conditions in those situations. Table 7 presents a tabular summary of all available turbidity concentrations. As shown in Table 7, 17 of the 20 MWs sampled during the March 2010 and August 2010 GWM events (all MWs except MW07, MW15, and MW21S) had turbidity concentrations in excess of 5 NTU during one or both GWM events. Ten of the 20 MWs sampled during the March 2010 and August 2010 GWM events (MW01, MW08, MW09, MW12, MW13, MW14, MW16, MW20, MW22S, and MW25S) had turbidity concentrations greater than or equal to 10 NTU during one or both GWM events.

5.4. Analytical Laboratory Data

A summary of the groundwater data from the January 2007 and June-August 2007 GWM events that were formally documented in 2007 (GeoEngineers 2007a, GeoEngineers 2007b, GeoEngineers 2007c, GeoEngineers 2007d) is included in Appendix A. The laboratory certificates of analyses and chain-of-custody documentation for the July 2008 sample collected from MW16 are presented in Appendix J. The laboratory certificates of analyses and chain-of-custody documentation for the June 2009, September 2009, November 2009, December 2009, March 2010, and August 2010 GWM events are included in Appendix K, Appendix L, Appendix M, Appendix N, Appendix O, and Appendix P, respectively.

5.5. Data Quality Review

A summary of the data quality review process and results for the June 2009 through August 2010 GWM events are also presented at the end of Appendices K through P, respectively. The data from the GWM events are deemed acceptable for use and comparison with other site data as qualified. Key discussion items resulting from the data quality review are:

- All of the total copper, dissolved arsenic, dissolved lead, dissolved copper, dissolved nickel results from the June 2009 and September 2009 GWM events were assigned a BJ flag as a result

of detections of these constituents in the method blanks. Total nickel results from the September 2009 GWM event were also assigned a BJ flag since total nickel was present in the method blank. In addition, many dissolved metals concentrations were reported higher than the respective total metals concentrations.

- Because the primary laboratory selected to perform groundwater analyses was different than the presumptive laboratory at the time the RIWP Quality Assurance Project Plan (QAPP) was prepared (GeoEngineers and PIONEER 2008), some of the practical quantitation limit (PQL) expectations needed to be adjusted prior to the June 2009 GWM event. Based on personal correspondence with the Ecology Site Manager (Ecology 2009b), some of the QAPP PQL expectations were adjusted as shown in Table 8. Ecology's PQL expectations (Ecology 1995), laboratory capabilities, and likely screening levels were considered when determining the revised PQL expectations. As shown in Table 8, the primary laboratory for the June 2009 and September 2009 GWM events was able to achieve actual PQLs that were equal to or lower than these revised PQL expectations. The primary laboratory for the November 2009 through August 2010 GWM events (which was a different laboratory than the primary laboratory used for the June 2009 and September 2009 GWM events) was not able to achieve the revised PQL expectations for TPH-G, some metals, and PCBs. However, the actual PQLs for TPH-G and metals from the November 2009 through August 2010 GWM events are still reasonable and acceptable for project use. Although the actual PQLs for PCB analyses during the December 2009 GWM event were unacceptable compared to the PQL expectation, the actual method detection limit equaled the PQL expectation and no PCB congeners were detected above the method detection limits.

Although the 20 low-level cPAH detections reported by DAL for the June 2009 and September 2009 GWM events were not rejected in the data quality review based on unacceptable quality control results, all 20 of the DAL cPAH detections were assigned a NJ flag based on the following lines of evidence:

- Based on its soil organic carbon-water partitioning coefficient (Ecology 2009d), one would not expect significant leaching of cPAHs from soil to groundwater.
- As shown in Figure 11, the spatial distribution of the reported cPAH detections from the June 2009 GWM event do not match a typical constituent transport pattern (e.g., soil source, elevated groundwater concentrations underneath the soil source, a gradient of decreasing concentrations in the downgradient direction). Specifically, 17 of the 19 MWs sampled during the June 2009 GWM event (including both upgradient and downgradient MWs) had similar reported concentrations of the two detected cPAH constituents (benzo(a)anthracene and dibenzo(a,h)anthracene). Likewise, cPAHs were reported at identical concentrations in the upgradient MW13 and downgradient MW12 during the September 2009 GWM.
- Widespread cPAH detections have not been reported in the analyses of January 2007 GWM event samples by Severn Trent Laboratories, June-August 2007 GWM event samples by TestAmerica Tacoma, or June 2009 through March 2010 GWM event samples by Anatek Labs and PACE. In addition, the three cPAH detections reported by DAL for the September 2009 GWM event were not replicated in split samples analyzed by PACE as shown in Table 9. It should be noted that the three samples with cPAH detections reported by DAL for the September 2009 GWM event were sequential analyses in the same batch.

- The only two cPAH constituents reported by DAL were benzo(a)anthracene and dibenzo(a,h)anthracene (see Table 9). Since there are not significant differences in the fate and transport properties for individual cPAHs, one would expect cPAH fingerprints in soil and groundwater to be similar if cPAHs were leaching from soil to groundwater. However, as shown in Figure 12, the cPAH profile for RI soil detections are significantly different than the cPAH profile for the DAL reported groundwater detections.
- The instrument responses for the cPAH detections reported by DAL were at or near the PQL. The reported concentrations of benzo(a)anthracene and dibenzo(a,h)anthracene are multiplied by 100 since DAL used a 100-times concentration factor in order to observe any instrument response. These reported concentrations may represent a situation where a laboratory is trying to claim a lower method detection limit and PQL than is appropriate. For instance, many large laboratories including Severn Trent Laboratories, TestAmerica Tacoma, and PACE do not even attempt to report cPAH concentrations at a PQL as low as 0.01 ug/L per cPAH constituent.
- Even with a 100-times concentration factor, DAL had poor instrument responses for benzo(a)anthracene and dibenzo(a,h)anthracene (see PAH chromatograms for the June 2009 GWM event in Appendix Q). Figure 13 shows a chromatogram comparison between a PAH calibration standard, a PAH method blank, and a typical June 2009 GWM sample in which benzo(a)anthracene was reported (MW01). As shown on Figure 13, the chrysene-d12 internal standard is eluting out of the column in the calibration standard and method blank samples at essentially the same 14 minute retention time as benzo(a)anthracene. Yet, in the MW01 chromatogram, the peak at 14 minutes is identified by DAL as benzo(a)anthracene instead of chrysene-d12, or a mixture of the two constituents. Figure 14 shows a chromatogram comparison between a PAH calibration standard, a PAH method blank, and a typical June 2009 GWM sample in which dibenzo(a,h)anthracene was reported (MW01). As shown in Figure 14, dibenzo(a,h)anthracene elutes out of the column in the calibration standard at approximately 20.9 minutes. However, there is no discernable response in either the method blank or MW01 sample at the 20.9 minute retention time. In addition, the almost indistinguishable bump that is labeled as dibenzo(a,h)anthracene in the MW01 chromatogram has a retention time of more than 21.2 minutes.

5.6. Development of Surface Water Screening Levels

Since migration of constituents from soil to surface water (via groundwater) is the transport pathway of concern for this report, surface water screening levels were developed for use in conducting a preliminary screening of constituent concentrations detected in groundwater MWs. Surface water screening levels were developed using the following methodology. The resulting surface water screening level for a given constituent is the most stringent of the following, subject to any necessary natural background and PQL adjustments per WAC 173-340-720(7)(c) and WAC 173-340-730(5)(c):

- Acute aquatic life criterion for marine waters in Chapter 173-201A WAC.
- Acute aquatic life criterion for marine waters in Section 304 of the CWA.
- Acute aquatic life criterion for marine waters in 40 Code of Federal Regulations (CFR) 131.
- Chronic aquatic life criterion for marine waters in Chapter 173-201A WAC.

- Chronic aquatic life criterion for marine waters in Section 304 of the CWA.
- Chronic aquatic life criterion for marine waters in 40 CFR 131.
- Human health criterion for marine waters in Section 304 of the CWA.
- Human health criterion for marine waters in 40 CFR 131.
- MTCA Standard Method B surface water formula value for non-carcinogens from MTCA Equation 730-1.
- MTCA Standard Method B surface water formula value for carcinogens from MTCA Equation 730-2.

These surface water screening levels are extremely conservative for use in evaluating constituent concentrations in groundwater MWs for the following reasons:

- It is assumed that the soil-to-surface water (via groundwater) transport pathway is complete.
- It is assumed that all potential surface water exposure pathways are complete and significant (in spite of the rationale presented in Section 3.5).
- Conservative default surface water exposure assumptions are used instead of site-specific exposure assumptions.
- No attenuation is assigned along the groundwater migration pathway or for the mixing of groundwater water and surface water. In other words, constituent concentrations in groundwater MWs are being used to conservatively estimate constituent concentrations in surface water.
- Maximum constituent concentrations in all MWs are being considered as opposed to concentrations in just the MWs located immediately upgradient of surface water or a 95th upper confidence level on the mean groundwater concentration across the site.

5.7. Groundwater COPCs and Results

Table 10 presents a preliminary screening of all groundwater constituents of interest (COIs) in order to determine groundwater constituents of potential concern (COPCs) that warrant additional evaluation and discussion. A groundwater COI is defined as any constituent that has ever been analyzed in groundwater at the site. Groundwater COPCs are defined as any constituent that has been detected in groundwater at least once above its surface water screening level calculated in accordance with Section 5.6. All groundwater data collected to date from all current and former MWs (including LOTT Expansion Site's MW02R and MW17) were considered in this screening process. Total metals results rather than dissolved metals results were used for conservatism in the screening process. As shown in Table 10, the following constituents are considered groundwater COPCs for the purposes of this report:[6]

- Arsenic
- Chromium
- Copper
- Lead
- Nickel

[6] If dissolved metals results rather than total metals results were used for determining groundwater COPCs, chromium and lead would not be COPCs.

- Total cPAHs
- TPH-D
- TPH-HO

Detailed tables present the constituent concentrations by MW and by GWM event for each of the groundwater COPCs defined above. Table 11 through Table 18 present groundwater concentration results for arsenic, chromium, lead, copper, nickel, total cPAHs, TPH-D, and TPH-HO, respectively.

Although not considered groundwater COPCs for the purposes of this report, detailed groundwater result tables were prepared for the other eight COPCs (i.e., cadmium, TPH-G, benzene, toluene, ethylbenzene, total xylenes, total naphthalenes, and total dioxins/furans) listed in the RIWP (GeoEngineers and PIONEER 2008) and Infrastructure IAWP (PIONEER 2009a) as well as total PCBs, which has been a constituent of elevated interest for Ecology. Tables 19 through Table 27 present groundwater concentration results for total cadmium, TPH-G, benzene, toluene, ethylbenzene, total xylenes, total naphthalenes, total dioxins/furans, and total PCBs, respectively.

As shown in Table 11 through Table 27, there have been very few surface water screening level exceedances for any constituent. In addition, the frequency and magnitude of screening level exceedances for the eight groundwater COPCs (see Table 11 through Table 18) has generally been quite low.

SECTION 6 – DISCUSSION

The purpose of this section is to discuss site conditions and examine the observed surface water screening level exceedances in more detail in order to complete the empirical evaluation process.

6.1. Groundwater Flow and Fluctuations

Groundwater elevation measurements indicate that groundwater generally flows to the northeast towards East Bay, which confirms the standard hydrogeologic assumption that shallow, unconfined groundwater flows in the direction towards the nearest significant surface water body. However, localized groundwater flow conditions are complicated by the presence of the artesian groundwater mound in Parcel 3 and tidal influence in the vicinity of Budd Inlet.

Based on consistently elevated salinity concentrations (Table 6) and the July 2008 tidal study (Greylock Consulting 2008a), the water in MW04, MW12, MW16, and MW18 is not fresh groundwater, but a mix of groundwater and marine water. The tidal change measured in MW03 during the July 2008 tidal study (Greylock Consulting 2008a), periodic salinity concentrations greater than one part per thousand (which is twice the normal freshwater value of 0.5 parts per thousand mentioned in Section 5.3) in MWs such as MW03 and MW08, and anecdotal trench observations in Infrastructure IA trenches (Port of Olympia 2009) suggest that marine water influences could extend further inland at certain locations and/or times.[7]

Based on the groundwater elevation contours in Figures 3 through 9 and the groundwater hydrograph in Figure 10, there does not appear to be significant seasonal fluctuation at the site, especially once tidal effects are considered. This lack of fluctuation is likely due to the Parcel 3 artesian feature (e.g. groundwater always near ground surface at MW06, MW22S, and MW25S), the shallow depth to groundwater across the site, and the proximity to the groundwater discharge location. Any seasonal fluctuation at the site is likely an insignificant variable for constituent transport to surface water relative to the demonstrated tidal influence.

6.2. Metals

6.2.1 Evaluating Groundwater Compliance for Metals COPCs

Although the preliminary screening of groundwater COIs to determine groundwater COPCs was performed using total metals results, a more in-depth evaluation of compliance with surface water screening levels was performed for the metals COPCs using dissolved metals results as allowed by WAC 173-340-720(9)(b) for the following reasons:

- The surface water screening levels in Chapter 173-201A, Section 304 of the CWA, and 40 CFR 131 for arsenic, chromium, lead, copper, and nickel are based on dissolved metals data. Per

[7] Marine water could be partially mixed with fresh groundwater without a noticeable tidal fluctuation in groundwater elevations due to a density gradient between salt water and fresh water (Fetter 1994).

footnote "dd" to the table in WAC 173-201A-040, footnote "D" to National Recommended Water Quality Criteria for Priority Pollutants developed pursuant to Section 304 of the CWA (USEPA 2009), and 40 CFR 131.36(b), these criteria are explicitly intended for use with dissolved metals.

- As discussed in Section 5.3, unfiltered groundwater samples collected from MWs with turbidity greater than 5 NTU may be unrepresentative of actual groundwater conditions for metals. As shown in Table 7, 17 of the 20 MWs sampled during the March 2010 and August 2010 GWM events (all MWs except MW07, MW15, and MW21S) had turbidity concentrations in excess of 5 NTU during one or both GWM events. More importantly, all of the on-site MWs with total arsenic, total chromium, total lead, total copper, and/or total nickel exceedances during the March 2010 or August 2010 GWM events had turbidity concentrations exceeding 5 NTU during the GWM event at which the exceedance was observed, with the exception of a total copper exceedance at MW24S during the March 2010 GWM event and a total arsenic exceedance at MW03 during the August 2010 GWM event.
- In a MW that is producing groundwater samples with sufficiently low turbidity, one would normally expect the dissolved metal concentration to be similar to or slightly less than the total metal concentration. However, as shown in Tables 11 through 15, there are significant differences in the total versus dissolved concentrations for most of the total metals exceedances observed during the November 2009 through August 2010 GWM events. The total metal concentration is greater than twice the dissolved metal concentration for 35 of the 45 individual sample exceedances for total arsenic, total chromium, total lead, total copper, and total nickel during this time period. Twenty-six of these same 45 total metals exceedances have a total metal concentration greater than five times the dissolved metal concentration, while 16 of the total metals exeedances have a total metal concentration greater than ten times the dissolved metal concentration.[8] These disparities in themselves suggest that many of the MWs are not producing representative groundwater samples with respect to metals analyses.
- Total metals results are sometimes conservatively used for evaluating groundwater compliance in order to be protective for poorly constructed drinking water wells that could theoretically be illegally installed by a private landowner. However, the evaluation discussed in this report is focused solely on potential transport of constituents to surface water via groundwater, rather than potential drinking water exposures. If site groundwater did naturally contain elevated turbidity in some locations for some reason, those suspended solids would not be expected to be transported via advective flow to surface water.

6.2.2 Arsenic

The only on-site MW[9] where dissolved arsenic has been detected in groundwater at concentrations exceeding the surface water screening level of 5 ug/L during the last four GWM events[10] is MW24S, at a

[8] Assuming non-detects equal a value of half the reporting limit.

[9] There was also a dissolved arsenic exceedance in MW02R during the August 2010 GWM event, but MW02R is associated with the upgradient LOTT Expansion site.

maximum concentration of 12 ug/L (see Table 11). The slight exceedances for dissolved arsenic in MW24S do not appear to be attributable to a release from the site. As shown in Figure 15, arsenic groundwater exceedances are poorly correlated with elevated arsenic concentrations in soil (the soil concentrations presented on Figure 15 are tabulated in Table 28). Specifically, MW24S is not located immediately downgradient of any location with elevated soil concentrations. In addition, the few locations with elevated soil concentrations (i.e., DP04, DP17, DP21) do not have elevated groundwater concentrations in MWs located immediately downgradient (e.g., MW08 and MW09 for DP04, MW16 and MW23S for DP17, and MW18 for DP21). It should be noted that soil sampling locations are biased towards possible arsenic sources.

The exceedances for arsenic are most likely attributable to natural background conditions. Based on a recent review of background groundwater concentrations, Ecology is considering raising the MTCA Method A groundwater cleanup level from 5 ug/L to 10 ug/L to account for an improved understanding of natural arsenic concentrations in Washington (Ecology 2010c). For instance, groundwater data collected by the United States Geological Survey (USGS) as part of a review of arsenic concentrations in groundwater (USGS 2000, Ryker 2001) as well as groundwater data obtained by WSDOH for drinking water wells (WSDOH 2007a) demonstrate that it is not uncommon for arsenic to exceed 10 ug/L in Puget Sound area groundwater. However, the empirical demonstration is considered not complete for arsenic at this time without additional data collection or interpretation due to the uncertainty associated with the detection of dissolved arsenic in MW24S at a concentration slightly exceeding 10 ug/L during the most recent groundwater monitoring event.

6.2.3 Chromium

As shown in Table 12, dissolved chromium has not been detected in any MWs at concentrations exceeding the surface water screening level. Moreover, the dissolved chromium concentration of 3.6 ug/L in the one groundwater sample with a slight total chromium exceedance (52 ug/L in MW14 during the March 2010 GWM event) was well below the chromium screening level of 50 ug/L.

It should be noted that the chromium surface water screening level is based on the assumption that all chromium is present as chromium VI. However, chromium VI is not present at the site. As shown on Figure 16 and Table 29, total chromium has been detected in three on-site soil samples (DP04, DP27, and DP40) at concentrations exceeding the Puget Sound area natural background of 48 mg/kg estimated by Ecology (Ecology 1994). Chromium VI was not detected in the DP27 sample or DP40 sample (PIONEER 2009a).[11] Chromium VI has also not been detected in any of the 37 soil samples collected from the LOTT Expansion Site (Brown and Caldwell 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009). Soil sampling locations are biased towards possible chromium sources.

[10] As discussed in Section 5.5, the dissolved arsenic concentrations from the June 2009 and September 2009 GWM events are suspect and qualified with a "BJ" flag.

[11] The DP04 sample was not analyzed for chromium VI.

6.2.4 Lead

As shown in Table 13, dissolved lead has not been detected in any MWs at concentrations exceeding the surface water screening level. Moreover, dissolved lead has not even been detected in the three MWs (MW02R, MW20, and MW25S) with a total lead exceedance.

It should be noted that there is only one on-site soil sample (DP11) with a lead concentration exceeding the MTCA Method A soil cleanup level for unrestricted land uses of 250 mg/kg as shown in Figure 17 and Table 30. As shown in Figure 17, the elevated soil concentration in DP11 has not produced elevated groundwater concentrations in MWs located immediately downgradient (e.g., MW01 and MW04). Soil sampling locations are biased towards possible lead sources.

6.2.5 Copper and Nickel

The only MWs where dissolved copper has been detected in groundwater at concentrations exceeding the surface water screening level of 2.4 ug/L are MW02, MW12, MW14, and MW18, at a maximum concentration of 3.8 ug/L (see Table 14). The only MW representative of site conditions in which dissolved nickel has been detected in groundwater at concentrations exceeding the surface water screening level of 8.2 ug/L is MW13, at a maximum concentration of 8.6 ug/L (see Table 15).[12] Before these slight exceedances are discussed further, the following points should be noted to provide additional context about the detected copper and nickel concentrations:

- Copper and nickel were not considered as COIs or COPCs during any soil or groundwater investigation activities prior to the June 2009 GWM event because there is no evidence to suggest a release of these constituents has occurred at the site (GeoEngineers 2007d, GeoEngineers and PIONEER 2008). As a result, no soil samples have been analyzed for copper or nickel to date. Copper and nickel were added to the groundwater constituent list in June 2009 based solely on an Ecology comment regarding the National Pollutant Discharge Elimination System Permit for the East Bay Infrastructure IA (Ecology 2009c). Therefore, elevated concentrations of copper and nickel in soil or groundwater are not expected.
- An Ecology study estimated that natural background concentrations of copper and nickel in Puget Sound area soil are likely on the order of 36 mg/kg and 38 mg/kg, respectively (Ecology 1994).[13] This Ecology study is often used to establish background concentrations of naturally occurring metals in soil at MTCA sites. The MTCA three-phase model (MTCA Equation 747-1) predicts that these generally accepted natural background concentrations in soil will produce groundwater concentrations significantly higher than the surface water screening levels and maximum site

[12] Although higher dissolved nickel concentrations have been observed in MW12, MW12 is not representative of site conditions. Water sampled from MW12 consists mostly of marine water based on previous tidal studies, the distance of MW12 from Budd Inlet, field observations, and salinity concentrations.

[13] These concentrations are the 90th percentile values for the Puget Sound background data set. The copper concentration range in the Puget Sound background data set is 4 mg/kg to 240 mg/kg. The nickel concentration range in the Puget Sound background data set is 9 mg/kg to 240 mg/kg.

concentrations.[14] Specifically, the MTCA three-phase model predicts that a copper concentration in soil of 36 mg/kg will produce a copper groundwater concentration of 81 ug/L (the surface water screening level is 2.4 ug/L and the maximum site concentration is 3.8 ug/L). Similarly, the MTCA three-phase model predicts that a nickel concentration in soil of 38 mg/kg will produce a nickel groundwater concentration of 29 ug/L (the surface water screening level is 8.2 ug/L and the maximum site concentration is 8.6 ug/L).[15]

- The surface water screening levels for copper and nickel are driven solely by promulgated standards in applicable or relevant and appropriate requirements (ARARs) for surface water. The surface water screening levels based on these ARARs (2.4 ug/L for copper and 8.2 ug/L for nickel) are two to three orders of magnitude lower than the conservative concentrations protective of surface water receptors per MTCA Equations 730-1 and 730-2 (i.e., the most stringent MTCA Standard Method B surface water formula values for copper and nickel are 2700 ug/L and 1100 ug/L, respectively).
- The surface water screening levels and maximum site groundwater concentrations for copper and nickel are one to two orders of magnitude lower than typical groundwater screening levels at any upland location. For instance, the acceptable copper criterion for groundwater of the State per Chapter 173-200 WAC is 1,000 ug/L (the surface water screening level is 2.4 ug/L and the maximum site concentration is 3.8 ug/L). The maximum contaminant level for nickel in drinking water wells per WAC 246-290-310(3) is 100 ug/L (the surface water screening level is 8.2 ug/L and the maximum site concentration is 8.6 ug/L). These typical groundwater criteria help explain why it is unusual for copper or nickel to be groundwater COPCs at most sites and why many regional and national data sets have reporting limits that are higher than the surface water screening levels and maximum observed site concentration.
- Dissolved copper and nickel concentrations up to 8.7 ug/L and 19 ug/L, respectively, have been detected in surface water samples collected from Budd Inlet surface water (Parametrix 2011).
- As described in Section 5.6, there are a series of very conservative screening assumptions being used in this empirical evaluation process.

If site soil contained copper and nickel at concentrations exceeding background and those elevated soil concentrations were impacting groundwater at concentrations exceeding background, then one would expect site groundwater to have copper and nickel concentrations outside the range of concentrations observed in a representative background groundwater data set. Unfortunately, there is no practicable way to obtain a robust and local background data set that exactly matches local site groundwater conditions in terms of fill lithology, shallow depth to groundwater, and proximity to salt water. As a surrogate approach, regional and national data sets were obtained to provide lines of evidence as to whether or not

[14] Using the model defaults listed in WAC 173-340-747(4), a dilution factor of 20, and distribution coefficients for copper and nickel from Ecology's Cleanup Levels and Risk Calculations (CLARC) database (Ecology 2009d).

[15] Furthermore, the MTCA three-phase model predicts that even the minimum soil concentrations (4 mg/kg for copper and 9 mg/kg for nickel) in the Puget Sound background data set (Ecology 1994) will naturally produce groundwater concentrations similar to or higher than the maximum observed site groundwater concentration. Specifically, a copper soil concentration of 4 mg/kg will produce a groundwater concentration of 9.0 ug/L. A nickel soil concentration of 9 mg/kg will produce a groundwater concentration of 6.9 ug/L.

site concentrations are within the range of likely background groundwater concentrations. Table 31 and Table 32 summarize the collected data sets for copper and nickel, respectively, which are grouped into two primary categories.

- Primary Data Sets: The most representative and applicable data sets to the site are the WSDOH 2010, Washington Department of Conservation 1961, and USGS 2010 data sets. These "primary data" sets consist of groundwater data collected from regional (i.e., Thurston County or Puget Sound Aquifer System)[16] monitoring locations such as private and public drinking water wells. These three primary data sets are robust and are not expected to be biased by releases from contaminated sites given the spatial coverage of the data sets, the number of monitoring records in each data set, the general lack of copper and nickel as primary constituents at contaminated sites in the region, and the typical well depths of the monitoring locations. If anything, these three primary data sets are likely biased low compared to true site background conditions because the monitoring locations are typically not located in fill material, are often located away from urban centers, and are typically not located in shallow or tidally influenced groundwater that can be impacted by non-point sources. As shown on Table 31 and Table 32, the maximum dissolved copper concentration (3.8 ug/L) and maximum dissolved nickel concentration associated with the site (8.6 ug/L) are within the range of concentrations observed in the three primary data sets (WSDOH 2010, Washington Department of Conservation 1961, and USGS 2010).[17]
- Secondary Data Sets: Although regional groundwater data from Ecology's Environmental Information Management System (EIMS)[18], national background data sets[19], and stormwater

[16] The USGS has defined 62 principal aquifer systems within the United States that have common hydrogeologic and geochemical conditions (USGS 2003). The site and almost all of Thurston County is located within the Puget Sound Aquifer System (USGS 2003). The Puget Sound Aquifer System is primarily comprised of unconsolidated sand and gravel aquifers located within deposits of glacial origin (Ecology 1980, Washington Department of Natural Resources 1987, Washington Department of Natural Resources 2002, USGS 2003). The groundwater bearing zone being monitored at the site is comprised primarily of fill material that originated from these regional glacial deposits. The Puget Sound Aquifer System is hydrogeologically and geochemically distinct and unique from other aquifer systems such as carbonate-rock aquifers and fractured basalt aquifers. Thus, data collected from Thurston County or the Puget Sound Aquifer System would be expected to be reasonably representative of regional hydrogeologic and geochemical conditions on a holistic level.

[17] In addition, the maximum site copper and nickel concentrations are either less than the 90th percentile concentration or less than the reporting limit at the 90th percentile for each of the three primary data sets (WSDOH 2010, Washington Department of Conservation 1961, and USGS 2010). The 90th percentile concentration is often used to conservatively estimate background concentrations by removing potential outliers on the upper end of the data range in case those potential outliers are not representative of background conditions.

[18] Groundwater data in EIMS was obtained for Thurston County and South Puget Sound. Most of the data in EIMS are associated with MTCA sites. However, some data in Ecology's EIMS are for studies that are not associated with a specific MTCA site (e.g., City of Yelm Groundwater monitoring study). While groundwater data at some of the MTCA sites is likely biased high due to known metals sources (e.g., metal plating facilities), copper and nickel would not be expected to be significant COPCs at many of the EIMS locations (e.g., Columbia Square Properties, Industrial Petroleum Distributors, Beaver Creek Dairy, City of Yelm groundwater monitoring).

[19] A variety of readily available studies and literature values for copper and nickel in groundwater on a national scale were obtained via Internet searches. Although many cleanup sites across the country have determined site-

literature values[20] may not be as representative of regional background conditions as the primary data sets, these "secondary data sets" do support the primary data sets by providing a broader perspective on typical copper and nickel concentrations in the environment. As shown in Table 31 and Table 32, the maximum concentration and/or 90th percentile concentration for copper and nickel in the overwhelming majority of the secondary data sets are greater than the maximum site concentrations.

Based on the context provided in the beginning of this section and the fact that the maximum site groundwater concentrations are consistent with the range of groundwater concentrations observed in both the primary and secondary data sets, the slight screening level exceedances for copper and nickel observed at the site are most likely attributable to natural background conditions.

6.3. Carcinogenic PAHs

As shown in Table 16, there have only been two cPAH detections exceeding the surface water screening level of 0.18 ug/L.[21] Total cPAHs were detected in MW02 at a concentration of 0.033 J ug/L during the January 2007 GWM event and in MW03 at a concentration of 0.030 ug/L during the December 2009 GWM event. These two exceedances are not attributable to leaching from soil to groundwater for the following reasons:

- These two detections have not been replicated. No cPAHs were detected in MW02 during the June-August 2007 GWM event and MW02 was one of only two MWs sampled during the June 2009 GWM event in which cPAHs were not reported by DAL (note that MW02 was decommissioned after the June 2009 GWM event). No cPAHs were detected in MW03 for the January 2007, June-August 2007, September 2009, November 2009, and March 2010 samples analyzed by the primary laboratory or in the September 2009, November 2009, or December 2009 split samples analyzed by PACE (see Table 9).
- As shown in Figure 18, MW02 and MW03 are poorly correlated with elevated cPAH concentrations in soil (the soil concentrations presented on Figure 18 are tabulated in Table 33). The numerous soil locations with elevated cPAH concentrations have not produced elevated cPAH concentrations in MWs located immediately downgradient. Likewise, elevated soil concentrations are not located upgradient of MW02 and MW03, with the following possible exception. It is possible that the cPAH detections in MW02 and MW03 may be associated with suspected upgradient TPH-D/TPH-HO impacts in the southern part of Parcel 8 on the LOTT

specific background concentrations, Table 29 and Table 30 only includes background studies whose scope covers a significant portion of the country (i.e., at least the extent of one state).

[20] A variety of readily available literature values for copper and nickel in stormwater were obtained via Internet searches. While stormwater is a different media than groundwater, the stormwater literature values do provide perspective for concentrations that could be present in Olympia stormwater as well as concentrations that are likely already entering Puget Sound from a variety of non-point sources around Budd Inlet.

[21] The 20 NJ-flagged cPAH detections reported by DAL for the June 2009 and September 2009 GWM events are not attributable to the site for the reasons discussed in Section 5.5.

Expansion site (Brown and Caldwell 2007b). It should be noted that soil sampling locations are biased towards possible cPAH sources.

- If there are total cPAHs in groundwater at MW02 and MW03, the cPAHs have not migrated towards East Bay, which is the exposure pathway of interest. Total cPAHs have not been detected in MWs located downgradient of MW02 and MW03 and upgradient of East Bay, such as the immediately downgradient MW01 and sentinel MWs MW18, MW04, and MW16.

6.4. TPH-D and TPH-HO

The TPH-D and TPH-HO exceedances are discussed together because these indicator constituents are related in many ways (e.g., same analytical method, similar in terms of cleanup level calculations, similar transport properties). The surface water screening levels for TPH-D and TPH-HO are both 500 ug/L. As shown in Table 17, there has only been one sample out of 126 that has exceeded the TPH-D screening level (TPH-D was detected at 1060 ug/L in MW18). As shown in Table 18, the only on-site MWs with TPH-HO screening level exceedances are MW03, MW18, MW24S, and MW25S, at a maximum concentration of 960 ug/L.[22] These TPH-D/TPH-HO screening level exceedances are peculiar for the following reasons:

- Based on physiochemical transport properties (e.g., soil organic carbon-water partitioning coefficients), one would not expect TPH-D or TPH-HO to leach from soil to groundwater (Ecology 2001a).
- With the exception that TPH-HO was detected in MW25S at similar concentrations during the December 2009 and August 2010 GWM events, all TPH-D/TPH-HO exceedances occurred during the December 2009 GWM event and have not been replicated. There were no other TPH-D or TPH-HO screening level exceedances detected in any of the on-site samples collected during the January 2007, June-August 2007, June 2009, September 2009, March 2010, and August 2010 GWM events.
- The spatial distribution of the TPH-D/TPH-HO detections and the associated concentrations do not match a typical constituent transport pattern (e.g., soil source, elevated groundwater concentrations underneath the soil source, a gradient of decreasing concentrations in the downgradient direction). As shown in Figure 19, the one MW with a TPH-D surface water screening level exceedance (MW18, which is a marine water influenced MW) is poorly correlated with elevated TPH-D concentrations in soil. The few locations with elevated TPH-D concentrations in soil (i.e., DP04, DP08, DP13) have not produced elevated TPH-D concentrations in MWs located immediately downgradient (e.g., MW08 and MW09 for DP04, MW24S for DP08 and DP13). Likewise, elevated TPH-D soil concentrations are not located upgradient of MW18. As shown in Figure 20, this same observation is also true for the TPH-HO detections in MW03 and MW18 (but not the TPH-HO detections in MW24S and MW25S). The

[22] There were also TPH-HO exceedances in MW02R during the December 2009 and August 2010 GWM events, but MW02R is associated with the upgradient LOTT Expansion site. The presence of TPH-HO in MW02R may be associated with suspected TPH-D/TPH-HO impacts in upgradient groundwater from the LOTT Expansion site (e.g., the discrete grab groundwater results from Parcel 8 borings B6 though B10 [Brown and Caldwell 2007b]).

soil concentrations presented on Figure 19 and Figure 20 are tabulated in Table 34 and Table 35, respectively.

- The groundwater elevations during the GWM events in which the exceedances were detected were similar to other GWM events. Thus, there does not appear to be any significant change in hydrogeologic conditions which could have predicated a change in TPH-D/TPH-HO leaching conditions that would explain these isolated exceedances.

Even though the few TPH-D/TPH-HO exceedances are unusual for the reasons stated above, there does not appear to be a laboratory quantitation or sensitivity issue based on a review of the chromatograms in Appendix Q. As a result, the empirical demonstration is considered not complete at this time for potential migration of TPH-D or TPH-HO from soil to dissolved-phase groundwater.

SECTION 7 – CONCLUSIONS AND RECOMMENDATIONS

7.1. Summary of Key Findings

Key findings from this empirical evaluation are:

- With the exception of arsenic and TPH-D/TPH-HO, groundwater data has empirically demonstrated that constituents in potential on-site soil sources have not impacted groundwater, and therefore will not impact surface water.
- There are few potential groundwater exceedances of surface water screening levels. There are only eight COPCs with at least one surface water screening level exceedance (arsenic, chromium, lead, copper, nickel, total cPAHs, TPH-D, TPH-HO).[23] However, the screening level exceedances for chromium, lead, copper, nickel, and total cPAHs are not attributable to leaching from soil to groundwater as discussed in Section 6.
- Although the isolated screening level exceedances for arsenic and TPH-D/TPH-HO in select MWs do not appear to be attributable to leaching from site soil as discussed in Section 6, the empirical demonstration is considered not complete for arsenic, TPH-D, and TPH-HO at this time.
- There is no accumulation of LNAPL on or in groundwater based on LNAPL thickness measurements, with support from observed dissolved-phase concentrations of TPH-G, TPH-D, and TPH-HO.

7.2. Comparison with MTCA Empirical Demonstration Criteria

With the exception of arsenic and TPH-D/TPH-HO, the empirical demonstration requirements in WAC 173-340-747(9) and WAC 173-340-747(10)(c) have been satisfied for all other COIs and COPCs as follows:

- There has been no accumulation of LNAPL on or in groundwater. This satisfies the criterion in WAC 173-340-747(10)(c)(i)(A).
- There have been no exceedances of surface water screening levels that are attributable to leaching from soil to groundwater. This satisfies the criterion in WAC 173-340-747(9)(b)(i).
- Site soil contamination is associated with fill events and light industrial activity that date back to the late 1800s (GeoEngineers and PIONEER 2008). A significant amount of time has elapsed (several decades at a conservative minimum) to enable any constituent transport from soil to groundwater that could have occurred at the site. Also, current hydrogeologic conditions are sufficiently representative of future site conditions. Site leaching potential will decrease significantly once the East Bay Redevelopment Project is completed since future paving and

[23] Total metals results were used in the preliminary screening process to determine COPCs. If dissolved metals results had been used for determining groundwater COPCs, chromium and lead would not be COPCs.

development will decrease infiltration. Thus, the criteria in WAC 173-340-747(9)(b)(ii) and WAC 173-340-747(10)(c)(i)(B) are satisfied.

- The spatial distribution of the monitoring network and the existing data record (e.g., eight comprehensive GWM events) are sufficiently robust to support the determinations listed above.

7.3. Calculating Soil Cleanup Levels and Remediation Levels

The following recommendations for the calculation of soil cleanup levels and remediation levels in the site-wide RI/FS Report are made based on information presented in this report and the conclusions reached in Sections 7.1 and 7.2:

- Soil-to-surface water exposure pathways do not need to be quantified when soil cleanup levels and remediation levels for all COPCs except arsenic, TPH-D, and TPH-HO are calculated since it has been empirically demonstrated that site soil concentrations will not impact surface water in accordance with WAC 173-340-747(9).
- TPH-G, TPH-D, and TPH-HO soil cleanup level and remediation level calculations do not need to account for the default residual saturation screening levels per WAC 173-340-747(10)(d) since it has been empirically demonstrated that there is no accumulation of LNAPL on or in groundwater in accordance with WAC 173-340-747(10)(c).
- Since there is some uncertainty with the empirical demonstration for arsenic, TPH-D, and TPH-HO, the potential soil-to-surface water migration of these three COPCs should be accounted for using other approved methods allowed in WAC 173-340-747. Specifically in the case of TPH-D and TPH-HO, potential soil-to-surface water migration can be accounted for in the calculation of soil cleanup levels and remediation levels using the MTCA four-phase partitioning model in WAC 173-340-747(6).[24]

7.4. Monitoring Well Decommissioning

It is recommended that most (if not all) on-site MWs be decommissioned prior to the start of redevelopment construction activities since 1) soil constituents have not impacted groundwater (with the possible exception of arsenic, TPH-D, and TPH-HO), 2) the empirical evaluation process has been completed, 3) no further groundwater monitoring is planned as part of the RI/FS phase, 4) unused MWs could be damaged or destroyed during redevelopment construction activities, and 5) unused MWs could serve as conduits to groundwater during and after redevelopment construction activities. The Port, City, LOTT, and Ecology could collaboratively determine which MWs, if any, should remain in place.

[24] The MTCA four-phase model is one of the evaluation methodologies allowed in WAC 173-340-747, and is a conventional methodology used to conservatively estimate potential leaching at many sites.

REFERENCES

Aspect Consulting 2009. Memorandum to Kevin Dragon titled "Artesian Well Decommissioning: Summary of Field Work, Port of Olympia – East Bay Redevelopment", July 30.

Barrett, Michael *et al* 1995. A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction, Bureau of Engineering Research at the University of Texas at Austin, April.

Brown and Caldwell 2007a. Draft Phase II Environmental Site Assessment, East Bay Port of Olympia Property, January 5, 2007.

Brown and Caldwell 2007b. Environmental Investigation, East Bay Port of Olympia Property, March 15, 2007.

Brown and Caldwell 2007c. Phase II Environmental Site Assessment, Proposed LOTT Administration Building, December 21, 2007.

Brown and Caldwell 2009. Supplemental Phase II Environmental Site Assessment, Proposed LOTT Administration Building, January 2009.

City of Olympia 2010. Storm and Surface Water website, http://www.ci.olympia.wa.us/en/city-utilities/storm-and-surface-water/streams-and-shorelines/streams-and-shorelines-moxlie-creek-watershed.aspx, accessed January.

Delaware Department of Natural Resources & Environmental Control 2007. Policy approved by James Werner of the Division of Air and Waste Management with subject of "Policy concerning the default background concentration of arsenic and revision to the Remediation Standards Guidance", February 2.

Ecology 1980. Principal Aquifers and Well Yields in Washington, Geohydrologic Monograph 5.

Ecology 1994. Natural Background Soil Metals Concentrations in Washington State, Publication No. 94-115, October.

Ecology 1995. Toxics Cleanup Program Guidance on Sampling and Data Analysis Methods, Publication No. 94-49, January.

Ecology 2001a. Memorandum from Pete Kmet to Interested Persons with subject of "Calculations for Table 740-1; Method A **Soil** Cleanup Levels **for Unrestricted Land Uses"**, February 9.

Ecology 2001b. Concise Explanatory Statement for the Amendments to the Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC, Publication No. 01-09-043, February 12.

Ecology 2005. Stormwater Management Manual for Western Washington, Volume I – Minimum Technical Requirements and Site Planning, Publication No. 05-10-029, February.

Ecology 2006. Environmental Assessment Program, Standard Operating Procedure for Field Measurements of Conductivity/Salinity with a Conductivity Meter and Probe, online at http://www.ecy.wa.gov/programs/eap/qa/docs/ECY_EAP_SOP_010FieldMeasureofConductivity-SalinitywithConductivityMeterProbe_v1_0.pdf, July 10.

Ecology 2009a. Letter from Thomas Loranger and William E. Lum II to Troy Bussey titled "Variance request to Chapter 173-160 Washington Administrative Code (WAC) for construction of resource protection wells, in Sections 41, 42, and 47, Township 18 North, Range 02 West, Thurston County, Washington", January 30.

Ecology 2009b. Personal correspondence between Steve Teel and Troy Bussey regarding approval of proposed changes to practical quantitation limit expectations listed in RIWP QAPP, June 5.

Ecology 2009c. National Pollutant Discharge Elimination System Waste Discharge Permit No. WA0040231 for Port of Olympia/East Bay Development, June 25.

Ecology 2009d. Toxics Cleanup Program's Cleanup Levels and Risk Calculations (CLARC) database, https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx, accessed December.

Ecology 2010a. Shorelands Program website, Puget Sound tide information, http://www.ecy.wa.gov/programs/sea/pugetsound/beaches/tide.html, accessed January.

Ecology 2010b. Water Quality Program website, 2008 Washington State Water Quality Assessment, http://www.ecy.wa.gov/programs/wq/303d/2008/index.html, accessed January.

Ecology 2010c. Draft Revisions MTCA Method A Groundwater Cleanup Levels, Discussion Materials Prepared for the MTCA/SMS Advisory Group, Prepared by Toxics Cleanup Program Policy & Technical Support Unit, June.

Ecology 2010d. Environmental Information Management System website, http://www.ecy.wa.gov/eim/index.htm, accessed June.

Fetter, C.W. 1994. Applied Hydrogeology, Third Edition.

GeoEngineers 2007a. Phase II Environmental Site Assessment, Hands On Children's Museum, February 6.

GeoEngineers 2007b. Remedial Investigation/Feasibility Study (RI-FS) and Cleanup Action Plan, Potential City of Olympia City Hall, Port of Olympia East Bay Redevelopment, April 24.

GeoEngineers 2007c. Supplemental Site Use History and Soil and Groundwater Sampling Clarifications, East Bay Redevelopment Property, August 3.

GeoEngineers 2007d. Draft Remedial Investigation/Feasibility Study and Conceptual Cleanup Action Plan, East Bay Redevelopment, Port of Olympia, December 20.

GeoEngineers and PIONEER 2008. Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia, October 22. As amended with January 30, 2009 replacement pages.

Greylock Consulting 2008a. Letter to Joanne Snarski titled "Groundwater Flow During High and Low Tides, Port of Olympia East Bay Site", August 21.

Greylock Consulting 2008b. Pilot Dewatering Test, Port of Olympia East Bay Site, November 5.

Greylock Consulting 2009. Letter to Kevin Dragon titled "Findings of Artesian Well Search, East Bay Project", May 20.

Groundwater Foundation 2010. Groundwater Glossary, http://www.groundwater.org/gi/gwglossary.html#F. accessed January.

Herrera Environmental Consultants 2005. Monitoring Report: WSDOT Floating Bridge Stormwater Monitoring Project, June 30.

Hunter, Philip *et al* 2005. Inorganic Chemicals in Ground Water and Soil: Background Concentrations at California Air Force Bases, Presented at 44th Annual Meeting of the Society of Toxicology, March 10.

Landau Associates 2009. Geotechnical Report, Hands on Children's Museum, Olympia, Washington, March 19.

Minton, Gary 2002. Stormwater Treatment: Biological, Chemical & Engineering Principles.

Parametrix 2004. West Bay Phase II Environmental Site Assessment, June.

Parametrix 2007. West Bay Rail Spur Phase II Environmental Site Assessment Report, December.

Parametrix 2008. Work Plan for Remedial Investigation/Feasibility Study and Interim Action, Solid Wood Incorporated Site (West Bay Park), October.

Parametrix 2009. Technical Memorandum from David Dinkuhn to Steve Teel with subject of "Seep Sampling and Storm Drain Line Survey Results", March 25.

Parametrix 2010. Technical Memorandum from David Dinkuhn to Steve Teel with subject of "Solid Wood Incorporated Site Quarterly Groundwater Monitoring Results, Quarter 5, February 2010", March 22.

Parametrix 2011. Technical Memorandum from David Dinkuhn to Steve Teel with subject of "Solid Wood Incorporated Site Quarterly Groundwater Monitoring Results, Quarter 8, December 2010", February 1.

PIONEER 2009a. Port of Olympia East Bay Site: Interim Action Work Plan, May.

PIONEER 2009b. Email transmission of Phase 2 Remedial Investigation preliminary soil data from Troy Bussey to Joanne Snarski and Steve Teel, June 29 and July 4.

PIONEER 2010. Infrastructure Interim Action Report for East Bay Redevelopment Site, June.

Port of Olympia 2008. Memorandum from Al Kulp to Project File titled "Artesian Well Search", October 28.

Port of Olympia 2009. Personal correspondence between Kevin Dragon and Troy Bussey regarding tidal observations within excavations and Stan Palmer Construction dewatering efforts, August.

Ryker, S.J. 2001. Mapping arsenic in groundwater: Geotimes v.46 no.11, p.34-36, online at http://water.usgs.gov/nawqa/trace/pubs/geo_v46n11/fig1.html.

Salbu, Brit and Eiliv Steinnes 1995. Trace Elements in Natural Waters, CRC Press, page 157.

SECOR 2001. Final Remedial Investigation and Feasibility Study, Former Industrial Petroleum Distributors Bulk Terminal, 1117 West Bay Drive, Olympia, Washington, October 30.

Thurston County 2010. Water Resources Program website, information on annual precipitation, http://www.co.thurston.wa.us/monitoring/Precipitation/NOAA/noaa_annual___precip.htm, accessed January.

USEPA 1992. RCRA Ground-Water Monitoring: Draft Technical Guidance, November.

USEPA 2002. Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers, May.

USEPA 2009. Office of Water, National Recommended Water Quality Criteria, 2009, on-line at http://www.epa.gov/ost/criteria/wqctable/.

USEPA 2010a. Office of Solid Waste and Emergency Response, SW846 On-Line website, Chapter Eleven – Ground Water Monitoring, http://www.epa.gov/osw/hazard/testmethods/sw846/pdfs/chap11.pdf, accessed August.

USEPA 2010b. Office of Water, Drinking Water Contaminants website, http://water.epa.gov/drink/contaminants/index.cfm, accessed August.

USGS 2000. A Retrospective Analysis on the Occurrence of Arsenic in Ground-Water Resources of the United States and Limitations in Drinking-Water-Supply Characterizations, Water-Resources Investigations Report 99-4279.

USGS 2003. Principal Aquifers of the 48 Conterminous United States, Hawaii, Puerto Rico, and the U.S. Virgin Islands, http://water.usgs.gov/nawqa/studies/praq/images/USAaquiferMAP11_17.pdf, October.

USGS 2009a. Quality of Water from Domestic Wells in Principal Aquifers of the United States, 1991 – 2004, Scientific Investigations Report 2008-5227.

USGS 2009b. Occurrence and Distribution of Iron, Manganese, and Selected Trace Elements in Ground Water in the Glacial Aquifer System of the Northern United States, Scientific Investigations Report 2009-5006.

USGS 2010. USGS National Water Information System: Web Interface, Water Quality Samples for Washington website, http://nwis.waterdata.usgs.gov/wa/nwis/qwdata, accessed August.

Washington Department of Conservation 1961. Geology and Ground-Water Resources of Thurston County, Washington Volume 1, Division of Water Resources Water Supply Bulletin No. 10.

Washington Department of Natural Resources 1987. Geologic Map of Washington – Southwest Quadrant, Division of Geology and Earth Resources Geologic Map GM-34.

Washington Department of Natural Resources 2002. Geologic Map of Washington – Northwest Quadrant, Division of Geology and Earth Resources Geologic Map GM-50.

WSDOH 2007a. Map titled "Arsenic Detections in Washington Public Water Supplies: Sources Above Arsenic Drinking Water Standard of 10 ppb", online at http://www.doh.wa.gov/ehp/DW/arsenic/Arsenic-9-07.pdf, September 27.

WSDOH 2007b. Commercial and Recreational Shellfish Growing Areas: December 31, 2007, http://www.doh.wa.gov/ehp/sf/Pubs/ai-map.pdf.

WSDOH 2009. Shellfish Safety Information website, http://ww4.doh.wa.gov/scripts/esrimap.dll?name=bioview&Cmd=Map&Step=1, accessed February.

WSDOH 2010. Extract from Sentry Internet database of Thurston County Group A and Group B drinking water quality data for groundwater sources, provided by Charles Lander to Melody Feden, September 2.

TABLES

TABLE 1
Groundwater Investigation Chronology

Dates	Description	Number of MWs Sampled (Monitoring Well Locations)	Constituents [5]
01/02/07	MW01 – MW04 were installed	N/A	N/A
01/04/07 – 02/02/07 [1]	GeoEngineers conducted the 1st comprehensive groundwater monitoring (GWM) event. This is referred to as the "January 2007 GWM event in the text.	10 (MW01 – MW10)	• TPH-G, TPH-D, TPH-HO • VOCs • SVOCs • Total RCRA 8 metals • PCBs
01/15/07 – 01/17/07	MW05 – MW10 were installed	N/A	N/A
01/30/07 – 02/02/07	GeoEngineers conducted a tidal study in MW05, MW06, MW07, and MW09	N/A	N/A
06/28/07 – 08/28/07 [2]	GeoEngineers conducted the 2nd comprehensive GWM event. This is referred to as the June-August 2007 GWM event in the text.	19 (MW01 – MW13, MW15 – MW20)	• TPH-G, TPH-D, TPH-HO • VOCs • SVOCs • Total RCRA 8 metals • PCBs
07/31/07 – 08/07/07	MW11 – MW20 were installed	N/A	N/A
07/16/08	Greylock Consulting conducted a tidal study in MW01 – MW20	N/A	N/A
7/29/08	GeoEngineers sampled MW16	1 (MW16)	• Dioxins/furans • PAHs • Total RCRA 8 metals
09/24/08 – 10/18/08	Greylock Consulting conducted a dewatering pilot test	N/A	N/A
06/12/09 – 06/16/09	MW21S – MW25S were installed, and MW05 was decommissioned	N/A	N/A
06/19/09 – Current [3]	Stan Palmer Construction and Clear Water Compliance Services operated a groundwater dewatering and storm water collection and treatment system	N/A	N/A
06/30/09 – 07/02/09	PIONEER conducted the 3rd comprehensive GWM event. This is referred to as the June 2009 GWM event in the text.	19 (MW01 – MW04, MW07 – MW09, MW11, MW13 – MW16, MW18, MW20 – MW25S)	• TPH-G, TPH-D, TPH-HO • VOCs • PAHs • Total RCRA 8 metals, Cu, Ni • Dissolved RCRA 8 metals, Cu, Ni [5] • PCBs [5] • Dioxins/furans [5]
07/20/09 – 07/21/09	Artesian Well AW-1 was decommissioned	N/A	N/A
09/04/09 – 09/16/09	MW02 was decommissioned, and MW02R was installed	N/A	N/A
09/18/09 – 09/22/09 [4]	PIONEER conducted the 4th comprehensive GWM event. This is referred to as the September 2009 GWM event in the text.	20 (MW01, MW02R, MW03, MW04, MW07 – MW09, MW11 – MW16, MW18, MW20 – MW25S)	• TPH-G, TPH-D, TPH-HO • VOCs • PAHs (split samples to two labs) • Total RCRA 8 metals, Cu, Ni • Dissolved As • PCBs • Dioxins/furans [5]

TABLE 1
Groundwater Investigation Chronology

Dates	Description	Number of MWs Sampled (Monitoring Well Locations)	Constituents [5]
11/18/09 – 11/20/09	PIONEER conducted the 5th comprehensive GWM event. This is referred to as the November 2009 GWM event in the text.	19 (MW01, MW02R, MW03, MW04, MW07 – MW09, MW11 – MW16, MW18, MW20, MW22S – MW25S)	• PAHs (split samples to two labs) • Total As, Cu, Ni, Pb • Dissolved As, Cu, Ni, Pb
12/15/09 – 12/18/09	PIONEER conducted the 6th comprehensive GWM event. This is referred to as the December 2009 GWM event in the text.	18 (MW01, MW02R, MW03, MW04, MW07 – MW09, MW11, MW12, MW14 – MW16, MW18, MW20, MW22S – MW25S)	• TPH-G, TPH-D, TPH-HO • VOCs • PAHs (split samples to two labs) • Total RCRA 8 metals, Cu, Ni • Dissolved As, Cu, Ni, Pb • PCBs • Dioxins/furans [5]
03/15/10 – 03/17/10	PIONEER conducted the 7th comprehensive GWM event. This is referred to as the March 2010 GWM event in the text.	20 (MW01, MW02R, MW03, MW04, MW07 – MW09, MW11 – MW16, MW18, MW20 – MW25S)	• TPH-G, TPH-D, TPH-HO • BTEX • PAHs (split samples to two labs) • Total As, Cr, Cu, Ni, Pb • Dissolved As, Cr, Cu, Ni, Pb
08/16/10 – 08/18/10	PIONEER conducted the 8th comprehensive GWM event. This is referred to as the August 2010 GWM event in the text.	20 (MW01, MW02R, MW03, MW04, MW07 – MW09, MW11 – MW16, MW18, MW20 – MW25S)	• TPH-D, TPH-HO • Total As, Cu, Ni, Pb • Dissolved As, Cu, Ni, Pb

Notes:
As = Arsenic
BTEX = Benzene, toluene, ethylbenzene, and xylenes
Cr = Chromium
Cu = Copper
Dioxins / Furans = Chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans
GWM = Groundwater monitoring
MW = Monitoring well
N/A = Not applicable
Ni = Nickel
PAHs = Polycyclic aromatic hydrocarbons
Pb = Lead
PCBs = Polychlorinated biphenyls
RCRA = Resource Conservation and Recovery Act
SVOCs = Semi-volatile organic compounds
TPH-D = Total petroleum hydrocarbons in the diesel range
TPH-G = Total petroleum hydrocarbons in the gasoline range
TPH-HO = Total petroleum hydrocarbons in the heavy oil range
VOCs = Volatile organic compounds

This table does not include discrete grab samples collected from direct push soil borings, which were used for preliminary screening of the site in 2006, since these samples are not representative of groundwater conditions and have been replaced by groundwater samples from MWs constructed in accordance with Chapter 173-160 WAC.

[1] Water levels were measured and samples were collected for MW01 – MW04 from 1/4/07 – 1/5/07. Samples were collected for MW05 – MW10 from 1/16/07 – 1/18/07. Water levels were measured for MW05 – MW10 from 1/30/07 – 2/2/07. Although water levels were also presumably measured from MW05 – MW10 when samples were collected during 1/16/07 – 1/18/07, the data are not contained within existing documentation.

[2] Water levels were measured and samples were collected for MW01 – MW10 from 6/28/07 – 6/29/07. Six MWs were re-sampled for TPH-D on 7/13/07. Water levels were also measured for MW01 – MW10 on 7/24/07. Samples were collected for MW11 – MW13 and MW15 – MW20 from 8/14/07 – 8/15/07. Water levels were measured for MW01 – MW20 on 8/28/07.

[3] The system first received water on 06/19/09. System testing and shakedown occurred between 06/19/09 and 7/07/09. Discharge began on 7/10/09.

[4] MW02R was re-sampled for TPH-D and TPH-HO on 10/20/09.

[5] Unless otherwise noted in this footnote, all of the indicated analyses were performed for all sampled MWs. In accordance with the RIWP SAP, dioxins/furans analyses were only performed for two MWs (MW16 and MW24S). In accordance with the RIWP SAP, PCB analyses were initially only performed for two MWs (MW04 and MW24S). However, per Ecology's recommendation, PCB analyses were performed for all MWs being sampled during the September 2009 and December 2009 GWM events. In accordance with the RIWP SAP, dissolved metals analyses were initially only performed for select MWs during the June 2009 GWM event. However, dissolved metals analyses were performed for all MWs being sampled during all subsequent GWM events for field simplicity. Constituents for the March 2010 and August 2010 GWM were determined in consultation with Ecology based on results of previous GWM events.

TABLE 2
SUMMARY OF MONITORING WELL COMPLETION DETAILS

MW Name	Date Installed	MW Diameter (inches)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)
MW01	01/02/07	0.75	5	10
MW02	01/02/07	0.75	5	10
MW02R	09/16/09	2	2	12
MW03	01/02/07	0.75	7	12
MW04	01/02/07	0.75	10	15
MW05	01/15/07	1	7	12
MW06	01/15/07	1	7	12
MW07	01/17/07	1	5.5	10.5
MW08	01/17/07	1	7	12
MW09	01/17/07	1	3.5	8.5
MW10	01/15/07	1	6.5	11.5
MW11	08/03/07	1	5	10
MW12	08/01/07	1	4	12
MW13	08/01/07	1	5	10
MW14	08/07/07	1	5	10
MW15	08/03/07	1	3	8
MW16	07/31/07	2	6	10.5
MW17	08/02/07	2	3	8
MW18	08/02/07	2	7	12
MW19	08/01/07	2	4	9
MW20	08/02/07	2	4	9
MW21S	06/12/09	2	2	7
MW22S	06/12/09	2	1	6
MW23S	06/12/09	2	4	9
MW24S	06/12/09	2	2.5	7.5
MW25S	06/12/09	2	2	7

Notes:
bgs = below ground surface
MW = Monitoring Well
Surface completions for all MWs are flush-mount.

TABLE 3

GROUNDWATER MONITORING DEVIATIONS FROM SAMPLING AND ANALYSIS PLAN

SAP Section	Deviation	Rationale / Explanation
4.0	Work was executed by PIONEER rather than GeoEngineers.	The Port selected PIONEER to perform this work.
5.4.1	An interface probe was used in place of an electronic water level indicator to measure the depth to LNAPL and the depth to water.	An interface probe was necessary to measure the depth to LNAPL.
5.4.1	Depth to water measurements were not obtained from MW09 during the September 2009 and subsequent GWM events.	The casing was damaged such that the interface probe or an electronic water level indicator was not able to fit down the MW.
5.4.1	A YSI 556 water quality meter was used in place of a Horiba U-20 water quality meter.	These are equivalent meters.
5.4.1	The groundwater purging and sampling flow rate was always less than 1 liter per minute, but not necessarily less than 0.5 liters per minute.	In accordance with low-flow sampling guidance (USEPA 2002), low-flow sampling is defined by drawdown, not a specific flow rate. It is not always possible or necessary to achieve a flow rate less than 0.5 liters per minute.
10.0	Investigation derived waste from June 2009 through March 2010 GWM events was added to one of the on-site Baker storage tanks being used in the Interim Action water treatment system.	The on-site treatment system provided a more cost-effective, convenient, and efficient method for addressing investigation-derived waste compared to off-site disposal.
10.0	Investigation derived waste from the August 2010 GWM events was infiltrated on-site.	Previous analytical results had demonstrated that constituent concentrations in groundwater were less than screening levels or were consistent with natural background concentrations.
Table 3	Measurements were not obtained and samples were not collected from MW05 during the June 2009 and subsequent GWM events.	MW05 was decommissioned on 06/16/09 because it was located within a road right-of-way. MW24S was installed in the vicinity of former MW05.
Table 3	Measurements were not obtained and samples were not collected from MW17 during the June 2009 and subsequent GWM events.	The location of MW17 could not be found despite repeated attempts. MW17 may have been decommissioned.
Table 3	MW02R was used in place of MW02 during the September 2009 and subsequent GWM events.	MW02 was decommissioned on 09/04/09 because it was located within a road right-of-way. MW02R was installed in the vicinity of former MW02 and MW17.
Table 3	Measurements were not obtained and samples were not collected from MW12 during the September 2009 GWM event.	MW12 was essentially dry on two different sampling attempts during this GWM event (the second attempt was made near high tide).
Table 3	Measurements were not obtained and samples were not collected from MW21S during the November 2009 GWM event.	MW21S was covered by water during this GWM event.
Table 3	Measurements were not obtained and samples were not collected from MW13 and MW21S during the December 2009 GWM event.	MW13 and MW21S were covered by water during this GWM event.
Table 3	Additional analyses were added for MW23S samples during the June 2009 and subsequent GWM events to be consistent with the analyses being performed for other MWs.	These analyses were added as a field simplification measure.
Table 3	Analyses for PCBs and dioxins/furans were added for MW24S during the June 2009 and subsequent GWM events.	These analyses were added to replace analyses for PCBs and dioxins/furans not performed for nearby MW05, which was decommissioned.
Table 3	Analyses for copper and nickel were added for all MWs being sampled during the June 2009 and subsequent GWM events.	Analyses were added per Ecology request.
Table 3	Analyses for dissolved metals were modified during the June 2009 and subsequent GWM events. The SAP originally called for dissolved metals analyses from only four MWs.	Except for the sample collected from MW13 on 06/30/09 (which was field filtered), all samples for dissolved metals analyses were filtered by the laboratories. Additional analyses for dissolved metals were added during the June 2009 GWM event for MWs near the downgradient edge of the property boundary and for MWs which appeared in the field to have elevated turbidity. Based on the detection of metals in method blanks and because almost all dissolved metals concentrations from the June 2009 GWM event were similar to or slightly higher than total metals concentrations, analyzing for all dissolved metals during the September

TABLE 3

GROUNDWATER MONITORING DEVIATIONS FROM SAMPLING AND ANALYSIS PLAN

SAP Section	Deviation	Rationale / Explanation
		2009 GWM event did not appear to add significant value. As a result, samples collected from all MWs being sampled during the September 2009 GWM event were analyzed for dissolved arsenic only as a field simplification measure. Since a new primary laboratory was employed starting with the November 2009 GWM event, all MWs being sampled during the November 2009 and subsequent GWM events were analyzed for dissolved arsenic, lead, copper, and nickel (the constituents which had been detected as total metals in at least one MW at concentrations exceeding the surface water screening level).
Table 3	Split samples were collected for PAH analyses and submitted to separate laboratories during the September 2009 through December 2009 GWM events.	The primary laboratory reported low level concentrations of benzo(a)anthracene and/or dibenzo(a,h)anthracene in 17 of the 19 MWs sampled during the June 2009 GWM event. These reported detections were suspect for the reasons discussed in the text. To verify this conclusion about the PAH detections, split samples for PAH analyses were collected from all MWs during all subsequent GWM events.
Table 3	Analyses for PCBs were added for all MWs being sampled during the September 2009 through December 2009 GWM events. The SAP originally called for PCB analyses from only 2 MWs.	Analyses were added per Ecology request.
Table 3	Samples collected during the March 2010 and August 2010 GWM events were analyzed for a select list of constituents.	Analyses were determined based on results from previous GWM events, and in consultation with Ecology.
Figure 3	Actual locations of MW21S – MW24S are slightly different than shown on Figure 3.	Locations of MW21S – MW23S were adjusted slightly (less than 15 feet) in the field due to utility features or other obstructions. MW24S was moved to the east to be roughly equidistant between MW10 and MW05 in order to account for the decommissioning of MW05.
N/A	The June 2009 GWM event was conducted before artesian well AW-1 was decommissioned.	The reason GWM events were originally scheduled to begin following completion of artesian well decommissioning is because several artesian wells were assumed to have a significant influence on site groundwater conditions. Investigation work conducted subsequent to the RIWP revealed that there was only one on-site artesian well and the influence of that one artesian well was relatively insignificant to site groundwater conditions.
N/A	An extra GWM even was conducted in November 2009 (between the quarterly GWM events conducted in September 2009 and December 2009).	The November 2009 GWM event was conducted per Ecology request.
N/A	The SAP originally called for four quarters of GWM (i.e., June 2009 through March 2010 GWM events). An extra GWM event was conducted in August 2010.	The August 2010 GWM event was conducted to provide additional data for select constituents.

Notes:
Dioxins/furans = Chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans
GWM = Groundwater Monitoring
LNAPL = Light non-aqueous phase liquid
MW = Monitoring well
N/A = Not applicable
PAHs = Polycyclic aromatic hydrocarbons
PCBs = Polychlorinated biphenyls
SAP = Sampling and analysis plan
VOCs = Volatile organic compounds

Table 4
Measured Depth to Groundwater and Calculated Groundwater Elevations

Monitoring Well	Surveyed Elevations (feet) [1]	Revised Surveyed Elevation (feet) [1,2]	Measured Depth to Groundwater (feet) by Sampling Event [3]												Groundwater Elevation (feet NGVD29) by Sampling Event											
							Jul-08												Jul-08							
			Jan-07	Jun-07 [4]	Jul-07	Aug-07	Low Tide	High Tide	Jun-09 [5]	Sep-09 [5]	Nov-09 [5]	Dec-09 [5]	Mar-10	Aug-10	Jan-07	Jun-07	Jul-07	Aug-07	Low Tide	High Tide	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	10.78	--	4.14	4.44	4.30	4.55	4.40	4.39	4.18	4.83	2.08	4.09	4.27	4.99	6.64	6.34	6.48	6.23	6.38	6.39	6.60	5.95	8.70	6.69	6.51	5.79
MW02	10.41	--	3.48	3.88	3.70	3.92	3.65	3.70	3.49	NM	NM	NM	NM	NM	6.93	6.53	6.71	6.49	6.76	6.71	6.92	NM	NM	NM	NM	NM
MW02R	10.15	--	NM	NM	NM	NM	NM	NM	NM	4.08	2.93	3.73	4.13	4.45	NM	NM	NM	NM	NM	NM	NM	6.07	7.22	6.42	6.02	5.70
MW03	11.05	--	4.28	4.82	4.64	4.92	4.79	5.78	4.58	5.11	3.13	4.07	4.82	5.25	6.77	6.23	6.41	6.13	6.26	5.27	6.47	5.94	7.92	6.98	6.23	5.80
MW04	11.70	--	5.33	6.37	5.40	6.46	5.69	5.65	5.49	6.29	4.32	5.42	6.14	6.14	6.37	5.33	6.30	5.24	6.01	6.05	6.21	5.41	7.38	6.28	5.56	5.56
MW05	11.69	--	4.19	4.22	4.19	4.25	4.19	4.21	NM	NM	NM	NM	NM	NM	7.50	7.47	7.50	7.44	7.50	7.48	NM	NM	NM	NM	NM	NM
MW06	10.26	--	0.82	0.37	0.50	0.84	1.14	1.05	NM	NM	NM	NM	NM	1.50	9.44	9.89	9.76	9.42	9.12	9.21	NM	NM	NM	NM	NM	8.76
MW07	10.99	11.01	4.70	4.81	4.57	5.12	5.03	5.00	5.15	5.16	4.05	7.00	5.12	5.52	6.29	6.18	6.42	5.87	5.96	5.99	5.84	5.85	6.96	4.01	5.89	5.49
MW08	11.32	--	NM	2.22	2.06	2.42	2.62	2.55	2.73	4.48	2.72	3.12	3.02	3.66	NM	9.10	9.26	8.90	8.70	8.77	8.59	6.84	8.60	8.20	8.30	7.66
MW09	10.78	--	2.61	2.51	2.05	2.66	2.65	2.60	2.73	NM	NM	NM	NM	NM	8.17	8.27	8.73	8.12	8.13	8.18	8.05	NM	NM	NM	NM	NM
MW10	11.39	--	2.61	3.57	3.55	3.80	3.55	3.48	NM	NM	3.70	NM	4.38	4.26	8.78	7.82	7.84	7.59	7.84	7.91	NM	NM	7.69	NM	7.01	7.13
MW11	11.07	--	NM	NM	NM	3.12	3.42	NM	3.42	3.17	2.40	2.60	3.34	3.52	NM	NM	NM	7.95	7.65	NM	7.65	7.90	8.67	8.47	7.73	7.55
MW12	10.4	11.74	NM	NM	NM	7.48	9.40	7.11	9.73	8.84	8.92	7.04	9.72	11.79	NM	NM	NM	2.89	0.97	3.26	0.64	2.90	2.82	4.70	2.02	-0.05
MW13	9.91	--	NM	NM	NM	4.18	4.26	4.23	4.22	4.11	3.29	NM	4.10	4.30	NM	NM	NM	5.73	5.65	5.68	5.69	5.80	6.62	NM	5.81	5.61
MW14	10.74	--	NM	NM	NM	1.41	1.59	1.48	2.00	2.21	2.64	1.53	1.64	2.13	NM	NM	NM	9.33	9.15	9.26	8.74	8.53	8.10	9.21	9.10	8.61
MW15	9.86	--	NM	NM	NM	4.04	4.09	4.09	3.82	3.87	2.09	2.56	3.08	3.36	NM	NM	NM	5.82	5.77	5.77	6.04	5.99	7.77	7.30	6.78	6.50
MW16	11.40	--	NM	NM	NM	6.35	5.32	5.41	5.21	5.51	4.36	4.50	5.60	5.90	NM	NM	NM	5.05	6.08	5.99	6.19	5.89	7.04	6.90	5.80	5.50
MW17	10.28	--	NM	NM	NM	3.56	2.85	2.93	NM	NM	NM	NM	NM	NM	NM	NM	NM	6.72	7.43	7.35	NM	NM	NM	NM	NM	NM
MW18	12.2	--	NM	NM	NM	8.63	11.40 [6]	6.56	8.88	10.71	7.45	5.50	Dry	Dry	NM	NM	NM	3.58	0.81	5.65	3.33	1.50	4.76	6.71	Dry	Dry
MW19	9.38	--	NM	NM	NM	3.47	3.78	3.68	NM	NM	NM	NM	NM	4.06	NM	NM	NM	5.91	5.60	5.70	NM	NM	NM	NM	NM	5.32
MW20	10.06	--	NM	NM	NM	5.65	5.70	5.70	5.12	5.05	3.92	4.73	4.70	7.40	NM	NM	NM	4.41	4.36	4.36	4.94	5.01	6.14	5.33	5.36	2.66
MW21S	9.81	--	NM	NM	NM	NM	NM	NM	4.20	4.31	NM	NM	4.21	4.49	NM	NM	NM	NM	NM	NM	5.61	5.50	NM	NM	5.60	5.32
MW22S	10.48	--	NM	NM	NM	NM	NM	NM	0.77	0.70	0.020	0	0.50	0.87	NM	NM	NM	NM	NM	NM	9.71	9.78	10.5	10.5	9.98	9.61
MW23S	10.72	--	NM	NM	NM	NM	NM	NM	4.11	4.62	3.28	4.05	4.59	4.91	NM	NM	NM	NM	NM	NM	6.61	6.10	7.44	6.67	6.13	5.81
MW24S	11.49	--	NM	NM	NM	NM	NM	NM	3.70	4.49	3.71	3.65	3.87	4.26	NM	NM	NM	NM	NM	NM	7.79	7.00	7.78	7.84	7.62	7.23
MW25S	10.95	--	NM	NM	NM	NM	NM	NM	0.81	0.89	0.80	1.00 [7]	0.67	0.94	NM	NM	NM	NM	NM	NM	10.14	10.06	10.15	9.95	10.28	10.01

Notes:

MW = Monitoring well

NGVD29 = National Geodetic Vertical Datum of 1929

NM = Not measured

Groundwater elevations are based on actual measurements (i.e., no salt water density adjustment was made for MWs with elevated salinity).

[1] Surveyed by licensed surveyor from Skillings Connolly, with vertical datum of NGVD29.

[2] Surface seals for MW07 and MW12 were revised between the June 2009 and September 2009 events. The revised elevations in this column were used for calculating elevations in the September 2009 and subsequent events.

[3] From top of PVC casing

[4] Depth to groundwater calculated from well elevations and map of groundwater elevations included in GeoEngineers report (GeoEngineers 2007c).

[5] Groundwater measurements were not collected synoptically during this event since the Remedial Investigation Work Plan (GeoEngineers and PIONEER 2008) did not specify collection of synoptic measurements, and previous tidal studies concluded there was minimal tidal influence at the site.

[6] Depth estimated by Greylock Consulting based on wetness at bottom of MW.

[7] Assumed depth to groundwater since depth was reported as "< 1" in field notes.

Table 5
LNAPL Thickness Measurements

Monitoring Well	LNAPL Thickness (in) Measurements by Sampling Event									
	Jan-07 [1]	Jun-07 [1]	Jul-07 [1]	Aug-07 [1]	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	NM	NM	NM	NM	--	--	--	--	--	--
MW02	NM	NM	NM	NM	--	NM	NM	NM	NM	NM
MW02R	NM	NM	NM	NM	NM	--	--	--	--	--
MW03	NM	NM	NM	NM	--	--	--	--	--	--
MW04	NM	NM	NM	NM	--	--	--	--	--	--
MW05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW06	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW07	NM	NM	NM	NM	--	--	--	--	--	--
MW08	NM	NM	NM	NM	--	--	--	--	--	--
MW09	NM	NM	NM	NM	--	NM	NM	NM	NM	NM
MW10	NM	NM	NM	NM	NM	NM	--	NM	NM	NM
MW11	NM	NM	NM	NM	--	--	--	--	--	--
MW12	NM	NM	NM	NM	--	--	--	--	--	--
MW13	NM	NM	NM	NM	--	--	--	NM	--	--
MW14	NM	NM	NM	NM	--	--	--	--	--	--
MW15	NM	NM	NM	NM	--	--	--	--	--	--
MW16	NM	NM	NM	NM	--	--	--	--	--	--
MW17	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW18	NM	NM	NM	NM	--	--	--	--	--	--
MW19	NM	NM	NM	NM	--	NM	NM	NM	NM	NM
MW20	NM	NM	NM	NM	--	--	--	--	--	--
MW21S	NM	NM	NM	NM	--	--	NM	NM	--	--
MW22S	NM	NM	NM	NM	--	--	--	--	--	--
MW23S	NM	NM	NM	NM	--	--	--	--	--	--
MW24S	NM	NM	NM	NM	--	--	--	--	--	--
MW25S	NM	NM	NM	NM	--	--	--	--	--	--

Notes:

LNAPL = Light non-aqueous phase liquid

MW = Monitoring well

NM = Not measured

-- = No measureable LNAPL thickness was measured using interface probe with 0.01-foot accuracy.

[1] It is assumed that GeoEngineers did not measure for LNAPL with an interface probe while obtaining groundwater measurements during these events since no records of such activity were discovered during a review of the GeoEngineers reports included in the References Section. However, it is unlikely that LNAPL was present in any MW during those events given the general lack of elevated dissolved-phase concentrations of total petroleum hydrocarbons in the gasoline, diesel, and heavy oil range during these groundwater monitoring events and the likelihood that GeoEngineer reports would have mentioned the presence of a significant petroleum sheen on purge water if it was encountered.

Table 6
Salinity Concentrations

Monitoring Location	Approximate Distance from East Bay (ft)	Concentration (parts per thousand) by Sampling Event								
		Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	300	NM	NM	NM	0.19	0.59	0.26	0.27	0.09	0.16
MW02	400	NM	NM	NM	0.08	NM	NM	NM	NM	NM
MW02R	460	NM	NM	NM	NM	0.2	0.17	0.18	0.29	0.15
MW03	330	NM	NM	NM	6.5	2.7	0.67	0.32	0.25	0.29
MW04	140	NM	NM	NM	7.5	6.6	3.0	3.9	4.1	2.1
MW05	160	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW06	330	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW07	560	NM	NM	NM	< 1	0.18	0.17	0.12	0.12	0.11
MW08	410	NM	NM	NM	< 1	2.0	0.81	0.89	0.44	0.56
MW09	350	NM	NM	NM	< 1	0.46	0.40	0.37	0.36	0.30
MW10	240	NM	NM	NM	NM	NM	0.45	NM	NM	NM
MW11	120	NM	NM	NM	0.12	0.10	0.13	0.11	0.11	0.10
MW12	120	NM	NM	NM	NM	17	13	16	13	5.4
MW13	320	NM	NM	NM	< 1	2.2	0.25	NM	0.61	1.2
MW14	380	NM	NM	NM	< 1	0.30	0.28	0.27	0.28	0.20
MW15	670	NM	NM	NM	NM	1.1	1.1	0.88	0.77	0.60
MW16	140	NM	NM	NM	1.1	1.3	2.3	2.7	3.7	1.2/0.91 (1)
MW17	540	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW18	90	NM	NM	NM	15	18	11	11	14	4.7
MW19	310	NM	NM	NM	0.89	NM	NM	NM	NM	NM
MW20	450	NM	NM	NM	< 1	0.63	0.54	NM	0.53	0.51
MW21S	290	NM	NM	NM	0.86	0.89	NM	NM	0.78	0.49
MW22S	310	NM	NM	NM	< 1	0.13	0.12	0.08	0.08	0.10
MW23S	230	NM	NM	NM	0.55	0.91	0.63	1.3	0.55	0.42
MW24S	210	NM	NM	NM	0.13	0.17	0.19	0.10	0.26	0.20/0.20 (1)
MW25S	480	NM	NM	NM	< 1	0.13	0.11	0.09	0.09	0.10
Seep #1	0	NM	NM	NM	20	25	NM	NM	NM	NM
Seep #2	0	NM	NM	NM	23	NM	NM	NM	NM	NM
Seep #3	0	NM	NM	NM	23	26	NM	NM	NM	NM
Seep #4	0	NM	NM	NM	25	NM	NM	NM	NM	NM
Moxlie Creek Outfall	0	NM	NM	NM	0.50	NM	NM	NM	NM	NM
Budd Inlet at Swantown Marina Dock	0	NM	NM	NM	28	27	NM	NM	NM	NM

Notes:
MW = Monitoring well
NM = Not measured
Salinity concentration data from field measurements with YSI 556 water quality meter. For events when multiple measurements were collected during purging, the last reading was used in this table since stabilization had been achieved.
Typical salinity concentration for Puget Sound is 20 to 30 parts per thousand (Ecology 2006). Typical salinity concentration for fresh water is less than 0.5 parts per thousand (Groundwater Foundation 2010).
(1) MW16 and MW24S had to be sampled twice because bottles broke or spilled so both measurements are shown.

Table 7
Turbidity Concentrations

Monitoring Location	Turbidity Concentrations (NTU) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	NM	NM	NM	NM	NM	NM	NM	5.4	18
MW02	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW02R	NM	NM	NM	NM	NM	NM	NM	6.2	2.5
MW03	NM	NM	NM	NM	NM	NM	NM	8.7	0.25
MW04	NM	NM	NM	NM	NM	NM	NM	7.5	2.3
MW05	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW06	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW07	NM	NM	NM	NM	NM	NM	NM	-1.9 (1)	1.2
MW08	NM	NM	NM	NM	NM	NM	NM	9.9	11
MW09	NM	NM	NM	NM	NM	NM	NM	1.7	10
MW10	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW11	NM	NM	NM	NM	NM	NM	NM	6.1	2.6
MW12	NM	NM	NM	NM	NM	NM	NM	0.64	80
MW13	NM	NM	NM	NM	NM	NM	NM	16	44
MW14	NM	NM	NM	NM	NM	NM	NM	23	57
MW15	NM	NM	NM	NM	NM	NM	NM	3.6	-1.8 (1)
MW16	NM	NM	NM	NM	NM	NM	NM	24	10/7.2 (2)
MW17	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW18	NM	NM	NM	NM	NM	NM	NM	7.1	-0.26 (1)
MW19	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW20	NM	NM	NM	NM	NM	NM	NM	-3.4 (1)	13
MW21S	NM	NM	NM	NM	NM	NM	NM	0.07	0.95
MW22S	NM	NM	NM	NM	NM	NM	NM	6.7	43
MW23S	NM	NM	NM	NM	NM	NM	NM	4.6	5.9
MW24S	NM	NM	NM	NM	NM	NM	NM	4.4	-0.92 (1)/5.1 (2)
MW25S	NM	NM	NM	NM	NM	NM	NM	9.0	33

Notes:
MW = Monitoring well
NM = Not measured
NTU = Nephelometric Turbidity Units
Turbidity data from field measurements LaMotte Turbidity Meter 2020e. For events when multiple measurements were collected during purging, the last reading was used in this table since stabilization had been achieved.

(1) Turbidity values less than zero are suspect since turbidity cannot be less than zero. These particular negative values are likely the result of the samples having slightly less turbidity than the zero standard used to calibrate the turbidity meter in the field.

(2) MW16 and MW24S had to be sampled twice because bottles broke or spilled so both measurements are shown.

TABLE 8
GROUNDWATER PRACTICAL QUANTITATION LIMIT SUMMARY

Constituent Type	RIWP PQL Expectations (GeoEngineers and PIONEER 2008) (ug/L)	Revised PQL Expectations (Ecology 2009b) (ug/L)	Actual PQLs During June 2009 and September 2009 GWM Events (ug/L)	Actual PQLs During November 2009 through August 2010 GWM Events (ug/L)
VOCs [1]	1.0	0.5	0.5	0.5
TPH-G	30	50	50	250 – 500
TPH-D	250	250	250	100
TPH-HO	500	500	500	500
PAHs [2]	0.01	0.05	0.01 [3]	0.01 [3]
Metals other than mercury	0.2 – 100	0.5	0.5	1.0
Mercury	0.02	0.5	0.5	0.1
PCBs [2]	0.01	0.05	0.01	0.2
Dioxins/furans [4]	0.000028 [5]	0.000010 [5]	0.000002 – 0.000003	0.000006 – 0.000008

Notes:
Dioxins/furans = Chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans
GWM = Groundwater Monitoring
PAHs = Polycyclic aromatic hydrocarbons
PCBs = Polychlorinated biphenyls
PQL = Practical quantitation limit
RIWP = Remedial Investigation Work Plan (GeoEngineers and PIONEER 2008)
TPH-D = Total petroleum hydrocarbons in the diesel range
TPH-G = Total petroleum hydrocarbons in the gasoline range
TPH-HO = Total petroleum hydrocarbons in the heavy oil range
VOCs = Volatile Organic Compounds

[1] PQL values shown are for overwhelming majority of VOCs, although some VOCs may have a higher PQL (e.g., methylene chloride).
[2] PQL values shown are for each constituent.
[3] Value for primary laboratory. Secondary laboratory had PQLs between 0.041 ug/L and 0.047 ug/L per PAH constituent.
[4] Total PQL on a toxicity equivalency quotient basis. Since all dioxins/furans congeners have been detected at least once at the site, a value of ½ the reporting limit was assigned for each congener in the toxicity equivalency quotient calculations in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology 2001b).
[5] The RIWP PQL expectation was calculated by multiplying ½ of the target reporting limit listed in the RIWP for each congener by the toxicity equivalency factor for that congener. The revised PQL expectation is based on Table C-3 of the Infrastructure IAWP (PIONEER 2009a).

Table 9
Comparison of cPAH Concentrations (ug/L) from Split Groundwater Samples

Constituent	MW01-092209	MW02R-092209	MW03-092209	MW04-091809	MW07-092109	MW08-092109	MW09-092109	MW11-091809	MW12-092109	MW13-092109	MW14-092109	MW15-091809	MW16-091809	MW18-092309	MW20-092209
Dragon Analytical Laboratory															
Benzo(a)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**1.0 NJ**	**1.0 NJ**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Ideno(1,2,3-cd)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Total cPAHs [(1)]	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	**0.11 NJ**	**0.11 NJ**	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
PACE Analytical Services															
Benzo(a)anthracene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Benzo(a)pyrene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Benzo(b)fluoranthene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Benzo(k)fluoranthene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Chrysene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Dibenzo(a,h)anthracene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Ideno(1,2,3-cd)pyrene	0.043 U	0.041 U	0.043 U	0.041 U	0.044 U	0.044 U	0.044 U	0.047 U	0.044 U	0.047 U	0.044 U	0.043 U	0.041 U	0.043 U	0.043 U
Total cPAHs [(1)]	0.033 U	0.031 U	0.033 U	0.031 U	0.033 U	0.033 U	0.033 U	0.036 U	0.033 U	0.036 U	0.033 U	0.033 U	0.031 U	0.033 U	0.033 U

Notes:

cPAHs = Carcinogenic polycyclic aromatic hydrocarbons

J = Estimated concentration

N = Tentatively identified compound

U = Not detected at shown concentration

Detections shown in bold typeface

[(1)] Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs, all congeners have been detected a least once in soil and groundwater

Table 9
Comparison of cPAH Concentrations (ug/L) from Split Groundwater Samples

Constituent	MW21S-092209	MW22S-092109	MW23S-091809	MW24S-091809	MW25S-092109	MW01-112009	MW02R-111809	MW03-111809	MW04-111809	MW07-111909	MW08-111909	MW09-111909	MW11-112009	MW12-111909	MW13-112009
Dragon Analytical Laboratory						**Anatek Labs**									
Benzo(a)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	**0.5 NJ**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Ideno(1,2,3-cd)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Total cPAHs [(1)]	0.0076 U	0.0076 U	0.0076 U	0.0076 U	**0.057 NJ**	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
PACE Analytical Services															
Benzo(a)anthracene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Benzo(a)pyrene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Benzo(b)fluoranthene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Benzo(k)fluoranthene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Chrysene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Dibenzo(a,h)anthracene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Ideno(1,2,3-cd)pyrene	0.044 U	0.043 U	0.044 U	0.041 U	0.044 U	0.047 U	0.045 U	0.045 U	0.046 U	0.046 U	0.043 U	0.044 U	0.046 U	0.047 U	0.048 U
Total cPAHs [(1)]	0.033 U	0.033 U	0.033 U	0.031 U	0.033 U	0.036 U	0.034 U	0.034 U	0.035 U	0.035 U	0.033 U	0.033 U	0.035 U	0.036 U	0.036 U

Table 9
Comparison of cPAH Concentrations (ug/L) from Split Groundwater Samples

Constituent	MW14-111909	MW15-112009	MW16-111809	MW18-111809	MW20-111809	MW22S-112009	MW23S-111809	MW24S-111909	MW25S-111909	MW01-121509	MW02R-121509	MW03-121609	MW04-121509	MW07-121809	MW08-121609
Anatek Labs															
Benzo(a)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.021	0.01 U	0.02	0.01 U	0.01 U	**0.027**	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.021**	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.01**	0.01 U	**0.01**	0.01 U	0.01 U	**0.024**	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.011**	0.01 U	0.01 U	0.01 U
Chrysene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.01 U	**0.021**	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Ideno(1,2,3-cd)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	**0.019**	0.01 U	0.01 U	0.01 U
Total cPAHs [(1)]	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	**0.0097**	0.0076 U	**0.0099**	0.0076 U	0.0076 U	**0.030**	0.0076 U	0.0076 U	0.0076 U
PACE Analytical Services															
Benzo(a)anthracene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Benzo(a)pyrene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Benzo(b)fluoranthene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Benzo(k)fluoranthene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Chrysene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Dibenzo(a,h)anthracene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Ideno(1,2,3-cd)pyrene	0.046 U	0.045 U	0.044 U	0.047 U	0.045 U	0.045 U	0.045 U	0.047 U	0.046 U	0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.046 U
Total cPAHs [(1)]	0.035 U	0.034 U	0.033 U	0.036 U	0.034 U	0.034 U	0.034 U	0.036 U	0.035 U	0.034 U	0.033 U	0.033 U	0.034 U	0.033 U	0.035 U

Table 9
Comparison of cPAH Concentrations (ug/L) from Split Groundwater Samples

Constituent	MW09-121609	MW11-121709	MW12-121709	MW14-121609	MW15-121809	MW16-121709	MW18-121709	MW20-121509	MW22S-121609	MW23S-121709	MW24S-121709	MW25S-121609
Anatek Labs												
Benzo(a)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)anthracene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Ideno(1,2,3-cd)pyrene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Total cPAHs [(1)]	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U
PACE Analytical Services												
Benzo(a)anthracene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Benzo(a)pyrene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Benzo(b)fluoranthene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Benzo(k)fluoranthene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Chrysene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Dibenzo(a,h)anthracene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Ideno(1,2,3-cd)pyrene	0.045 U	0.045 U	0.050 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.043 U	0.045 U	0.044 U	0.044 U
Total cPAHs [(1)]	0.034 U	0.034 U	0.038 U	0.033 U	0.034 U	0.034 U	0.033 U	0.033 U	0.033 U	0.034 U	0.033 U	0.033 U

Table 10
Preliminary Screening of Groundwater Constituents of Interest

Constituent	Chemical Abstract Service No.	Number of Groundwater Samples	Minimum Non-Detect PQL (ug/L)	Maximum Non-Detect PQL (ug/L)	Number of Detections	Maximum Detected Concentration (ug/L)	Surface Water Screening Level (ug/L) [1,2,3]	Surface Water Screening Level Exceedance?
Total Metals								
Arsenic	7440-38-2	145	0.50	2.0	104	140	5.0 [4]	**Yes**
Barium	7440-39-3	86	5.0	10	84	420	No value [5]	--
Cadmium	7440-43-9	86	0.50	2.0	1	0.69	8.8	No
Chromium	7440-47-3	106	0.50	25	43	52	50 [6]	**Yes**
Copper	7440-50-8	116	0.50	1.0	89	52	2.4	**Yes**
Lead	7439-92-1	145	0.24	2.0	53	45	8.1	**Yes**
Mercury	7439-97-6	86	0.10	0.50	1	0.087	0.10 [7]	No
Nickel	7440-02-0	116	0.50	1.0	57	38	8.2	**Yes**
Selenium	7782-49-2	86	0.50	100	4	1.3	71	No
Silver	7440-22-4	86	0.50	20	1	0.60	1.9	No
Total Petroleum Hydrocarbons								
TPH-G	PTC_000004	106	50	500	8	180	1,000 [8,9]	No
TPH-D	PTC_000003	126	37	250	19	1060	500 [8]	**Yes**
TPH-HO	PTC_000005	125	230	500	5	1080	500 [8]	**Yes**
Volatile Organic Compounds								
1,1-Dichloropropene	563-58-6	86	0.50	1.0	0	--	--	--
1,2,3-trichlorobenzene	87-61-6	86	0.50	1.0	0	--	--	--
1,2,4-Trimethylbenzene	95-63-6	86	0.50	1.0	4	5.5	No value [5,10]	--
1,3,5-Trimethylbenzene	108-67-8	86	0.50	1.0	3	5.6	No value [5,10]	--
1,3-dichloropropane	142-28-9	86	0.50	1.0	0	--	--	--
1-Phenylpropane	103-65-1	29	1.0	1.0	0	--	--	--
2,2-dichloropropane	594-20-7	47	0.50	1.0	0	--	--	--
2-chlorotoluene	95-49-8	86	0.50	1.0	0	--	--	--
4-chlorotoluene	106-43-4	86	0.50	1.0	0	--	--	--
4-isopropyltoluene	99-87-6	86	0.50	1.0	14	58	No value [10]	--
Acetone	67-64-1	18	2.5	2.5	0	--	--	--
Acetonitrile	75-05-8	39	2.0	2.0	0	--	--	--
Acrylonitrile	107-13-1	57	0.50	2.0	0	--	--	--
Allyl Chloride	107-05-1	39	0.50	0.50	0	--	--	--
Benzene	71-43-2	106	0.50	1.0	5	4.2	23	No
Bromobenzene	108-86-1	67	0.50	1.0	0	--	--	--
Bromochloromethane	74-97-5	86	0.50	1.0	0	--	--	--
Bromodichloromethane	75-27-4	86	0.50	1.0	1	0.47	17	No
Bromoform	75-25-2	86	0.50	1.0	0	--	--	--
Bromomethane	74-83-9	86	0.50	1.0	0	--	--	--
CFC-11	75-69-4	66	0.50	1.0	0	--	--	--
CFC-12	75-71-8	66	0.50	1.0	0	--	--	--
Carbon Disulfide	75-15-0	57	0.50	0.50	0	--	--	--
Carbon Tetrachloride	56-23-5	86	0.50	1.0	0	--	--	--
Chloro-1,3-Butadiene, 2-	126-99-8	39	3.0	3.0	0	--	--	--
Chlorobenzene	108-90-7	86	0.50	1.0	1	0.14	1,600	No
Chloroform	67-66-3	86	0.50	1.0	1	0.48	280	No
Chloromethane	74-87-3	86	0.50	1.0	1	0.20	130	No
Cumene	98-82-8	86	0.50	1.0	0	--	--	--
Dibromo-3-chloropropane, 1,2-	96-12-8	86	0.50	2.0	0	--	--	--
Dibromochloromethane	124-48-1	86	0.50	1.0	0	--	--	--

Table 10
Preliminary Screening of Groundwater Constituents of Interest

Constituent	Chemical Abstract Service No.	Number of Groundwater Samples	Minimum Non-Detect PQL (ug/L)	Maximum Non-Detect PQL (ug/L)	Number of Detections	Maximum Detected Concentration (ug/L)	Surface Water Screening Level (ug/L) [1,2,3]	Surface Water Screening Level Exceedance?
Dibromoethane, 1,2-	106-93-4	86	0.50	1.0	0	--	--	--
Dichlorobenzene, 1,4-	106-46-7	86	0.19	1.0	0	--	--	--
Dichloroethane, 1,1-	75-34-3	86	0.50	1.0	1	0.28	No value [5]	--
Dichloroethane, 1,2-	107-06-2	86	0.50	1.0	0	--	--	--
Dichloroethene, 1,1-	75-35-4	86	0.50	1.0	2	0.84	3.2	No
Dichloroethylene, Cis-1,2-	156-59-2	86	0.50	1.0	0	--	--	--
Dichloroethylene, Trans-1,2-	156-60-5	86	0.50	1.0	0	--	--	--
Dichloromethane	75-09-2	52	1.0	2.5	0	--	--	--
Dichloropropane, 1,2-	78-87-5	86	0.50	1.0	0	--	--	--
Dichloropropene, Cis-1,3-	10061-01-5	86	0.50	1.0	0	--	--	--
Dichloropropene, Trans-1,3-	10061-02-6	86	0.50	1.0	0	--	--	--
Ethyl Benzene	100-41-4	104	0.50	1.0	4	0.70	2,100	No
Ethyl Chloride	75-00-3	66	0.50	5.0	0	--	--	--
Ethyl Ether	60-29-7	39	0.50	0.50	0	--	--	--
Hexanone, 2-	591-78-6	18	2.5	2.5	0	--	--	--
Methyl Tertialry Butyl Ether	1634-04-4	18	0.50	0.50	0	--	--	--
Methacrylonitrile	126-98-7	39	0.50	0.50	0	--	--	--
Methyl Ethyl Ketone	78-93-3	18	2.5	2.5	0	--	--	--
Methyl Isobutyl Ketone	108-10-1	18	2.5	2.5	0	--	--	--
Methyl acrylate	96-33-3	39	0.50	0.50	0	--	--	--
Methyl iodide	74-88-4	39	1.0	1.0	0	--	--	--
Methyl methacrylate	80-62-6	39	0.50	0.50	8	0.78	No value [5]	--
Methylene Bromide	74-95-3	86	0.50	1.0	0	--	--	--
Propionitrile	107-12-0	39	0.50	0.50	0	--	--	--
Styrene	100-42-5	86	0.50	1.0	0	--	--	--
Tert-butylbenzene	98-06-6	86	0.50	1.0	0	--	--	--
Tetrachloroethane, 1,1,2,2-	79-34-5	86	0.50	1.0	0	--	--	--
Tetrachloroethylene	127-18-4	86	0.50	1.0	0	--	--	--
Tetrahydrofuran	109-99-9	32	0.50	0.50	0	--	--	--
Toluene	108-88-3	106	0.50	1.0	22	18	15,000	No
Total Xylenes	1330-20-7	106	0.50	1.5	8	5.2	1,000 [11]	No
Trichloroethane, 1,1,1-	71-55-6	86	0.50	1.0	0	--	--	--
Trichloroethane, 1,1,2-	79-00-5	86	0.50	1.0	0	--	--	--
Trichloroethylene	79-01-6	86	0.50	1.0	0	--	--	--
Trichloropropane, 1,2,3-	96-18-4	86	0.50	1.0	1	13	No value [5]	--
Vinyl Chloride	75-01-4	86	0.50	1.0	0	--	--	--
cis-1,4-Dichloro-2-butene	1476-11-5	39	0.50	0.50	0	--	--	--
n-Butylbenzene	104-51-8	86	0.50	1.0	1	1.1	No value [10]	--
n-Propylbenzene	74296-31-4	57	0.50	0.50	1	1.9	No value [10]	--
sec-Butylbenzene	135-98-8	86	0.50	1.0	0	--	--	--
trans-1,4-Dichloro-2-butene	110-57-6	19	0.50	0.50	0	--	--	--
Semivolatile Organic Compounds								
2-Nitrophenol	88-75-5	29	0.19	0.20	0	--	--	--
2-chloroethoxy-ethene	110-75-8	39	0.50	0.50	0	--	--	--
3- & 4-methylphenol	65794-96-9	10	0.38	0.39	5	6.6	No value [5]	--
Acenaphthene	83-32-9	87	0.01	0.05	27	38	640	No
Acenaphthylene	208-96-8	87	0.01	0.04	2	0.032	No value [10]	--

Table 10
Preliminary Screening of Groundwater Constituents of Interest

Constituent	Chemical Abstract Service No.	Number of Groundwater Samples	Minimum Non-Detect PQL (ug/L)	Maximum Non-Detect PQL (ug/L)	Number of Detections	Maximum Detected Concentration (ug/L)	Surface Water Screening Level (ug/L) [1,2,3]	Surface Water Screening Level Exceedance?
Anthracene	120-12-7	87	0.01	0.02	6	1.4	26,000	No
Bis(2-Chloroisopropyl) Ether	39638-32-9	29	0.19	0.20	0	--	--	--
Benzo(g,h,i)perylene	191-24-2	87	0.01	0.03	3	0.021	No value	--
Benzofluoranthenes (sum)	56832-73-6	10	0.038	0.04	0	--	--	--
Benzoic Acid	65-85-0	29	0.93	0.99	6	7.3	No value [5]	--
Benzyl Alcohol	100-51-6	29	0.19	0.20	0	--	--	--
Bis(2-Chloroethoxy)methane	111-91-1	29	0.19	0.20	0	--	--	--
Bis(2-ethylhexyl)phthalate	117-81-7	29	0.096	1.4	3	76	2.2	No [12]
Bis(Chloroethyl)ether	111-44-4	29	0.19	0.20	0	--	--	--
Bromodiphenyl ether, 4-	101-55-3	29	0.19	0.20	0	--	--	--
Butyl Benzyl Phthalate, N-	85-68-7	29	0.058	0.29	0	--	--	--
Carbazole	86-74-8	29	0.19	0.20	0	--	--	--
Chloro-3-methylphenol, 4-	59-50-7	29	0.19	0.20	1	0.42	No value	--
Chloroaniline, 4-	106-47-8	29	0.19	0.20	0	--	--	--
Chloronaphthalene, 2-	91-58-7	29	0.028	0.03	0	--	--	--
Chlorophenol, 2-	95-57-8	29	0.19	0.20	0	--	--	--
Chlorophenyl-phenyl ether, 4-	7005-72-3	29	0.19	0.20	0	--	--	--
Di-n-Octylphthalate	117-84-0	29	0.19	0.20	1	0.091	No value [5]	--
Dibenzofuran	132-64-9	29	0.19	0.20	1	13	No value [5]	--
Dibutyl Phthalate	84-74-2	29	0.056	0.22	4	4.0	2,900	No
Dichlorobenzene, 1,2-	95-50-1	86	0.19	1.0	0	--	--	--
Dichlorobenzene, 1,3-	541-73-1	86	0.19	1.0	0	--	--	--
Dichlorobenzidine, 3,3'	91-94-1	29	0.93	1.0	0	--	--	--
Dichlorodifluoroethene	27156-03-2	20	0.50	0.50	0	--	--	--
Dichlorophenol, 2,4-	120-83-2	29	0.19	0.20	0	--	--	--
Diethyl Phthalate	84-66-2	29	0.029	0.19	1	0.23	28,000	No
Dimethyl Phthalate	131-11-3	29	0.19	0.20	0	--	--	--
Dimethylphenol, 2,4-	105-67-9	29	0.93	1.0	0	--	--	--
Dinitro-o-Cresol, 4,6-	534-52-1	29	1.9	2.0	0	--	--	--
Dinitrophenol, 2,4-	51-28-5	29	2.3	2.5	0	--	--	--
Dinitrotoluene, 2,4-	121-14-2	29	0.19	0.20	0	--	--	--
Dinitrotoluene, 2,6-	606-20-2	29	0.19	0.20	0	--	--	--
Fluoranthene	206-44-0	87	0.010	0.03	15	0.81	90	No
Fluorene	86-73-7	87	0.010	0.03	25	20	3,500	No
Hexachlorobenzene	118-74-1	29	0.19	0.20	0	--	--	--
Hexachlorobutadiene	87-68-3	86	0.28	1.0	0	--	--	--
Hexachlorocyclopentadiene	77-47-4	29	0.93	1.0	0	--	--	--
Hexachloroethane	67-72-1	29	0.28	0.30	0	--	--	--
Isophorone	78-59-1	29	0.19	0.20	0	--	--	--
Methylphenol, 2-	95-48-7	29	0.19	0.20	0	--	--	--
Methylphenol, 4-	106-44-5	19	0.37	3.8	4	510	No value [5]	--
Nitroaniline, 2-	88-74-4	29	0.19	0.20	0	--	--	--
Nitroaniline, 3-	99-09-2	29	0.19	0.20	0	--	--	--
Nitroaniline, 4-	100-01-6	29	0.28	0.30	0	--	--	--
Nitrobenzene	98-95-3	68	0.19	0.50	0	--	--	--
Nitrophenol, 4-	100-02-7	29	0.93	1.0	0	--	--	--
Nitrosodi-N-propylamine, N-	621-64-7	29	0.19	0.20	0	--	--	--

Table 10
Preliminary Screening of Groundwater Constituents of Interest

Constituent	Chemical Abstract Service No.	Number of Groundwater Samples	Minimum Non-Detect PQL (ug/L)	Maximum Non-Detect PQL (ug/L)	Number of Detections	Maximum Detected Concentration (ug/L)	Surface Water Screening Level (ug/L) [1,2,3]	Surface Water Screening Level Exceedance?
Nitrosodiphenylamine, N-	86-30-6	29	0.19	0.20	0	--	--	--
Pentachlorobenzene	608-93-5	39	0.50	0.50	0	--	--	--
Pentachlorophenol	87-86-5	29	0.33	0.35	1	0.14	3.0	No
Phenanthrene	85-01-8	87	0.010	0.04	24	14	No value [10]	--
Phenol	108-95-2	29	0.28	0.30	2	0.39	1,100,000	No
Pyrene	129-00-0	87	0.010	0.03	13	0.27	2,600	No
Tetrachloroethane, 1,1,1,2-	630-20-6	86	0.50	1.0	0	--	--	--
Total cPAHs [13]	cPAH TEQ	126	0.0076	0.018	25	0.033 J	0.018	**Yes**
Total Naphthalenes [13]	NAPHTH_TEQ	127	0.010	0.16	37	46	4,900	No
Trichlorobenzene, 1,2,4-	120-82-1	86	0.19	1.0	0	--	--	--
Trichlorofluorethene	EVS0325	20	0.50	0.50	0	--	--	--
Trichlorophenol, 2,4,5-	95-95-4	29	0.19	0.20	0	--	--	--
Trichlorophenol, 2,4,6-	88-06-2	29	0.28	0.30	0	--	--	--
trans-1,4-Dichloro-2-butene	110-57-6	20	0.50	0.50	0	--	--	--
Other Organics								
Total Dioxins/Furans [13]	TCDD_TEF	7	6.5E-06	6.5E-06	6	7.6E-06	1.0E-05 [14]	No
Total PCBs	TOT_PCBs	69	0.01	0.52	0	--	--	--

Notes:

-- = Not applicable because constituent has not been detected

cPAHs = Carcinogenic polycyclic aromatic hydrocarbons

Dioxins/furans = Chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans

MTCA = Model Toxics Control Act

No value = No surface water values listed in Ecology's Cleanup Levels and Risk Calculation (CLARC) for this constituent or constituent not included in CLARC.

PCBs = Polychlorinated biphenyls

PQL = practical quantitation limit

TPH = Total petroleum hydrocarbons

TPH-D = Total petroleum hydrocarbons in the diesel range

TPH-G = Total petroleum hydrocarbons in the gasoline range

TPH-HO = Total petroleum hydrocarbons in the heavy oil range

WAC = Washington Administrative Code

Detected concentrations and surface water screening levels presented with two significant figures.

[1] Most stringent of all applicable or relevant and appropriate requirement (ARAR) values referenced in WAC 173-340-730(3)(b)(i) (i.e., Chapter 173-201A WAC, Section 304 of the Clean Water Act, and 40 Code of Federal Regulations 131) for marine waters (i.e., acute aquatic life criteria, chronic aquatic life criteria, human health criteria) as well as Standard Method B surface water formula values for carcinogens and noncarcinogens, subject to any necessary natural background and PQL adjustments.

[2] ARAR values and Standard Method B surface water values from Ecology's CLARC on-line database (Ecology 2009c).

[3] These surface water screening levels are intentionally conservative for the reasons cited in the text.

[4] Adjusted up to default natural background for groundwater of 5 ug/L per WAC 173-340-720(7)(c) and WAC 173-340-730(5)(c) (see footnote b to MTCA Table 720-1).

[5] Maximum groundwater concentrations of constituents without quantified surface water screening levels also do not exceed Standard Method B groundwater cleanup levels, with the exception of 1,2,3-trichloropropane (assuming it is carcinogenic) in one sample and 4-methylphenol in two samples.

[6] This screening level is based on values for chromium VI.

[7] Adjusted up to minimum actual PQL per WAC 173-340-720(7)(c) and WAC 173-340-730(5)(c).

[8] For TPH compounds, MTCA Method A groundwater cleanup levels are used in accordance with WAC 173-340-730(3)(b)(iii)(C).

[9] 1,000 ug/L value is used since benzene is not present at significant concentrations at the site.

[10] Alkylbenzenes and non-carcinogenic polycyclic aromatic hydrocarbons are components of petroleum products that are already accounted for in the TPH cleanup levels (e.g., see footnote 14(a) to MTCA Table 830-1).

[11] Used MTCA Method A groundwater cleanup level to be consistent with Interim Action Work Plan (PIONEER 2009a).

[12] The three detections of the ubiquitous plasticizer bis(2-ethylhexyl)phthalate in 2007 are most likely associated with field/lab contamination rather than a site release. As a result, bis(2-ethylhexyl)phthalate was explicitly excluded from the list of constituents of potential concern in the Remedial Investigation Work Plan (GeoEngineers and PIONEER 2008) and Interim Action Work Plan (PIONEER 2009a).

[13] Values for total cPAHs, total napthalenes, and total dioxins/furans are based on benzo(a)pyrene, napthalene, and 2,3,7,8-tetrachlorodibenzo-p-dioxin, respectively.

[14] Adjusted up to PQL expectation for groundwater per WAC 173-340-720(7)(c) and WAC 173-340-730(5)(c). A PQL value of 10 pg/L was used per Ecology request.

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Table 11
Arsenic Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event																	
	Jan-07		Jun-Aug-07		Jul-08		Jun-09		Sep-09		Nov-09		Dec-09		Mar-10		Aug-10	
	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.
MW01	1.3 J	NS	4.1	NS	NS	NS	3.2	NS	1.1	4.7 BJ	1.0 U	1.0 U	1.2	1.0 U	1.0 U	1.0 U	5.0	2.4
MW02	2.0 U	NS	2.0 U	NS	NS	NS	1.1	**5.4 BJ**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	NS	NS	NS	NS	**9.8**	**13 BJ**	**8.0**	1.6	**7.5**	1.0 U	**10**	1.3	**24**	**8.7**
MW03	2.0 U	NS	2.0 U	NS	NS	NS	**7.3**	**10 BJ**	2.7	**9.7 BJ**	2.7	3.0	4.6	4.0	2.2	2.3	**7.2**	2.7
MW04	**16**	NS	**13**	NS	NS	NS	**9.5**	**8.7 BJ**	**8.0**	**9.9 BJ**	**7.3**	1.8	**5.3**	1.0 U	**5.2**	1.0 U	1.1	1.9
MW05	2.0 U	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW06	2.0 U	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW07	2.0 U	NS	2.5	NS	NS	NS	2.7	NS	**6.2**	**10 BJ**	4.4	2.1	3.0	1.8	2.5	2.2	4.2	3.8
MW08	2.3	NS	2.0	NS	NS	NS	1.4	NS	1.3	**6.1 BJ**	2.1	1.0 U	1.4	1.0 U	3.0	1.0 U	2.0	1.0
MW09	2.0 U	NS	2.0 U	NS	NS	NS	0.9	NS	0.89	**2.4 BJ**	2.9	1.0 U	1.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW10	NS	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW11	NS	NS	2.0 U	NS	NS	NS	1.2	**5.3 BJ**	1.1	**5.2 BJ**	1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.0 U	1.5	1.1
MW12	NS	NS	2.0 U	NS	NS	NS	NS	NS	1.5	**5.1 BJ**	1.0	1.0 U	1.0	1.0 U	1.1	1.0 U	1.0 U	1.0 U
MW13	NS	NS	**6.1**	NS	NS	NS	**7.9**	**6.5 BJ**	**7.5**	**6.9 BJ**	4.9	1.0 U	NS	NS	4.8	1.0 U	**6.6**	2.9
MW14	NS	NS	NS	NS	NS	NS	2.8	NS	2.4	4.9 BJ	2.8	1.3	1.4	1.0 U	1.8	1.1	3.5	3.1
MW15	NS	NS	2.0 U	NS	NS	NS	0.8	NS	0.52	3.5 BJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW16	NS	NS	2.0 U	NS	2.0 U	NS	2.0	4.4 BJ	0.91	4.7 BJ	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U
MW17 [(1)]	NS	NS	**140**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW18	NS	NS	2.0 U	NS	NS	NS	2.2	**6.2 BJ**	1.3	3.6 BJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW19	NS	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW20	NS	NS	2.0 U	NS	NS	NS	1.6	NS	0.5 U	**5.2 BJ**	2.4	1.0 U	2.6	1.0 U	1.3	1.0 U	**12**	1.0 U
MW21S	NS	NS	NS	NS	NS	NS	4.8	**5.1 BJ**	4.6	**5.9 BJ**	NS	NS	NS	NS	3.2	1.0 U	3.9	1.1
MW22S	NS	NS	NS	NS	NS	NS	4.4	NS	3.0	3.2 BJ	3.1	1.0 U	1.8	1.0 U	2.2	1.0 U	2.1	1.5
MW23S	NS	NS	NS	NS	NS	NS	0.9	NS	0.56	3.9 BJ	2.9	1.9	1.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW24S	NS	NS	NS	NS	NS	NS	**14**	**16 BJ**	**5.3**	**8.6 BJ**	**5.5**	**5.1**	**6.3**	**6.1**	5.0	5.0	**13**	**12**
MW25S	NS	NS	NS	NS	NS	NS	3.4	NS	2.3	4.2 BJ	1.8	1.0 U	2.3	1.0 U	1.4	1.0 U	2.7	1.6

Notes:
B = Analyte detected in method blank
Dis. = Dissolved
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 5.0 ug/L
[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 12
Chromium Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event																	
	Jan-07		Jun-Aug-07		Jul-08		Jun-09		Sep-09		Nov-09		Dec-09		Mar-10		Aug-10	
	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.
MW01	10 U	NS	25 U	NS	NS	Ns	1.2	NS	0.59	NS	NS	Ns	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW02	2.8 J	NS	25 U	NS	NS	NS	0.6	0.5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02R (1)	NS	NS	NS	NS	NS	NS	NS	NS	0.50	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW03	10 U	NS	25 U	NS	NS	NS	3.8	0.80 J	0.69	NS	NS	NS	1.9	NS	1.0 U	1.0 U	NS	NS
MW04	10 U	NS	25 U	NS	NS	NS	4.3	0.60 J	2.4	NS	NS	NS	1.9	NS	1.8	1.0 U	NS	NS
MW05	10 U	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW06	10 U	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW07	10 U	NS	25 U	NS	NS	NS	0.5 U	NS	0.5 U	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW08	10 U	NS	25 U	NS	NS	NS	1.0	NS	1.3	NS	NS	NS	1.3	NS	1.0 U	1.0 U	NS	NS
MW09	10 U	NS	25 U	NS	NS	NS	1.4	NS	1.7	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW10	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW11	NS	NS	25 U	NS	NS	NS	0.5 U	0.5 U	0.5 U	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW12	NS	NS	25 U	NS	NS	NS	NS	NS	23	NS	NS	NS	7.1	NS	1.6	1.0 U	NS	NS
MW13	NS	NS	25 U	NS	NS	NS	2.7	0.5 U	9.6	NS	NS	NS	NS	NS	1.0 U	1.0 U	NS	NS
MW14	NS	NS	NS	NS	NS	NS	38	NS	44	NS	NS	NS	16	NS	**52**	3.6	NS	NS
MW15	NS	NS	25 U	NS	NS	NS	0.5 U	NS	0.5 U	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW16	NS	NS	25 U	NS	3.3	NS	4.3	1.7 J	2.1	NS	NS	NS	1.0 U	NS	3.1	1.0 U	NS	NS
MW17 (1)	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW18	NS	NS	25 U	NS	NS	NS	0.92	0.5 U	0.5 U	NS	NS	NS	3.9	NS	1.0 U	1.0 U	NS	NS
MW19	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW20	NS	NS	25 U	NS	NS	NS	0.60	NS	0.5 U	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW21S	NS	NS	NS	NS	NS	NS	0.5 U	0.5 U	0.65	NS	NS	NS	NS	NS	1.0 U	1.0 U	NS	NS
MW22S	NS	NS	NS	NS	NS	NS	1.6	NS	2.1	NS	NS	NS	1.4	NS	1.1	1.0 U	NS	NS
MW23S	NS	NS	NS	NS	NS	NS	1.2	NS	0.52	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW24S	NS	NS	NS	NS	NS	NS	0.5 U	NS	0.5 U	NS	NS	NS	1.0 U	NS	1.0 U	1.0 U	NS	NS
MW25S	NS	NS	NS	NS	NS	NS	0.80	NS	0.5 U	NS	NS	NS	3.3	NS	1.0 U	1.0 U	NS	NS

Notes:
B = Analyte detected in method blank
Dis. = Dissolved
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 50 ug/L. This screening level is base on values for chromium VI.
(1) MW02R and MW17 are located on LOTT Expansion Site.

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Table 13
Lead Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event																	
	Jan-07		Jun-Aug-07		Jul-08		Jun-09		Sep-09		Nov-09		Dec-09		Mar-10		Aug-10	
	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.
MW01	0.025 U	NS	2.0 U	NS	NS	NS	1.1	NS	2.7	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.5	1.0 U
MW02	5.1 J	NS	2.0 U	NS	NS	NS	1.0	0.5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02R [1]	NS	NS	NS	NS	NS	NS	NS	NS	**45**	NS	**9.3**	1.0 U	7.0	1.0 U	7.5	1.0 U	6.8	1.0 U
MW03	0.24 UJ	NS	2.0 U	NS	NS	NS	1.9	0.5 U	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW04	0.04 J	NS	2.0 U	NS	NS	NS	1.9	0.7 BJ	0.61	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.8	1.0 U
MW05	2.0 U	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW06	2.0 U	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW07	2.0 U	NS	2.0 U	NS	NS	NS	0.7	NS	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U	1.0 U
MW08	2.0 U	NS	2.0 U	NS	NS	NS	0.5 U	NS	0.87	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW09	2.0 U	NS	2.0 U	NS	NS	NS	0.7	NS	1.1	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW10	NS	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW11	NS	NS	2.0 U	NS	NS	NS	0.5 U	0.5 U	1.4	NS	1.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW12	NS	NS	2.0 U	NS	NS	NS	NS	NS	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW13	NS	NS	2.0 U	NS	NS	NS	1.1	0.5 U	7.7	NS	2.4	1.0 U	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U
MW14	NS	NS	NS	NS	NS	NS	4.2	NS	6.5	NS	8.1	1.3	1.4	1.0 U	4.1	1.0	2.6	1.0 U
MW15	NS	NS	2.0 U	NS	NS	NS	0.5 U	NS	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW16	NS	NS	2.0 U	NS	0.76	NS	4.8	1.4 BJ	2.9	NS	1.0 U	1.0 U	1.0 U	1.0 U	2.5	1.0 U	1.0 U	1.0 U
MW17 [1]	NS	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW18	NS	NS	2.0 U	NS	NS	NS	0.5 U	0.5 U	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW19	NS	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW20	NS	NS	2.0 U	NS	NS	NS	1.9	NS	0.5 U	NS	1.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**34**	1.0 U
MW21S	NS	NS	NS	NS	NS	NS	0.5 U	0.5 U	0.5 U	NS	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U
MW22S	NS	NS	NS	NS	NS	NS	1.2	NS	2.0	NS	2.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW23S	NS	NS	NS	NS	NS	NS	2.9	NS	1.8	NS	1.6	1.0 U	1.0 U	1.0 U	1.2	1.0 U	2.7	1.0 U
MW24S	NS	NS	NS	NS	NS	NS	0.6	0.5 BJ	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW25S	NS	NS	NS	NS	NS	NS	3.2	NS	2.0	NS	3.2	1.0 U	**12**	1.0 U	2.3	1.0 U	2.3	1.0 U

Notes:
B = Analyte detected in method blank
Dis. = Dissolved
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.

Bold type face equals an exceedance of surface water screening level.

Surface water screening level = 8.1 ug/L

[1] MW02R and MW17 are located on LOTT Expansion Site.

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Table 14
Copper Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event																	
	Jan-07		Jun-Aug-07		Jul-08		Jun-09		Sep-09		Nov-09		Dec-09		Mar-10		Aug-10	
	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.
MW01	NS	NS	NS	NS	NS	NS	2.4 BJ	NS	**2.5 BJ**	NS	1.1	1.0 U	1.0	1.0 U	2.1	1.0 U	**5.2**	1.0 U
MW02	NS	NS	NS	NS	NS	NS	1.5 BJ	**2.7 BJ**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	NS	NS	NS	NS	**3.4 BJ**	NS	1.5	1.0 U	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.6
MW03	NS	NS	NS	NS	NS	NS	**4.6 BJ**	2.3 BJ	0.91 BJ	NS	1.0 U	1.0 U	2.4	1.0 U	1.0 U	1.0 U	**2.8**	1.0 U
MW04	NS	NS	NS	NS	NS	NS	**8.4 BJ**	0.7 BJ	1.3 BJ	NS	1.4	1.0 U	1.2	1.0 U	**2.6**	1.0 U	**2.6**	1.0 U
MW05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW07	NS	NS	NS	NS	NS	NS	0.5 U	NS	0.75 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9
MW08	NS	NS	NS	NS	NS	NS	0.6 BJ	NS	0.70 BJ	NS	1.0	1.0 U	1.0 U	1.0 U	1.5	1.0 U	1.6	1.0 U
MW09	NS	NS	NS	NS	NS	NS	1.3 BJ	NS	2.1 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW11	NS	NS	NS	NS	NS	NS	1.2 BJ	0.5 BJ	0.5 U	NS	**5.5**	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U
MW12	NS	NS	NS	NS	NS	NS	NS	NS	**4.2 BJ**	NS	2.3	1.5	1.6	1.2	1.6	1.1	**3.0**	**3.0**
MW13	NS	NS	NS	NS	NS	NS	**4.3 BJ**	1.4 BJ	**24 BJ**	NS	**13**	1.0 U	NS	NS	1.0 U	1.0 U	1.1	1.0 U
MW14	NS	NS	NS	NS	NS	NS	**12 BJ**	NS	**21 BJ**	NS	**29**	**3.1**	**3.9**	2.2	**16**	**3.5**	**7.8**	1.5
MW15	NS	NS	NS	NS	NS	NS	0.5 U	NS	1.4 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW16	NS	NS	NS	NS	NS	NS	**5.4 BJ**	1.7 BJ	**2.6 BJ**	NS	1.0 U	1.0 U	1.0 U	1.0 U	**4.7**	1.0 U	1.4	1.0 U
MW17 [(1)]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW18	NS	NS	NS	NS	NS	NS	**3.6 BJ**	0.5 U	2.2 BJ	NS	2.2	2.0	**4.5**	**3.8**	**3.7**	1.2	2.0	1.7
MW19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW20	NS	NS	NS	NS	NS	NS	1.9 BJ	NS	0.54 BJ	NS	**5.3**	1.0 U	1.0	1.0 U	1.0	1.0 U	**52**	1.0 U
MW21S	NS	NS	NS	NS	NS	NS	0.5 BJ	0.8 BJ	0.62 BJ	NS	NS	NS	NS	NS	1.0	1.0 U	1.0 U	1.0 U
MW22S	NS	NS	NS	NS	NS	NS	**2.7 BJ**	NS	**5.7 BJ**	NS	**5.8**	1.0 U	1.9	1.0 U	2.0	1.0 U	**2.6**	1.0 U
MW23S	NS	NS	NS	NS	NS	NS	**2.9 BJ**	NS	0.95 BJ	NS	2.4	1.0 U	1.0 U	1.0 U	1.6	1.0 U	**3.1**	1.0 U
MW24S	NS	NS	NS	NS	NS	NS	**3.0 BJ**	1.6 BJ	1.3 BJ	NS	2.3	1.2	**5.1**	2.1	**4.8**	1.6	1.4	1.0 U
MW25S	NS	NS	NS	NS	NS	NS	1.9 BJ	NS	1.3 BJ	NS	2.4	1.0 U	**7.5**	1.0 U	**2.6**	1.0 U	1.7	1.0 U

Notes:
B = Analyte detected in method blank
Dis. = Dissolved
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 2.4 ug/L
[(1)] MW02R and MW17 are located on LOTT Expansion Site.

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Table 15
Nickel Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event																	
	Jan-07		Jun-Aug-07		Jul-08		Jun-09		Sep-09		Nov-09		Dec-09		Mar-10		Aug-10	
	Total	Diss.	Total	Diss.	Total	Diss.	Total	Diss.	Total	Diss.	Total	Diss.	Total	Diss.	Total	Diss.	Total	Diss.
MW01	NS	NS	NS	NS	NS	NS	1.5	NS	1.5 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.4	1.0 U
MW02	NS	NS	NS	NS	NS	NS	0.5 U	0.5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02R (1)	NS	NS	NS	NS	NS	NS	NS	NS	0.73 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW03	NS	NS	NS	NS	NS	NS	5.6	1.7 BJ	1.0 BJ	NS	1.0 U	1.0 U	1.9	1.0 U	1.0 U	1.0 U	1.2	1.0 U
MW04	NS	NS	NS	NS	NS	NS	2.8	1.1 BJ	1.5 BJ	NS	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1.0 U
MW05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW07	NS	NS	NS	NS	NS	NS	0.5 U	NS	0.50 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW08	NS	NS	NS	NS	NS	NS	0.5 U	NS	0.67 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW09	NS	NS	NS	NS	NS	NS	1.0	NS	1.4 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW11	NS	NS	NS	NS	NS	NS	0.5 U	1.1 BJ	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW12	NS	NS	NS	NS	NS	NS	NS	NS	**38 BJ**	NS	**18**	**17**	**10**	**10**	3.4	3.0	**11**	**10**
MW13	NS	NS	NS	NS	NS	NS	3.1	0.8 BJ	**14 BJ**	NS	**8.4**	**8.6**	NS	NS	1.3	1.0 U	1.0 U	1.0 U
MW14	NS	NS	NS	NS	NS	NS	1.5	NS	3.7 BJ	NS	6.6	1.0 U	1.0 U	1.0 U	1.6	1.0 U	1.4	1.0 U
MW15	NS	NS	NS	NS	NS	NS	0.5 U	NS	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW16	NS	NS	NS	NS	NS	NS	2.8	0.8 BJ	1.4 BJ	NS	1.0 U	1.0 U	1.0 U	1.0 U	2.5	1.0 U	1.0 U	1.0 U
MW17 (1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW18	NS	NS	NS	NS	NS	NS	2.3	0.5 U	1.2 BJ	NS	1.2	1.0 U	1.4	1.0 U	1.6	1.0 U	1.0 U	1.0 U
MW19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW20	NS	NS	NS	NS	NS	NS	0.6	NS	0.5 U	NS	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**28**	1.0 U
MW21S	NS	NS	NS	NS	NS	NS	1.1	1.1 BJ	0.92 BJ	NS	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U
MW22S	NS	NS	NS	NS	NS	NS	1	NS	2.4 BJ	NS	3.6	1.0 U	1.0 U	1.0 U	2.0	1.0 U	1.6	1.0 U
MW23S	NS	NS	NS	NS	NS	NS	0.7	NS	0.51 BJ	NS	1.4	1.0 U	1.0 U	1.0 U	1.2	1.0 U	1.1	1.0 U
MW24S	NS	NS	NS	NS	NS	NS	0.5 U	0.6 BJ	0.5 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW25S	NS	NS	NS	NS	NS	NS	1.2	NS	0.55 BJ	NS	1.1	1.0 U	3.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:
B = Analyte detected in method blank
Diss. = Dissolved
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 8.2 ug/L
(1) MW02R and MW17 are located on LOTT Expansion Site.

Table 16
Total cPAHs Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09 (2)	Sep-09 (2,3)	Nov-09 (3)	Dec-09 (3)	Mar-10	Aug-10
MW01	0.017 U	0.014 U	NS	0.21 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW02	**0.033 J**	0.014 U	NS	0.0076 U	NS	NS	NS	NS	NS
MW02R (1)	NS	NS	NS	NS	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW03	0.018 U	0.014 U	NS	0.027 NJ	0.0076 U	0.0076 U	**0.030**	0.0076 U	NS
MW04	0.017 J	0.014 U	NS	0.027 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW05	0.017 U	0.014 U	NS	NS	NS	NS	NS	NS	NS
MW06	0.017 U	0.014 U	NS	NS	NS	NS	NS	NS	NS
MW07	0.017 U	0.014 U	NS	0.21 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW08	0.017 U	0.014 U	NS	0.19 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW09	0.017 U	0.014 U	NS	0.21 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW10	0.017 U	0.014 U	NS	NS	NS	NS	NS	NS	NS
MW11	NS	0.017 U	NS	0.21 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW12	NS	0.017 U	NS	NS	0.11 NJ	0.0076 U	0.0076 U	0.0076 U	NS
MW13	NS	0.017 U	NS	0.027 NJ	0.11 NJ	0.0076 U	NS	0.0076 U	NS
MW14	NS	NS	NS	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW15	NS	0.017 U	NS	0.21 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW16	NS	0.017 U	0.018 U	0.21 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW17 (1)	NS	0.017 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	0.017 U	NS	0.19 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW19	NS	0.017 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	0.017 U	NS	0.027 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW21S	NS	NS	NS	0.19 NJ	0.0076 U	NS	NS	0.0076 U	NS
MW22S	NS	NS	NS	0.027 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW23S	NS	NS	NS	0.027 NJ	0.0076 U	0.0097	0.0076 U	0.0076 U	NS
MW24S	NS	NS	NS	0.027 NJ	0.0076 U	0.0076 U	0.0076 U	0.0076 U	NS
MW25S	NS	NS	NS	0.027 NJ	0.057 NJ	0.0099	0.0076 U	0.0076 U	NS

Notes:
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
J = Estimated value
N = Tentatively identified compound
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 0.018 ug/L
Calculated using MTCA toxicity equivalency factors in WAC 173-340-708(8).
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs, all congeners have been detected at least once in soil and groundwater.
(1) MW02R and MW17 are located on LOTT Expansion Site.
(2) The detections by the primary laboratory used for the June 2009 and September 2009 events are highly suspect and have been assigned a NJ-flag for the reasons discussed in the text.
(3) Split samples were collected from all monitoring wells that were sampled during the September 2009, November 2009, and December 2009 events and submitted to the secondary laboratory for cPAH analysis. No cPAH constituents were detected in any of the split PAH samples at practical quantitation limits ranging from 0.041 ug/L to 0.047 ug/L, which were the lowest quantitation limits the secondary laboratory could achieve.

Table 17
TPH-D Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	41 J	120 U	NS	250 U	250 U	NS	340	100 U	100 U
MW02	120 U	120 U	NS	250 U	NS	NS	NS	NS	NS
MW02R [1]	NS	NS	NS	NS	250 U [2]	NS	100 U	104	100 U
MW03	130 U	120 U	NS	250 U	250 U	NS	100 U	100 U	100 U
MW04	77 J	120 UJ	NS	250 U	250 U	NS	140	100 U	100 U
MW05	120 U	81 UJ	NS	NS	NS	NS	NS	NS	NS
MW06	170	59 UJ	NS	NS	NS	NS	NS	NS	NS
MW07	120 U	37 UJ	NS	250 U	250 U	NS	100 U	100 U	100 U
MW08	120 U	45 UJ	NS	250 U	250 U	NS	250	100 U	100 U
MW09	120 U	120 U	NS	250 U	250 U	NS	150	100 U	100 U
MW10	120 U	82 UJ	NS	NS	NS	NS	NS	NS	NS
MW11	NS	120 U	NS	250 U	250 U	NS	100 U	100 U	151
MW12	NS	120 U	NS	NS	250 U	NS	100 U	100 U	100 U
MW13	NS	500	NS	250 U	250 U	NS	NS	100 U	100 U
MW14	NS	NS	NS	250 U	250 U	NS	160	100 U	143
MW15	NS	130 U	NS	250 U	250 U	NS	170	100 U	100 U
MW16	NS	120 U	NS	250 U	250 U	NS	160	100 U	100 U
MW17 [1]	NS	120 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	120 U	NS	250 U	250 U	NS	**1060**	100 U	100 U
MW19	NS	120 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	120	NS	250 U	250 U	NS	100 U	100 U	100 U
MW21S	NS	NS	NS	250 U	250 U	NS	NS	100 U	100 U
MW22S	NS	NS	NS	250 U	250 U	NS	100 U	100 U	100 U
MW23S	NS	NS	NS	250 U	250 U	NS	170	100 U	124
MW24S	NS	NS	NS	250 U	250 U	NS	100 U	100 U	101
MW25S	NS	NS	NS	250 U	250 U	NS	100 U	100 U	100 U

Notes:
J = estimated value
NS = Not sampled
TPH-D = Total Petroleum Hydrocarbons - Diesel Range
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 500 ug/L
[1] MW02R and MW17 are located on LOTT Expansion Site.
[2] The TPH-HO value for the sample collected from MW02R in September 2009 was rejected by the primary laboratory. As a result, MW02R was re-sampled in October and re-analyzed for TPH-D and TPH-HO by the primary and secondary laboratories. The concentration shown for MW02R is the original September 2009 sample analyzed by the primary laboratory. The TPH-D concentrations reported by the primary laboratory and secondary laboratory for the October re-sample were 250 U ug/L and 480 ug/L, respectively.

Table 18
TPH-HO Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	250 U	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW02	250 U	240 U	NS	500 U	NS	NS	NS	NS	NS
MW02R [1]	NS	NS	NS	NS	500 U [2]	NS	**620**	500 U	**1080**
MW03	250 U	240 U	NS	500 U	500 U	NS	**960**	500 U	500 U
MW04	250 U	260 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW05	240 U	240 U	NS	NS	NS	NS	NS	NS	NS
MW06	240 U	240 U	NS	NS	NS	NS	NS	NS	NS
MW07	240 U	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW08	240 U	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW09	240 U	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW10	250 U	240 U	NS	NS	NS	NS	NS	NS	NS
MW11	NS	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW12	NS	240 U	NS	NS	500 U	NS	500 U	500 U	500 U
MW13	NS	240 U	NS	500 U	500 U	NS	NS	500 U	500 U
MW14	NS	NS	NS	500 U	500 U	NS	500 U	500 U	500 U
MW15	NS	250 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW16	NS	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW17 [1]	NS	240 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	230 U	NS	500 U	500 U	NS	**690**	500 U	500 U
MW19	NS	240 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	240 U	NS	500 U	500 U	NS	500 U	500 U	500 U
MW21S	NS	NS	NS	500 U	500 U	NS	NS	500 U	500 U
MW22S	NS	NS	NS	500 U	500 U	NS	500 U	500 U	500 U
MW23S	NS	NS	NS	500 U	500 U	NS	500 U	500 U	500 U
MW24S	NS	NS	NS	500 U	500 U	NS	**520**	500 U	500 U
MW25S	NS	NS	NS	500 U	500 U	NS	**640**	500 U	**635**

Notes:
J = estimated value
NS = Not sampled
TPH-HO = Total Petroleum Hydrocarbons - Heavy Oil Range
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 500 ug/L
[1] MW02R and MW17 are located on LOTT Expansion Site.
[2] The TPH-HO value for the sample collected from MW02R in September 2009 was rejected by the primary laboratory. As a result, MW02R was re-sampled in October and re-analyzed for TPH-D and TPH-HO by the primary and secondary laboratories. The TPH-HO value shown for MW02R corresponds to the October 2009 re-sample analyzed by the primary laboratory. The TPH-HO concentration in the split sample sent to the secondary laboratory was 550 ug/L.

Table 19
Total Cadmium Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	2.0 U	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW02	2.0 U	2.0 U	NS	0.5 U	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	0.5 U	NS	1.0 U	NS	NS
MW03	2.0 U	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW04	2.0 U	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW05	2.0 U	2.0 U	NS	NS	NS	NS	NS	NS	NS
MW06	2.0 U	2.0 U	NS	NS	NS	NS	NS	NS	NS
MW07	2.0 U	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW08	2.0 U	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW09	2.0 U	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW10	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS
MW11	NS	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW12	NS	2.0 U	NS	NS	0.5 U	NS	1.0 U	NS	NS
MW13	NS	2.0 U	NS	0.5 U	0.5 U	NS	NS	NS	NS
MW14	NS	NS	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW15	NS	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW16	NS	2.0 U	2.0 U	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW17 [(1)]	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	2.0 U	NS	0.69	0.5 U	NS	1.0 U	NS	NS
MW19	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	2.0 U	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW21S	NS	NS	NS	0.5 U	0.5 U	NS	NS	NS	NS
MW22S	NS	NS	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW23S	NS	NS	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW24S	NS	NS	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS
MW25S	NS	NS	NS	0.5 U	0.5 U	NS	1.0 U	NS	NS

Notes:
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 8.8 ug/L
[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 20
TPH-G Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	16 J	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW02	11 J	50 U	NS	50 U	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	50 U	NS	500 U	250 U	NS
MW03	21 J	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW04	44 J	79	NS	50 U	50 U	NS	500 U	250 U	NS
MW05	50 U	50 U	NS	NS	NS	NS	NS	NS	NS
MW06	50 U	50 U	NS	NS	NS	NS	NS	NS	NS
MW07	50 U	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW08	50 U	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW09	180	58	NS	50 U	50 U	NS	500 U	250 U	NS
MW10	50 U	50 U	NS	NS	NS	NS	NS	NS	NS
MW11	NS	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW12	NS	50 U	NS	NS	50 U	NS	500 U	250 U	NS
MW13	NS	100	NS	50 U	50 U	NS	NS	250 U	NS
MW14	NS	NS	NS	50 U	50 U	NS	500 U	250 U	NS
MW15	NS	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW16	NS	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW17 [(1)]	NS	50 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW19	NS	50 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	50 U	NS	50 U	50 U	NS	500 U	250 U	NS
MW21S	NS	NS	NS	50 U	50 U	NS	NS	250 U	NS
MW22S	NS	NS	NS	50 U	50 U	NS	500 U	250 U	NS
MW23S	NS	NS	NS	50 U	50 U	NS	500 U	250 U	NS
MW24S	NS	NS	NS	50 U	50 U	NS	500 U	250 U	NS
MW25S	NS	NS	NS	50 U	50 U	NS	500 U	250 U	NS

Notes:
J = estimated value
NS = Not sampled
TPH-G = Total Petroleum Hydrocarbons - Gasoline Range
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 1,000 ug/L
[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 21
Benzene Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW02	1.0 U	1.0 U	NS	0.5 U	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	0.5 U	NS	0.5 U	0.5 U	NS
MW03	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW04	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW05	1.0 U	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW06	1.0 U	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW07	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW08	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW09	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW10	0.11 J	0.12 J	NS	NS	NS	NS	NS	NS	NS
MW11	NS	1.0 U	NS	4.2	1.1	NS	1.0	0.5 U	NS
MW12	NS	1.0 U	NS	NS	0.5 U	NS	0.5 U	0.5 U	NS
MW13	NS	1.0 U	NS	0.5 U	0.5 U	NS	NS	0.5 U	NS
MW14	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW15	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW16	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW17 [(1)]	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW19	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW21S	NS	NS	NS	0.5 U	0.5 U	NS	NS	0.5 U	NS
MW22S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW23S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW24S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW25S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS

Notes:
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 23 ug/L
[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 22
Toluene Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW02	0.075 J	1.0 U	NS	0.5 U	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	0.5 U	NS	0.5 U	0.5 U	NS
MW03	0.076 J	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW04	0.26 J	0.12 J	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW05	0.069 J	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW06	0.56 J	2.6	NS	NS	NS	NS	NS	NS	NS
MW07	0.086 J	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW08	0.08 J	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW09	0.89 J	7.4	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW10	0.27 J	0.35 J	NS	NS	NS	NS	NS	NS	NS
MW11	NS	1.0 U	NS	1.7	0.5 U	NS	0.5 U	0.5 U	NS
MW12	NS	1.0 U	NS	NS	0.5 U	NS	0.5 U	0.5 U	NS
MW13	NS	0.12 J	NS	0.5 U	0.70	NS	NS	0.5 U	NS
MW14	NS	NS	NS	18	0.5 U	NS	3.1	1.2	NS
MW15	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW16	NS	0.078 J	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW17 [(1)]	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW19	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW21S	NS	NS	NS	0.5 U	0.5 U	NS	NS	0.5 U	NS
MW22S	NS	NS	NS	0.5 U	12	NS	0.5 U	0.5 U	NS
MW23S	NS	NS	NS	0.5 U	0.59	NS	0.5 U	0.5 U	NS
MW24S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW25S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS

Notes:
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 15,000 ug/L
[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 23
Ethylbenzene Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW02	1.0 U	1.0 U	NS	0.5 U	NS	NS	NS	NS	NS
MW02R (1)	NS	NS	NS	NS	0.5 U	NS	0.5 U	0.5 U	NS
MW03	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW04	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW05	1.0 U	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW06	1.0 U	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW07	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW08	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW09	1.0 U	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW10	1.0 U	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW11	NS	1.0 U	NS	0.7	0.5 U	NS	0.5 U	0.5 U	NS
MW12	NS	1.0 U	NS	NS	0.5 U	NS	0.5 U	0.5 U	NS
MW13	NS	0.13 J	NS	0.5 U	0.5 U	NS	NS	0.5 U	NS
MW14	NS	NS	NS	0.59	0.5 U	NS	0.5 U	0.5 U	NS
MW15	NS	0.15 J	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW16	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW17 (1)	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW19	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	1.0 U	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW21S	NS	NS	NS	0.5 U	0.5 U	NS	NS	0.5 U	NS
MW22S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW23S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW24S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS
MW25S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.5 U	NS

Notes:
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 2,100 ug/L
(1) MW02R and MW17 are located on LOTT Expansion Site.

Table 24
Total Xylenes Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	1.5 U	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW02	1.5 U	1.5 U	NS	0.5 U	NS	NS	NS	NS	NS
MW02R (1)	NS	NS	NS	NS	0.5 U	NS	0.5 U	0.75 U	NS
MW03	1.5 U	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW04	1.5 U	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW05	1.5 U	1.5 U	NS	NS	NS	NS	NS	NS	NS
MW06	1.5 U	1.5 U	NS	NS	NS	NS	NS	NS	NS
MW07	1.5 U	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW08	1.5 U	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW09	1.5 U	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW10	0.33 J	0.72 J	NS	NS	NS	NS	NS	NS	NS
MW11	NS	1.5 U	NS	5.2	0.5 U	NS	0.5 U	0.75 U	NS
MW12	NS	1.5 U	NS	NS	0.5 U	NS	0.5 U	0.75 U	NS
MW13	NS	0.84 J	NS	0.5 U	0.5 U	NS	NS	0.75 U	NS
MW14	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW15	NS	0.83 J	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW16	NS	1.0 J	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW17 (1)	NS	1.5 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	0.37 J	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW19	NS	1.1 J	NS	NS	NS	NS	NS	NS	NS
MW20	NS	1.5 U	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW21S	NS	NS	NS	0.5 U	0.5 U	NS	NS	0.75 U	NS
MW22S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW23S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW24S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS
MW25S	NS	NS	NS	0.5 U	0.5 U	NS	0.5 U	0.75 U	NS

Notes:
J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 1,000 ug/L
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Xylenes, all congeners have been detected at least once in groundwater.

(1) MW02R and MW17 are located on LOTT Expansion Site.

Table 25
Total Naphthalenes Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	0.031 J	0.16 UJ	NS	0.015 U	0.015 U	0.01 U	0.01 U	0.039	NS
MW02	0.088 J	0.16 UJ	NS	0.015 U	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	0.015 U	0.01 U	0.01 U	0.025	NS
MW03	0.22 J	0.25 J	NS	0.11	0.015 U	0.01 U	0.018	0.01 U	NS
MW04	0.065 J	0.16 UJ	NS	0.015 U	0.015 U	0.13	0.042	0.038	NS
MW05	0.16 U	0.16 UJ	NS	NS	NS	NS	NS	NS	NS
MW06	0.18	0.16 UJ	NS	NS	NS	NS	NS	NS	NS
MW07	0.16 U	0.16 UJ	NS	0.015 U	0.015 U	0.01 U	0.024	0.01 U	NS
MW08	0.16 U	0.16 UJ	NS	0.015 U	1.0	0.01 U	0.01 U	0.061	NS
MW09	0.16 U	0.16 UJ	NS	0.015 U	0.015 U	0.01 U	0.01 U	0.01 U	NS
MW10	0.16 U	0.15 J	NS	NS	NS	NS	NS	NS	NS
MW11	NS	0.16 U	NS	2.0	0.015 U	0.026	0.079	0.01 U	NS
MW12	NS	0.16 U	NS	NS	0.015 U	0.01 U	0.020	0.01 U	NS
MW13	NS	46 J	NS	3.2	0.015 U	0.039	NS	0.045	NS
MW14	NS	NS	NS	0.015 U	0.015 U	0.042	0.021	0.021	NS
MW15	NS	0.16 U	NS	0.015 U	0.087	0.01 U	0.01 U	0.017	NS
MW16	NS	0.15 J	0.033 J	0.015 U	0.015 U	0.031	0.016	0.030	NS
MW17 [(1)]	NS	0.16 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	0.16 U	NS	0.015 U	0.015 U	0.01 U	0.01 U	0.01 U	NS
MW19	NS	0.16 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	0.16 U	NS	0.015 U	0.015 U	0.14	0.01 U	0.01 U	NS
MW21S	NS	NS	NS	0.015 U	0.015 U	NS	NS	0.01 U	NS
MW22S	NS	NS	NS	0.015 U	0.015 U	0.01 U	0.018	0.026	NS
MW23S	NS	NS	NS	0.015 U	0.015 U	0.041	0.01 U	0.020	NS
MW24S	NS	NS	NS	0.21	0.015 U	0.048	0.031	0.038	NS
MW25S	NS	NS	NS	0.015 U	0.015 U	0.01 U	0.038	0.054	NS

Notes:

J = estimated value
NS = Not sampled
U = Not detected at shown concentration
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level.
Surface water screening level = 4,900 ug/L
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Naphthalenes, all congeners have been detected at least once in soil and groundwater.

[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 26
Total Dioxins/Furans Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09	Mar-10	Aug-10
MW01	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW02R [(1)]	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW03	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW04	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW05	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW06	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW07	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW08	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW09	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW10	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW11	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW12	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW13	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW14	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW15	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW16	NS	NS	1.0E-06	2.9E-06	3.2E-06	NS	6.5E-06 U	NS	NS
MW17 [(1)]	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW18	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW19	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW20	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW21S	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW22S	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW23S	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW24S	NS	NS	NS	1.9E-06	2.2E-06	NS	7.6E-06	NS	NS
MW25S	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:
J = estimated value
NS = Not sampled
U = Not detected at shown concentration.
Detected concentrations and screening levels presented with two significant figures.
Bold type face equals an exceedance of surface water screening level
Surface water screening level = 1.0E-05 ug/L
Calculated using MTCA toxicity equivalency factors in WAC 173-340-708(8).
Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of Total Dioxins/Furans, all congeners have been detected at least once in soil.

[(1)] MW02R and MW17 are located on LOTT Expansion Site.

Table 27
Total PCBs Groundwater Concentrations

Monitoring Well	Concentration (ug/L) by Sampling Event								
	Jan-07	Jun-Aug-07	Jul-08	Jun-09	Sep-09	Nov-09	Dec-09 [2]	Mar-10	Aug-10
MW01	0.52 U	0.47 U	NS	NS	0.01 U	NS	0.2 U	NS	NS
MW02	0.50 U	0.50 U	NS	NS	NS	NS	NS	NS	NS
MW02R [1]	NS	NS	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW03	0.50 U	0.48 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW04	0.47 U	0.47 U	NS	0.01 U	0.01 U	NS	0.20 U	NS	NS
MW05	0.49 U	0.48 U	NS	NS	NS	NS	NS	NS	NS
MW06	0.47 U	0.48 U	NS	NS	NS	NS	NS	NS	NS
MW07	0.47 U	0.48 U	NS	NS	0.01 U	NS	0.2 U	NS	NS
MW08	0.47 U	0.48 U	NS	NS	0.01 U	NS	0.2 U	NS	NS
MW09	0.47 U	0.48 U	NS	NS	0.01 U	NS	0.2 U	NS	NS
MW10	0.50 U	0.48 U	NS	NS	NS	NS	NS	NS	NS
MW11	NS	0.48 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW12	NS	0.47 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW13	NS	0.47 U	NS	NS	0.01 U	NS	NS	NS	NS
MW14	NS	NS	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW15	NS	0.48 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW16	NS	0.48 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW17 [1]	NS	0.48 U	NS	NS	NS	NS	NS	NS	NS
MW18	NS	0.48 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW19	NS	0.48 U	NS	NS	NS	NS	NS	NS	NS
MW20	NS	0.48 U	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW21S	NS	NS	NS	NS	0.01 U	NS	NS	NS	NS
MW22S	NS	NS	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW23S	NS	NS	NS	NS	0.01 U	NS	0.20 U	NS	NS
MW24S	NS	NS	NS	0.01 U	0.01 U	NS	0.20 U	NS	NS
MW25S	NS	NS	NS	NS	0.01 U	NS	0.20 U	NS	NS

Notes:
J = estimated value
NS = Not sampled
PCBs = polychlorinated biphenyls
U = Not detected at shown concentration

Any surface water screening level established for total PCBs would need to be adjusted up to a realistic practical quantification limit (PQL) in accordance with WAC 173-340-720(7)(c) and WAC 173-340-730(5)(c). Although the primary laboratory used during the June 2009 and September 2009 events reported a 0.01 ug/L per PCB congener, this PQL is below the lowest PQL the current primary or secondary laboratory can achieve, is below the PQL most laboratories can achieve, and is below Ecology expectations (Ecology 1995).

Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of total PCBs, only one of seven congeners has been detected in soil.

[1] MW02R and MW17 are located on LOTT Expansion Site.

[2] No PCBs were detected at a method detection limit of 0.05 ug/L for each congener.

Table 28. Arsenic Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	BC_DP-07	2/14/2007	4-8	7.1	
	BC_DP-08	2/14/2007	4-8	3.9	
	BC_DP-09	2/14/2007	4-8	3.8	
	DP01	9/25/2006	1-3	5.7	
	DP02	9/25/2006	1-3	3.7	
	DP03	9/25/2006	1-3	4.4	
	DP04	9/25/2006	1-3	3.8	
			4-6	52	
	DP05	9/25/2006	2-4	1.7	
	DP06	9/26/2006	3-5	5.8	
	DP07	9/26/2006	4.5-6.5	2.9	
	DP08	9/26/2006	1-3	1.8	
	DP09	9/25/2006	1-3	3.3	
	DP10	9/26/2006	2-4	2.0	
	DP11	1/2/2007	0-2	2.8	
			8-10	14	
	DP12	1/2/2007	0-2	4.1	
			8-10	4.1	
	DP17	8/3/2007	4-6	7.0	U
			10-12	84	
	DP18	8/3/2007	2-4	2.2	U
			10-12	4.4	U
	DP19	8/3/2007	6-8	1.8	U
			10-12	2.3	U
	DP20	8/3/2007	2-4	1.8	U
			10-12	2.9	U
	DP21	8/3/2007	6-8	72	
			10-12	5.5	U
	DP22	8/3/2007	4-6	1.9	U
			10-12	2.0	U
	DP26	6/10/2009	1-2	9.8	
			7-8	3.8	
	DP27	11/4/2008	0-1	3.0	
			3-4	3.5	
			4-5	3.1	
			6-7	2.1	
	DP28	6/10/2009	1-2	6.1	
			4-5	3.8	
	DP29	6/10/2009	3-4	5.9	
			7-8	3.6	
	DP30	11/4/2008	1-2	3.4	
			3-4	5.1	
			7-8	9.9	
	DP31	6/10/2009	3-4	7.3	
	DP32	11/4/2008	4-5	2.3	
	DP33	11/4/2008	1-2	1.9	
			3-4	2.1	
			5-6	3.0	
			7-8	2.8	
	DP34	11/4/2008	4-6	3.9	
			8-10	15	
	DP36	11/4/2008	5-6	2.6	
	DP37	6/10/2009	2-4	3.9	
			6-8	6.7	

Table 28. Arsenic Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP38	11/4/2008	1-2	2.9	
			5-6	6.8	
			6-7	7.5	
	DP39	6/10/2009	1-2	4.9	
			3-5	3.3	
	DP40	11/4/2008	1-2	2.7	
			3-4	2.8	
			5-6	2.4	
	DP41	6/10/2009	3-4	3.1	
	DP42	6/10/2009	1-2	3.0	
			5-6	4.2	
			7-8	3.7	
	MW01	1/2/2007	4-6	1.9	
			10-12	2.0	
	MW02	1/2/2007	2-4	3.1	
			8-10	3.6	
	MW03	1/2/2007	4-6	1.8	
			8-10	1.8	
	MW04	1/2/2007	2-4	3.4	
			14-16	2.4	
	MW05	1/15/2007	10-12	9.9	
	MW06	1/15/2007	2-4	3.7	
			10-12	2.5	
	MW08	1/17/2007	2-4	5.4	
			4-6	5.3	
			8-10	9.5	
	MW09	1/17/2007	2-4	3.2	
			4-6	2.0	
	MW11	8/1/2007	2-4	1.8	U
			10-12	2.0	U
	MW12	8/1/2007	4-6	1.5	U
			10-12	1.7	U
	MW13	8/1/2007	6-8	1.7	U
			10-12	4.4	
	MW15	8/3/2007	4-6	3.6	
			10-12	4.9	U
	MW16	7/31/2007	4-6	1.7	U
			16-18	6.4	
	MW19	8/1/2007	4-6	2.3	U
			8-10	2.5	U
	MW18	8/2/2007	8-10	1.9	U
			10-12	1.8	U
	MW20	8/2/2007	2-4	1.7	U
			6-8	4.9	U
	MW23S	6/12/2009	5-6	0.13	U
			9-11	8.6	
	MW24S	6/12/2009	7-8	1.8	
			9-10	4.8	
	MW25S	6/12/2009	7-8	4.1	
	MW25S	6/12/2009	11-12	4.9	
	MW25S	6/12/2009	13-14	3.1	

Table 28. Arsenic Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
LOTT Expansion Site	BC_DP-05	2/14/2007	4-8	9.4	
	BC_DP-06	2/14/2007	4-8	5.0	
	BC_DP-10	2/14/2007	4-8	7.0	
	BC_DP11	10/8/2007	4-8	250	
	BC_DP12	10/8/2007	4-8	13	
	BC_DP13	10/8/2007	4-8	10	
	BC_DP14	10/8/2007	4-8	13	
	BC_DP15	10/8/2007	4-8	7.0	
	BC_DP16	10/8/2007	4-8	14	
	BC_DP17	10/9/2008	2	1.6	U
			7	5.0	U
			10	5.0	U
			12	3.8	
	BC_DP18	10/9/2008	2	3.9	
			7	4.8	
			10	5.0	
			12	5.5	U
	BC_DP19	10/9/2008	2	1.7	U
			7	4.0	
			10	2.1	U
			12	1.9	U
	BC_DP25	10/9/2008	2	28	
			7	4.1	
			10	13	
			12	3.6	U
	BC_DP26	10/9/2008	2	13	
			7	6.4	
			10	2.8	U
			12	3.9	U
	BC_DP27	10/9/2008	2	1.5	U
			7	1.7	U
			10	1.9	U
			12	2.2	U
	BC_DP28	10/9/2008	2	1.6	U
			7	1.9	U
			10	6.0	U
			12	7.5	U
	BC_DP29	10/9/2008	2	1.6	U
			7	5.5	U
			10	3.0	U
	BC_TP01	10/9/2008	2	5.5	U
			4	7.1	
	BC_TP02	10/9/2008	2	1.9	U
			4	1.6	U
	BC_TP03	10/9/2008	2	5.0	
			4	1.9	U
	MW17	8/2/2007	4-6	4.7	
			10-12	12	

Notes:
J = Estimated value
U = Not detected at shown concentration
ft bgs = feet below ground surface

Table 29. Chromium Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	BC_DP-07	2/14/2007	4-8	35	
	BC_DP-08	2/14/2007	4-8	28	
	BC_DP-09	2/14/2007	4-8	34	
	DP01	9/25/2006	1-3	19	
	DP02	9/25/2006	1-3	12	
	DP03	9/25/2006	1-3	18	
	DP04	9/25/2006	1-3	22	
			4-6	120	
	DP05	9/25/2006	1.5-3.5	15	
	DP06	9/26/2006	3-5	23	
	DP07	9/26/2006	4.5-6.5	16	
	DP08	9/26/2006	1-3	13	
	DP09	9/25/2006	1-3	26	
	DP10	9/26/2006	2-4	23	
	DP11	1/2/2007	0-2	19	
			8-10	8.8	
	DP12	1/2/2007	0-2	24	
			8-10	36	
	DP17	8/3/2007	4-6	8.4	
			10-12	27	
	DP18	8/3/2007	2-4	16	
			10-12	11	
	DP19	8/3/2007	6-8	21	
			10-12	23	
	DP20	8/3/2007	2-4	20	
			10-12	17	
	DP21	8/3/2007	6-8	26	
			10-12	6.3	
	DP22	8/3/2007	4-6	25	
			10-12	25	
	DP27	11/4/2008	0-1	18	
			3-4	48	
			4-5	52[1]	
			6-7	18	
	DP30	11/4/2008	3-4	31	
			1-2	19	
			7-7.5	46	
	DP32	11/4/2008	4-5	15	
	DP33	11/4/2008	1-2	21	
			3-4	19	
			5-6	34	
			7-8	18	
	DP34	11/4/2008	4-6	25	
			7.5-9.5	21	
	DP36	11/4/2008	5-6	30	
	DP38	11/4/2008	1-2	18	
			5-6	31	
			6-7	7.7	
	DP40	11/4/2008	1-2	19	
			3-4	21	
			5-6	84[1]	
	MW01	1/2/2007	4-6	18	
			10-12	18	

Table 29. Chromium Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	MW02	1/2/2007	2-4	16	
			8-10	16	
	MW03	1/2/2007	4-6	17	
			8-10	19	
	MW04	1/2/2007	2-4	18	
			14-16	15	
	MW05	1/15/2007	10-12	22	
	MW06	1/15/2007	2-4	19	
			10-12	7.3	
	MW08	1/17/2007	2-4	26	
			4-6	23	
			8-10	27	
	MW09	1/17/2007	2-4	20	
			4-6	19	
	MW11	8/1/2007	2-4	6.5	
			10-12	35	
	MW12	8/1/2007	4-6	12	
			10-12	11	
	MW13	8/1/2007	6-8	15	
			10-12	28	
	MW15	8/3/2007	4-6	19	
			10-12	7.7	
	MW16	7/31/2007	4-6	13	
			16-18	18	
	MW18	8/2/2007	8-10	17	
			10-12	13	
	MW19	8/1/2007	4-6	24	
			8-10	2.3	
	MW20	8/2/2007	2-4	25	
			6-8	19	
LOTT Exansion Site	BC_DP-05	2/14/2007	4-8	29	
	BC_DP-06	2/14/2007	4-8	20	
	BC_DP-10	2/14/2007	4-8	35	
	BC_DP11	10/8/2007	4-8	82	
	BC_DP12	10/8/2007	4-8	28	
	BC_DP13	10/8/2007	4-8	34	
	BC_DP14	10/8/2007	4-8	33	
	BC_DP15	10/8/2007	4-8	29	
	BC_DP16	10/8/2007	4-8	27	
	BC_DP17[(2)]	10/9/2008	2	14	
			7	2.2	U
			10	7.0	
			12	23	
	BC_DP18[(2)]	10/9/2008	2	16	
			7	28	
			10	34	
			12	11	
	BC_DP19[(2)]	10/9/2008	2	21	
			7	29	
			10	49	
			12	28	

Table 29. Chromium Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
LOTT Exansion Site	BC_DP25[(2)]	10/9/2008	2	21	
			7	33	
			10	33	
			12	1.6	U
	BC_DP26[(2)]	10/9/2008	2	24	
			7	31	
			10	9.2	
			12	6.1	
	BC_DP27[(2)]	10/9/2008	2	19	
			7	23	
			10	24	
			12	37	
	BC_DP28[(2)]	10/9/2008	2	18	
			7	34	
			10	2.6	U
			12	3.2	U
	BC_DP29[(2)]	10/9/2008	2	25	
			7	10	
			10	35	
	BC_TP01[(2)]	10/9/2008	2	2.4	U
			4	25	
	BC_TP02[(2)]	10/9/2008	2	38	
			4	19	
	BC_TP03[(2)]	10/9/2008	2	27	
			4	31	
	MW17	8/2/2007	4-6	24	
			10-12	2.2	U

Notes:

[(1)] These samples were analyzed for chromium VI. Chromium VI was not detected in either sample.

[(2)] Eash sample at this location was analyzed from chromium VI. Chromium VI was never detected.

U = Not detected at shown concentration

ft bgs = feet below ground surface

Table 30. Lead Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay	BC_DP-07	2/14/2007	4-8	7.2	
Redevalopment Site	BC_DP-08	2/14/2007	4-8	4.9	
	BC_DP-09	2/14/2007	4-8	12	
	BC_TP02	10/9/2008	2	3.3	
			4	0.80	U
	DP01	9/25/2006	1-3	38	J
	DP02	9/25/2006	1-3	12	J
	DP03	9/25/2006	1-3	19	J
	DP04	9/25/2006	1-3	12	J
			4-6	140	J
	DP05	9/25/2006	2-4	2.2	J
	DP06	9/26/2006	3-5	48	J
	DP07	9/26/2006	5-7	1.5	
	DP08	9/26/2006	1-3	37	J
	DP09	9/25/2006	1-3	2.5	J
	DP10	9/26/2006	2-4	2.6	J
	DP11	1/2/2007	0-2	8.2	
			8-10	2500	
	DP12	1/2/2007	0-2	17	
			8-10	17	
	DP17	8/3/2007	4-6	17	
			10-12	110	
	DP18	8/3/2007	2-4	4.5	
			10-12	8.0	
	DP19	8/3/2007	6-8	3.0	
			10-12	10	
	DP20	8/3/2007	2-4	0.90	U
			10-12	140	
	DP21	8/3/2007	6-8	30	
			10-12	2.9	U
	DP22	8/3/2007	4-6	2.2	
			10-12	11	
	DP26	6/10/2009	1-2	13	
			7-8	2.4	
	DP27	11/4/2008	0-1	6.6	
			3-4	5.1	
			4-5	4.2	
			6-7	1.3	
	DP28	6/10/2009	1-2	131	
			4-5	7.6	
	DP29	6/10/2009	3-4	8.7	
			7-8	32	
	DP30	11/4/2008	1-2	6.3	
			3-4	2.9	
			7-8	56	
	DP31	6/10/2009	3-4	3.1	
	DP32	11/4/2008	4-5	2.5	
	DP33	11/4/2008	1-2	2.2	
			3-4	2.2	
			5-6	2.6	
			7-8	7.7	
	DP34	11/4/2008	4-6	4.7	
			8-10	56	
	DP36	11/4/2008	5-6	2.9	

Table 30. Lead Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP37	6/10/2009	2-4	11	
			6-8	8.2	
	DP38	11/4/2008	1-2	12	
			5-6	32	
			6-7	95	
	DP39	6/10/2009	1-2	15	
			3-5	18	
	DP40	11/4/2008	1-2	3.8	
			5-6	2.6	
			3-4	3.4	
	DP41	6/10/2009	3-4	3.4	
	DP42	6/10/2009	1-2	12	
			5-6	14	
			7-8	2.5	
	MW01	1/2/2007	4-6	2.7	
			10-12	4.2	
	MW02	1/2/2007	2-4	8.8	
			8-10	7.0	
	MW03	1/2/2007	4-6	1.8	
			8-10	1.4	
	MW04	1/2/2007	2-4	85	
			14-16	1.8	
	MW05	1/15/2007	10-12	170	
	MW06	1/15/2007	2-4	2.2	
			10-12	11	
	MW08	1/17/2007	2-4	14	
			4-6	11	
			8-10	25	
	MW09	1/17/2007	2-4	2.6	
			4-6	1.8	
	MW11	8/1/2007	2-4	0.90	U
			10-12	2.0	
	MW12	8/1/2007	4-6	0.75	U
			10-12	0.85	U
	MW13	8/1/2007	6-8	21	
			10-12	52	
	MW15	8/3/2007	4-6	0.85	U
			10-12	12	
	MW16	7/31/2007	4-6	0.80	U
			16-18	1.2	U
	MW18	8/2/2007	8-10	0.90	U
			10-12	0.90	U
	MW19	8/1/2007	4-6	2.3	
			8-10	1.2	U
	MW20	8/2/2007	2-4	1.8	
			6-8	25	
	MW23S	6/12/2009	5-6	0.46	
			9-11	71	
	MW24S	6/12/2009	7-8	54	
			9-10	34	
	MW25S	6/12/2009	7-8	108	
			11-12	17	
			13-14	2.5	
LOTT Expansion Site	BC_DP-05	2/14/2007	4-8	73	

Table 30. Lead Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
LOTT Expansion Site	BC_DP-06	2/14/2007	4-8	199	
	BC_DP-10	2/14/2007	4-8	49	
	BC_DP-11	10/8/2007	4-8	231	
	BC_DP12	10/8/2007	4-8	2.0	
	BC_DP13	10/8/2007	4-8	1.5	U
	BC_DP14	10/8/2007	4-8	1.0	U
	BC_DP15	10/8/2007	4-8	2.0	
	BC_DP16	10/8/2007	4-8	1.0	U
	BC_DP17	10/9/2008	2	4.3	
			7	2.6	U
			10	8.2	
			12	5.1	
	BC_DP18	10/9/2008	2	2.3	
			7	0.90	U
			10	2.8	
			12	30	
	BC_DP19	10/9/2008	2	4.5	
			7	3.1	
			10	4.0	
			12	3.6	
	BC_DP25	10/9/2008	2	0.75	U
			7	2.7	
			10	13	
			12	1.8	U
	BC_DP26	10/9/2008	2	16	
			7	14	
			10	7.6	
			12	8.2	
	BC_DP27	10/9/2008	2	0.75	U
			7	0.85	U
			10	0.95	U
			12	3.1	
	BC_DP28	10/9/2008	2	2.0	
			7	3.3	
			10	11	
			12	3.7	U
	BC_DP29	10/9/2008	2	10	
			7	94	
			10	21	
	BC_TP01	10/9/2008	2	2.7	U
			4	17	
	BC_TP03	10/9/2008	2	1.0	U
			4	0.95	U
	MW17	8/2/2007	4-6	0.90	U
			10-12	67	

Notes:

J = Estimated value

U = Not detected at shown concentration

ft bgs = feet below ground surface

Table 31. Copper Concentrations in Literature and Regional Groundwater

Data Category	Description of Data Source	Location	Number of Samples[1]	Minimum Concentration (ug/L)[1]	Maximum Concentration (ug/L)[1]	90th Percentile Concentration (ug/L)[1, 2]
Regional Groundwater Data Sets Likely Representative of Regional Background Concentrations	Group A and Group B public water system data collected within last ten years for groundwater sources (WSDOH 2010)	Thurston County	1076	2.0 U	1000	200 U
	Groundwater data collected from private drinking water well and public drinking water wells in 1958 (Washington Department of Conservation 1961)	Thurston County	20	3.0	34	13
	Total and dissolved groundwater data from USGS National Water Information System (USGS 2010)	Puget Sound Aquifer System	37 / 260	1.0 / 0.20	71 / 1700	25 / 50 U
Regional Groundwater Data Sets for MTCA Sites / Locations in EIMS Database:	EIMS groundwater data from groundwater quality sampling after a waste storage pond was constructed at Beaver Creek Dairy (Ecology 2010d)	Olympia, Thurston County	1	3.7	3.7	N/A
	EIMS groundwater data to assess potential presence of contamination from former manufactured gas plant at Columbia Square Properties (Ecology 2010d)	Olympia, Thurston County	6	7.1	40	33
	EIMS groundwater data from the Final Remedial Investigation and Feasibility Study at Industrial Petroleum Distributors (SECOR 2001)	Olympia, Thurston County	14	1.0 U	220	160
	Total and dissolved groundwater data at the Solid Woods Incorporated (West Bay Park) Site (Parametrix 2004, 2007, 2008, 2009, and 2010)	Olympia, Thurston County	6 / 11	4.0 / 0.50 U	160 B / 5.9	140 / 5.5
	Total and dissolved seep data at the Solid Woods Incorporated (West Bay Park) Site (Parametrix 2004, 2007, 2008, 2009, and 2010)	Olympia, Thurston County	5 / 10	2.4 U / 0.50 U	8.4 / 13	7.9 / 11
	EIMS groundwater data from RI and Interim Remedial Action at Port of Tacoma's Property Citifor Inc (Ecology 2010d)	Maytown, Thurston County	6	0.11 J	0.71 J	0.49 J
	EIMS groundwater data from the City of Yelm groundwater monitoring (Ecology 2010d)	Yelm, Thurston County	26	0.0060	45	32
	EIMS groundwater data from soil and groundwater evaluation at Aladdin Plating Co Inc (Ecology 2010d)	Tacoma, Pierce County	15	0.32	31	21
	EIMS groundwater data from Post Interim Action groundwater monitoring at American Plating (Ecology 2010d)	Tacoma, Pierce County	63	0.39	3.6[3]	2.9
	EIMS groundwater data from Site Investigation at McFarland Cascade Pole and Lumber Company (Ecology 2010d)	Tacoma, Pierce County	259	0.59 J	290	20
	EIMS groundwater data from Groundwater Monitoring Compliance Evaluation at General Metals of Tacoma (Ecology 2010d)	Tacoma, Pierce County	125	0.10	9.7	1.8
	EIMS groundwater data from Supplemental Remedial Investigation at Thermafiber LLC (USG) (Ecology 2010d)	Tacoma, Pierce County	97	0.0013	260	7.8
	EIMS groundwater data from RCRA Corrective Action at SSA Containers, Inc (formerly Reichhold Chemical) (Ecology 2010d)	Tacoma, Pierce County	595	0.60 U	490	28
	EIMS groundwater data from Remedial Action to address petroleum hydrocarbons and cPAHs at the BNSF Oil Pipeline Remediation Site (Ecology 2010d)	Tacoma, Pierce County	5	1.0 U	1.5[3]	10 U
	EIMS groundwater data at Occidental Chemical Corporation, a site with VOC contamination and abnormally high pH measurements (Ecology 2010d)	Tacoma, Pierce County	3	4.0 U	79	64 U
	EIMS groundwater data from RCRA Corrective Action at Phillip Services Corp (Ecology 2010d)	Tacoma, Pierce County	314	0.10	73	6.2
Groundwater Data Sets or Literature Values with National Perspective	Dissolved groundwater concentrations in samples collected from wells in the Glacial Aquifer System (USGS 2009b)	Northern glaciated part of the United States, including Puget Sound Aquifer System	847	0.13	130	7.5
	90th percentile concentration for groundwater samples collected from domestic wells for the NAWQA Program (USGS 2009a)	United States	1619	N/A	N/A	12
	Literature value for maximum naturally occurring copper concentration (Salbu, Brit, and Eiliv Steinnes 1995)	United States	N/A	N/A	470	N/A
	Statewide natural background concentration for groundwater determined by the Delaware regulatory agency (Delaware DNR and Environmental Control 2007)	Delaware	N/A	N/A	N/A	12[4]
	95th percentile concentration for uncontaminated sample locations associated with 12 Air Force Installations across 10 California counties (Hunter Philip *et al* 2005)	California	4786	N/A	N/A	50[5]
Literature Values for Stormwater	Mean concentrations in runoff from different land uses including in-pipe industry, instream industry, transportation, commercial, residential, and open (Ecology 2005)	Oregon	N/A	4.0 / 4.0	53 / 9.0	N/A
	Typically observed concentrations in urban stormwater (Minton 2002)	United States	N/A	5.0	150	N/A
	A study that summarized several reported values in literature of constituent concentrations in highway runoff (Barrett *et al* 1995)	United States	N/A	22	7000	N/A
	Total and dissolved stormwater results collected from several downspouts on the SR 520 Bridge, Evergreen Point Floating Bridge, I-90 Bridge, and Hood Canal Bridge (Herrera Environmental Consultants 2005)	Puget Sound	56 / 56	5.0 / 2.3	94 / 80	72 / 54[6]

Notes:
Concentrations are generally shown to two significant figures.
B = compound was found in the blank and sample
J = result was detected but the result is an estimated value
U = non-detect
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
DNR = Department of Natural Resources
EIMS = Environmental Information Management System
MTCA = Model Toxics Control Act
NAWQA = USGS National Water-Quality Assessment
NPDES = National Pollutant Discharge Elimination System
RCRA = Resource Conservation Recovery Act
RI = Remedial Investigation
USGS = United States Geological Survey
WSDOT = Washington State Department of Transportation

[1] If a particular data source has both total and dissolved concentrations, then both are shown on this table. Total is shown over dissolved data ex. Total Data / Dissolved Data

[2] The 90th percentile for regional groundwater data was calculated by Microsoft Excel. Non-detects were given a half value for the calculation but if the 90th percentile was a non-detect the full value was shown with the U qualifier.

[3] The maximum reported value was a non-detect but the maximum detect is shown here.

[4] This is not a 90th percentile concentration, but rather is a statewide natural background concentration determined by the regulatory agency.

[5] Report only included the 95th percentile, so that is recorded here.

[6] The 90th percentile is from 9 of the 38 samples because only the 520 Bridge samples were listed individually

Table 32. Nickel Concentrations in Literature and Regional Groundwater

Data Category	Description of Data Source	Location	Number of Samples[1]	Minimum Concentration (ug/L)[1]	Maximum Concentration (ug/L)[1]	90th Percentile Concentration (ug/L)[1, 2]
Regional Groundwater Data Sets Likely Representative of Regional Background Concentrations	Group A and Group B public water system data collected within last ten years for groundwater sources (WSDOH 2010)	Thurston County	1049	0.20	40[3]	40 U
	Groundwater data collected from private drinking water well and public drinking water wells in 1958 (Washington Department of Conservation 1961)	Thurston County	20	7.0	1300	120
	Dissolved[4] groundwater data from USGS National Water Information System (USGS 2010)	Puget Sound Aquifer System	111	0.17	20[3]	10 U
Regional Groundwater Data Sets for MTCA Sites / Locations in EIMS Database:	EIMS groundwater data from groundwater quality sampling after a waste storage pond was constructed at Beaver Creek Dairy (Ecology 2010d)	Olympia, Thurston County	1	10 U	10 U	N/A
	EIMS groundwater data from the Final Remedial Investigation and Feasibility Study at Industrial Petroleum Distributors (SECOR 2001)	Olympia, Thurston County	14	1.0 U	150	100
	Total and dissolved groundwater data at the Solid Woods Incorporated (West Bay Park) Site (Parametrix 2004, 2007, 2008, 2009, and 2010)	Olympia, Thurston County	6 / 11	1.4 JB / 0.79	510 B / 12	480 / 11
	Total and dissolved seep data at the Solid Woods Incorporated (West Bay Park) Site (Parametrix 2004, 2007, 2008, 2009, and 2010)	Olympia, Thurston County	5 / 10	8.1 / 0.51	14 / 13	12 / 8.9
	EIMS groundwater data from RI and Interim Remedial Action at Port of Tacoma's Property Citifor Inc (Ecology 2010d)	Maytown, Thurston County	6	0.14 J	0.26 J	0.26
	EIMS groundwater data from the City of Yelm groundwater monitoring (Ecology 2010d)	Yelm, Thurston County	26	0.015 U	15 U	15 U
	EIMS groundwater data from soil and groundwater evaluation at Aladdin Plating Co Inc (Ecology 2010d)	Tacoma, Pierce County	15	1.9	17,000	11,000
	EIMS groundwater data from Post Interim Action groundwater monitoring at American Plating (Ecology 2010d)	Tacoma, Pierce County	63	1.0	62	10
	EIMS groundwater data from Groundwater Monitoring Compliance Evaluation at General Metals of Tacoma (Ecology 2010d)	Tacoma, Pierce County	119	0.20	34	16
	EIMS groundwater data from Supplemental Remedial Investigation at Thermafiber LLC (USG) (Ecology 2010d)	Tacoma, Pierce County	97	0.0035	76	14
	EIMS groundwater data from RCRA Corrective Action at SSA Containers, Inc (formerly Reichhold Chemical) (Ecology 2010d)	Tacoma, Pierce County	756	2.0 U	1500	62
	EIMS groundwater data from Remedial Action to address petroleum hydrocarbons and cPAHs at the BNSF Oil Pipeline Remediation Site (Ecology 2010d)	Tacoma, Pierce County	5	1.0 U	47	43
	EIMS groundwater data at Occidental Chemical Corporation, a site with VOC contamination and abnormally high pH measurements (Ecology 2010d)	Tacoma, Pierce County	3	10 U	33	27 U
	EIMS groundwater data from RCRA Corrective Action at Phillip Services Corp (Ecology 2010d)	Tacoma, Pierce County	314	0.80	51	19
Groundwater Data Sets or Literature Values with National Perspective	Dissolved groundwater concentrations in samples collected from wells in the Glacial Aquifer System (USGS 2009b)	Northern glaciated part of the United States, including Puget Sound Aquifer System	847	0.035	56	5.0
	90th percentile concentration for groundwater samples collected from domestic wells for the NAWQA Program (USGS 2009a)	United States	1572	N/A	N/A	3.0
	Literature value for maximum naturally occurring nickel concentration (Salbu, Brit, and Eiliv Steinnes 1995)	United States	N/A	N/A	27	N/A
	Statewide natural background concentration for ground water determined by the Delaware regulatory agency (Delaware DNR and Environmental Control 2007)	Delaware	N/A	N/A	N/A	100[5]
	95th percentile concentration for uncontaminated sample locations associated with 12 Air Force Installations across 10 California counties (Hunter Philip *et al* 2005)	California	4200	N/A	N/A	450[6]
Literature Values for Stormwater	Typically observed concentrations in urban stormwater (Minton 2002)	United States	N/A	5.0	150	N/A
	A study that summarized several reported values in literature of constituent concentrations in highway runoff (Barrett *et al* 1995)	United States	N/A	N/A	53	N/A

Notes:

Concentrations are generally shown to two significant figures.
B = compound was found in the blank and sample
J = result was detected but the result is an estimated value
U = non-detect
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
DNR = Department of Natural Resources
EIMS = Environmental Information Management System
MTCA = Model Toxics Control Act
NAWQA = USGS National Water-Quality Assessment
RCRA = Resource Conservation Recovery Act
RI = Remedial Investigation
USGS = United States Geological Survey
WSDOT = Washington State Department of Transportation

[1] If a particular data source has both total and dissolved concentrations, then both are shown on this table. Total is shown over dissolved data ex. Total Data / Dissolved Data

[2] The 90th percentile for regional groundwater data was calculated by Microsoft Excel. Non-detects were given a half value for the calculation but if the 90th percentile was a non-detect the full value was shown with the U qualifier.

[3] The maximum reported value was a non-detect but the maximum detect is shown here.

[4] The database did not include total nickel data that match the rest of the query criteria.

[5] This is not a 90th percentile concentration, but rather is a statewide natural background concentration determined by regulatory agency.

[6] Report only included the 95th percentile, so that is recorded here.

Table 33. Total cPAHs Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP01	9/25/2006	1-3	0.019	J
	DP02	9/25/2006	1-3	0.19	J
	DP03	9/25/2006	1-3	0.055	J
	DP04	9/25/2006	1-3	0.050	J
			4-6	0.047	J
	DP05	9/25/2006	1.5-3.5	0.0059	J
	DP06	9/26/2006	3-5	0.096	J
	DP07	9/26/2006	4.5-6.5	0.0016	J
	DP08	9/26/2006	1-3	0.24	J
	DP09	9/25/2006	1-3	0.0042	J
	DP10	9/26/2006	2-4	0.0013	J
	DP11	1/2/2007	0-2	1.0	
			8-10	0.17	
	DP12	1/2/2007	0-2	0.042	
			8-10	0.0078	
	DP13	1/15/2007	4-6	0.56	U
			8-10	0.019	
	DP14	1/17/2007	2-4	0.025	U
			4-6	0.20	
			8-10	0.030	
	DP15	1/15/2007	2-4	0.030	
			10-12	0.54	
	DP16	1/17/2007	2-4	0.026	U
			4-6	0.088	
			8-10	0.15	
	DP17	8/3/2007	4-6	0.11	U
			10-12	0.082	
	DP18	8/3/2007	2-4	0.032	U
			10-12	0.16	
	DP19	8/3/2007	6-8	0.026	U
			10-12	0.034	U
	DP20	8/3/2007	2-4	0.026	U
			10-12	0.044	U
	DP21	8/3/2007	6-8	0.036	U
			10-12	0.083	U
	DP22	8/3/2007	4-6	0.027	U
			10-12	0.030	U
	DP23	8/1/2007	12-14	0.027	U
	DP24	8/3/2007	8-10	0.031	U
	DP25	8/3/2007	10-12	0.024	U
	DP26	6/10/2009	1-2	0.18	
			3-4	0.14	
	DP27	11/4/2008	0-1	0.16	
			3-4	0.0097	
			4-5	0.043	
	DP28	6/10/2009	1-2	0.046	
			3-5	0.051	
	DP29	6/10/2009	1-2	0.39	
			7-8	0.20	
			13-14	0.20	
	DP30	11/4/2008	3-4	0.028	
	DP32	11/4/2008	4-5	0.0038	U

Table 33. Total cPAHs Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP33	11/4/2008	1-2	0.027	
			3-4	0.26	
			5-6	0.024	
			7-8	0.33	
	DP34	11/4/2008	4-6	0.054	
			7.5-9.5	0.048	
	DP37	6/10/2009	2-3.5	0.12	
	DP38	11/4/2008	1-2	0.052	
			5-6	0.098	
			6-7	0.084	
	DP39	6/10/2009	0.5-2	0.18	
			3-5	1.1	
	DP40	11/4/2008	1-2	0.031	
			3-4	0.0075	
			5-6	0.037	
	DP43	9/16/2009	2-3	0.098	U
			6-7	0.098	U
			9-10	0.12	
	DP44	9/16/2009	2-3	0.098	U
			6-7	0.098	U
			9-10	0.19	
	DP45	9/16/2009	1-2	0.098	U
			6-7	0.098	U
			9-10	0.098	U
	MW01	1/2/2007	4-6	0.0041	
			10-12	0.0077	
	MW02	1/2/2007	2-4	0.035	
			8-10	0.0086	
	MW03	1/2/2007	4-6	0.018	
			8-10	0.0026	U
	MW04	1/2/2007	2-4	0.11	
			14-16	0.0028	U
	MW05	1/15/2007	10-12	0.14	
	MW06	1/15/2007	2-4	0.0026	U
			10-12	0.0037	U
	MW08	1/17/2007	2-4	0.031	
			4-6	0.030	
			8-10	0.054	U
	MW09	1/17/2007	2-4	0.023	U
			4-6	0.025	U
	MW10	1/15/2007	2-4	0.11	
			10-12	0.10	
	MW11	8/1/2007	2-4	0.026	U
			10-12	0.031	U
	MW12	8/1/2007	4-6	0.023	U
			10-12	0.026	U
	MW13	8/1/2007	6-8	0.026	U
			10-12	0.085	
	MW14	8/7/2007	7-9	0.0072	J
			8-10	0.0042	U
	MW15	8/3/2007	4-6	0.026	U
			10-12	0.075	U
	MW16	7/31/2007	4-6	0.0056	
			16-18	0.0036	U

Table 33. Total cPAHs Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopme	MW18	8/2/2007	8-10	0.027	U
			10-12	0.026	U
	MW19	8/1/2007	4-6	0.034	U
			8-10	0.036	U
	MW20	8/2/2007	2-4	0.026	U
			6-8	0.76	
			8-10	0.019	J H B
	MW21S	6/12/2009	0.5-1.5	0.16	
	MW23S	6/12/2009	5-6	0.17	
			9-10.5	0.62	
	MW24S	6/12/2009	6.5-8	0.90	
			9-10	0.26	
	MW25S	6/12/2009	6.5-7.5	0.56	
			10.5-12	0.050	
			12.5-14	0.13	
LOTT Expansion Site	BC_DP-01	11/9/2006	4-8	0.048	
	BC_DP-02	11/9/2006	4-8	0.048	J
	BC_DP-03	11/9/2006	4-8	0.026	U
	BC_DP-04	11/9/2006	4-8	0.035	J
	BC_DP11	10/8/2007	4-8	0.050	U
	BC_DP12	10/8/2007	4-8	0.048	U
	BC_DP13	10/8/2007	4-8	0.051	U
	BC_DP14	10/8/2007	4-8	0.049	U
	BC_DP15	10/8/2007	4-8	0.050	U
	BC_DP16	10/8/2007	4-8	1.9	
	BC_DP17	10/9/2008	2	0.023	
			7	0.048	
			10	0.013	
			12	0.012	
	BC_DP18	10/9/2008	2	0.0039	U
			7	0.0048	U
			10	0.0048	U
			12	0.045	
	BC_DP19	10/9/2008	2	0.0042	U
			7	0.0048	U
			10	0.0050	U
			12	0.0048	U
	BC_DP25	10/9/2008	2	0.0039	U
			7	0.0046	U
			10	0.11	
			12	0.023	
	BC_DP26	10/9/2008	2	0.029	
			7	0.016	
			10	0.0092	
			12	0.012	
	BC_DP27	10/9/2008	2	0.27	
			7	0.0044	U
			10	0.0048	U
			12	0.011	
	BC_DP28	10/9/2008	2	0.036	
			7	0.0048	U
			10	0.041	
			12	0.019	U

Table 33. Total cPAHs Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
LOTT Expansion Site	BC_DP29	10/9/2008	2	0.034	
			7	0.090	
			10	0.0076	U
	BC_TP01	10/9/2008	2	0.014	U
			4	0.014	
	BC_TP02	10/9/2008	2	0.0095	
			4	0.0039	U
	BC_TP03	10/9/2008	2	0.0051	U
			4	0.0048	U
	MW17	8/2/2007	4-6	0.026	U
			10-12	0.081	

Notes:

H = sample was prepped or analyzed beyond the specified holding time

B = Compound was found in the blank and sample

J = Estimated value

U = Not detected at shown concentration

ft bgs = feet below ground surface

Compound totaling was performed in accordance with Ecology's Concise Explanatory Statement for MTCA (Ecology, 2001b). For congeners that occur at the site (detected in any media), but not detected in that sample, a value of 1/2 the detection limit was assigned. For congeners that do not occur at the site (not detected in any media), a value of zero was assigned. In the case of cPAHs, all congeners have been detected at least once in soil and groundwater.

Table 34. TPH-D Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	BC_DP-07	2/14/2007	4-8	23	
	BC_DP-08	2/14/2007	4-8	91	
	BC_DP-09	2/14/2007	4-8	45	
	DP01	9/25/2006	1-3	22	J
	DP02	9/25/2006	1-3	580	
	DP03	9/25/2006	1-3	77	
	DP04	9/25/2006	1-3	25	J
			4-6	3900	
	DP05	9/25/2006	2-4	9.1	J
	DP06	9/26/2006	3-5	97	
	DP07	9/26/2006	5-7	14	U
	DP08	9/26/2006	1-3	7300	
	DP09	9/25/2006	1-3	14	U
	DP10	9/26/2006	2-4	6.4	J
	DP11	1/2/2007	0-2	51	J
			8-10	220	J
	DP12	1/2/2007	0-2	22	UJ
			8-10	18	U
	DP13	1/15/2007	4-6	2900	
			8-10	69	
	DP14	1/17/2007	2-4	14	U
			4-6	190	
			8-10	76	
	DP15	1/15/2007	2-4	72	
			10-12	70	U
	DP16	1/17/2007	2-4	13	U
			4-6	34	
			8-10	15	U
	DP17	8/3/2007	4-6	130	
			10-12	44	U
	DP18	8/3/2007	2-4	580	
			10-12	960	
	DP19	8/3/2007	6-8	370	
			10-12	67	
	DP20	8/3/2007	2-4	15	U
			10-12	600	
	DP21	8/3/2007	6-8	87	
			10-12	110	
	DP22	8/3/2007	4-6	16	U
			10-12	17	U
	DP23	8/1/2007	12-14	29	J
	DP24	8/3/2007	8-10	81	
	DP25	8/3/2007	10-12	14	U
	DP28	6/10/2009	1-2	13	U
			4-5	13	U
	DP29	6/10/2009	7-8	13	U
			13-14	13	U
	DP31	6/10/2009	3-4	13	U
	DP34	11/4/2008	4-6	5.4	
			8-10	16	
	DP35	6/10/2009	5-6	13	U
	DP36	11/4/2008	5-6	16	
	DP37	6/10/2009	2-4	13	U
			6-8	13	U
	DP38	11/4/2008	5-6	8.2	
			6-7	56	

Table 34. TPH-D Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP39	6/10/2009	1-2	13	U
			3-5	13	U
	DP40	11/4/2008	1-2	22	
			3-4	2.5	U
			5-6	19	
	MW01	1/2/2007	4-6	13	U
			10-12	14	U
	MW02	1/2/2007	2-4	5.5	UJ
			8-10	5.0	UJ
	MW03	1/2/2007	4-6	14	U
			8-10	14	U
	MW04	1/2/2007	2-4	110	J
			14-16	15	U
	MW05	1/15/2007	10-12	38	
	MW06	1/15/2007	2-4	14	U
			10-12	1400	
	MW08	1/17/2007	2-4	32	
			4-6	48	
			8-10	29	U
	MW09	1/17/2007	2-4	14	U
			4-6	14	U
	MW10	1/15/2007	2-4	52	
			10-12	77	
	MW11	8/1/2007	2-4	30	J
			10-12	17	UJ
	MW12	8/1/2007	4-6	12	UJ
			10-12	14	UJ
	MW13	8/1/2007	6-8	170	J
			10-12	95	J
	MW14	8/7/2007	7-9	290	
			8-10	14	U
	MW15	8/3/2007	4-6	15	U
			10-12	300	
	MW16	7/31/2007	4-6	28	J
			16-18	48	J
	MW18	8/2/2007	8-10	15	UJ
			10-12	15	UJ
	MW19	8/1/2007	4-6	19	UJ
			8-10	78	J
	MW20	8/2/2007	2-4	15	UJ
			6-8	42	UJ
	MW23S	6/12/2009	5-6	1160	
			9-11	13	U
	MW24S	6/12/2009	7-8	13	U
			9-10	13	U
	MW25S	6/12/2009	7-8	13	U
			11-12	13	U
			13-14	13	U
LOTT Expansion Site	BC_DP-01	11/9/2006	4-8	3300	
	BC_DP-02	11/9/2006	4-8	52	
	BC_DP-03	11/9/2006	4-8	8.2	J
	BC_DP-04	11/9/2006	4-8	83	
	BC_DP-05	2/14/2007	4-8	72	
	BC_DP-06	2/14/2007	4-8	790	
	BC_DP-10	2/14/2007	4-8	16	

Table 34. TPH-D Soil Concentrations

Location	Site ID	Sample Date	Sample Depth Range (ft bgs)	Result (mg/kg)	Qualifier
LOTT Expansion Site	BC_DP11	10/8/2007	4-8	41	
	BC_DP12	10/8/2007	4-8	21	
	BC_DP13	10/8/2007	4-8	35	
	BC_DP14	10/8/2007	4-8	160	
	BC_DP15	10/8/2007	4-8	8.1	
	BC_DP16	10/8/2007	4-8	36	
	BC_DP17	10/9/2008	2	75	
			7	200	
			10	680	
			12	320	
	BC_DP18	10/9/2008	2	13	U
			7	16	U
			10	52	
			12	280	
	BC_DP19	10/9/2008	2	79	
			7	17	U
			10	17	U
			12	35	
	BC_DP25	10/9/2008	2	13	U
			7	16	U
			10	260	
			12	470	
	BC_DP26	10/9/2008	2	13	U
			7	57	
			10	430	
			12	310	
	BC_DP27	10/9/2008	2	13	U
			7	15	U
			10	16	U
			12	17	U
	BC_DP28	10/9/2008	2	5400	
			7	15	U
			10	820	
			12	65	U
	BC_DP29	10/9/2008	2	13	U
			7	88	
			10	160	
	BC_TP01	10/9/2008	2	45	U
			4	38	
	BC_TP02	10/9/2008	2	15	U
			4	13	U
	BC_TP03	10/9/2008	2	17	U
			4	16	U
	MW17	8/2/2007	4-6	15	UJ
			10-12	1400	J

Notes:
J = Estimated value
U = Not detected at shown concentration
ft bgs = feet below ground surface

Table 35. TPH-HO Soil Concentrations

Location	Site ID	Sample Date	Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP01	9/25/2006	1-3	100	
	DP02	9/25/2006	1-3	9900	
	DP03	9/25/2006	1-3	620	
	DP04	9/25/2006	1-3	77	
		9/25/2006	4-6	7200	
	DP05	9/25/2006	2-4	26	U
	DP06	9/26/2006	3-5	320	
	DP07	9/26/2006	5-7	27	U
	DP08	9/26/2006	1-3	8800	
	DP09	9/25/2006	1-6	28	U
	DP10	9/26/2006	2-4	25	U
	DP11	1/2/2007	0-2	160	
			8-10	1000	
	DP12	1/2/2007	0-2	290	
			8-10	69	J
	DP13	1/15/2007	4-6	21,000	
			8-10	400	
	DP14	1/17/2007	2-4	28	U
			4-6	1300	
			8-10	490	
	DP15	1/15/2007	2-4	720	
			10-12	1200	
	DP16	1/17/2007	2-4	27	U
			4-6	31	U
			8-10	30	U
	DP17	8/3/2007	4-6	115	U
			10-12	490	
	DP18	8/3/2007	2-4	730	
			10-12	4600	
	DP19	8/3/2007	6-8	30	U
			10-12	89	
	DP20	8/3/2007	2-4	30	U
			10-12	49	U
	DP21	8/3/2007	6-8	650	
			10-12	230	
	DP22	8/3/2007	4-6	32	U
			10-12	33	U
	DP23	8/1/2007	12-14	28	UJ
	DP24	8/3/2007	8-10	170	
	DP25	8/3/2007	10-12	27	U
	DP28	6/10/2009	1-2	50	U
			4-5	50	U
	DP29	6/10/2009	7-8	50	U
			13-14	50	U
	DP31	6/10/2009	3-4	50	U
	DP34	11/4/2008	4-6	13	
			8-10	36	
	DP35	6/10/2009	5-4	50	U
	DP36	11/4/2008	5-6	163	
	DP37	6/10/2009	2-4	50	U
			6-8	50	U
	DP38	11/4/2008	5-6	14	
			6-7	470	
	DP39	6/10/2009	1-2	50	U
			3-5	440	

Table 35. TPH-HO Soil Concentrations

Location	Site ID	Sample Date	Range (ft bgs)	Result (mg/kg)	Qualifier
East Bay Redevelopment Site	DP40	11/4/2008	1-2	113	
			3-4	39	
			5-6	295	
	MW01	1/2/2007	4-6	7.1	J
			10-12	27	U
	MW02	1/2/2007	2-4	68	
			8-10	28	J
	MW03	1/2/2007	4-6	22	J
			8-10	28	U
	MW04	1/2/2007	2-4	730	
			14-16	15	J
	MW05	1/15/2007	10-12	170	
	MW06	1/15/2007	2-4	28	U
			10-12	2200	
	MW08	1/17/2007	2-4	71	
			4-6	29	U
			8-10	60	U
	MW09	1/17/2007	2-4	27	U
			4-6	27	U
	MW16	7/31/2007	4-6	27	UJ
			16-18	91	J
	MW10	1/15/2007	2-4	550	
			10-12	740	
	MW11	8/1/2007	2-4	27	UJ
			10-12	34	UJ
	MW12	8/1/2007	4-6	24	UJ
			10-12	27	UJ
	MW13	8/1/2007	6-8	580	J
			10-12	180	J
	MW14	8/7/2007	7-9	1100	
			8-10	27	U
	MW15	8/3/2007	4-6	30	U
			10-12	450	
	MW18	8/2/2007	8-10	30	UJ
			10-12	30	UJ
	MW19	8/1/2007	4-6	37	UJ
			8-10	80	J
	MW20	8/2/2007	2-4	30	UJ
			6-8	85	UJ
	MW23S	6/12/2009	5-6	13	U
			9-11	13	U
	MW24S	6/12/2009	7-8	494	
			9-10	418	
	MW25S	6/12/2009	7-8	2020	
			11-12	1070	
			13-14	13	U
LOTT Expansion Site	BC_DP-01	11/9/2006	4-8	9900	
	BC_DP-02	11/9/2006	4-8	250	
	BC_DP-03	11/9/2006	4-8	74	
	BC_DP-04	11/9/2006	4-8	370	
	BC_DP11	10/8/2007	4-8	280	
	BC_DP12	10/8/2007	4-8	150	
	BC_DP13	10/8/2007	4-8	270	
	BC_DP14	10/8/2007	4-8	160	
	BC_DP15	10/8/2007	4-8	43	

Table 35. TPH-HO Soil Concentrations

Location	Site ID	Sample Date	Range (ft bgs)	Result (mg/kg)	Qualifier
LOTT Expansion Site	BC_DP16	10/8/2007	4-8	260	
	BC_DP17	10/9/2008	2	415	
			7	630	
			10	5800	
			12	2200	
	BC_DP18	10/9/2008	2	73	
			7	31	U
			10	320	
			12	2000	
	BC_DP19	10/9/2008	2	360	
			7	75	
			10	34	U
			12	94	
	BC_DP25	10/9/2008	2	25	U
			7	32	U
			10	1900	
			12	5500	
	BC_DP26	10/9/2008	2	82	
			7	370	
			10	2900	
			12	3300	
	BC_DP27	10/9/2008	2	64	
			7	29	U
			10	69	
			12	34	U
	BC_DP28	10/9/2008	2	26,000	
			7	30	U
			10	6700	
			12	330	
	BC_DP29	10/9/2008	2	83	
			7	85	U
			10	130	
	BC_TP01	10/9/2008	2	90	U
			4	310	
	BC_TP02	10/9/2008	2	30	U
			4	25	U
	BC_TP03	10/9/2008	2	35	U
			4	32	U
	MW17	8/2/2007	4-6	230	J
			10-12	3800	J

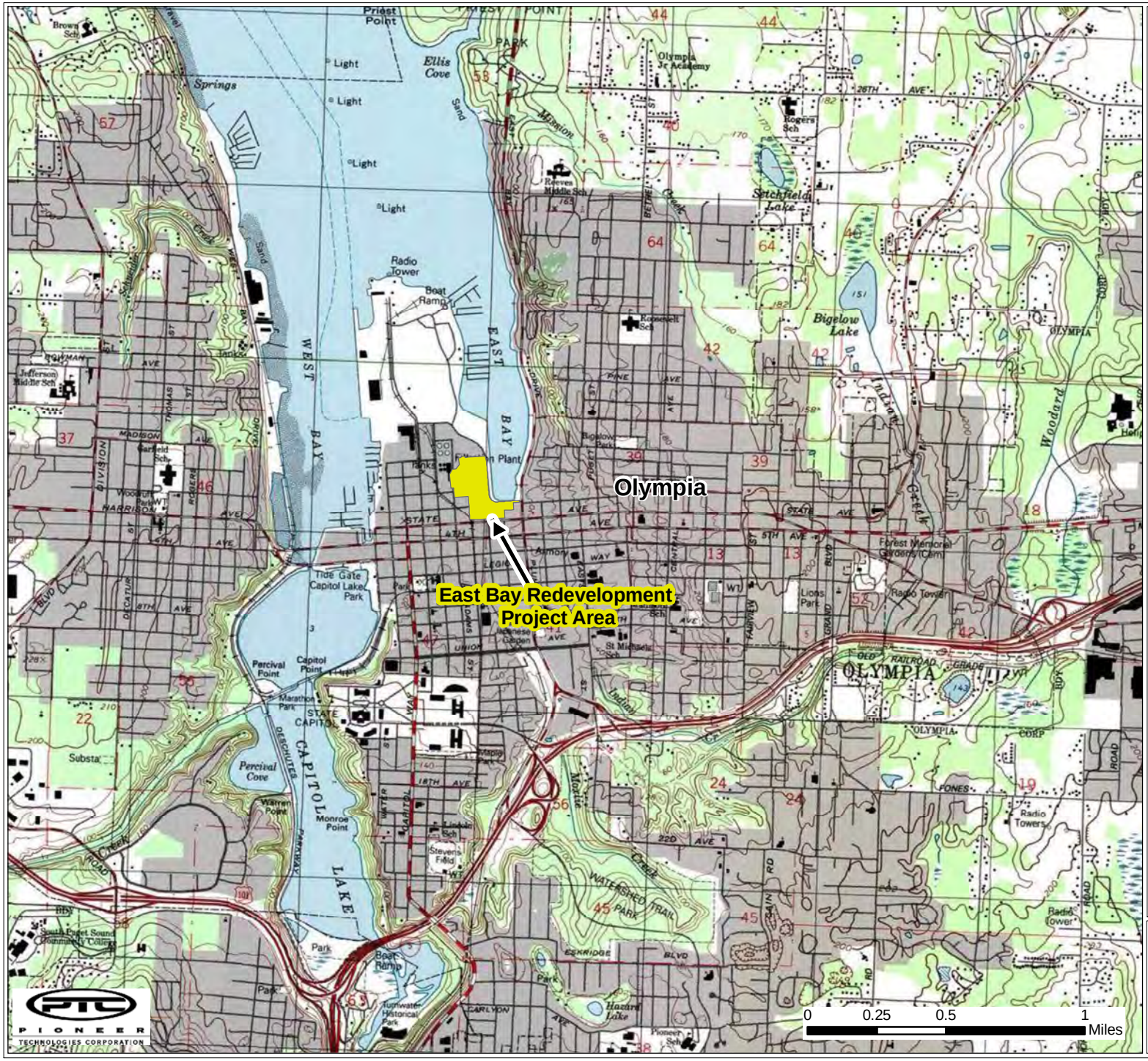
Notes:

J = Estimated value

U = Not detected at shown concentration

ft bgs = feet below ground surface

FIGURES



Vicinity Map
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011

Figure 1

Legend

- Groundwater Monitoring Well Locations
- Seep Locations
- Current Site Boundary
- LOTT Expansion Site
- Parcel Boundaries
- Roads Paved During Infrastructure Interim Action

Note:

MW02 and MW05 were decommissioned on 09/04/09 and 06/16/09 respectively.

N
W E
S

0 50 100 200 Feet

Parcel Locations and Monitoring Locations
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011 Figure 2

PIONEER TECHNOLOGIES CORPORATION

Legend

- Measured Monitoring Well and Groundwater Elevation (feet NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Elevation Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

N
W E
S

0 50 100 200 Feet

Groundwater Elevation Contours
for August 28, 2007 Measurements
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011 Figure 3

PIONEER TECHNOLOGIES CORPORATION

Legend

- Measured Monitoring Well and Groundwater Elevation (feet NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Elevation Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

Groundwater measurements were not collected synoptically during this event since the Remedial Investigation Work Plan did not specify collection of synoptic measurements, and previous tidal studies concluded there was minimal tidal influence at the site.

N
W E
S

0 50 100 200
Feet

Groundwater Elevation Contours
from June 2009 Monitoring Event
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011 Figure 4

PIONEER TECHNOLOGIES CORPORATION

Legend

- Measured Monitoring Well and Groundwater Elevation (feet NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Elevation Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

Groundwater measurements were not collected synoptically during this event since the Remedial Investigation Work Plan did not specify collection of synoptic measurements, and previous tidal studies concluded there was minimal tidal influence at the site.

N
W E
S

0 50 100 200
Feet

Groundwater Elevation Contours from September 2009 Monitoring Event
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011 Figure 5

PIONEER TECHNOLOGIES CORPORATION

Legend

- Measured Monitoring Well and Groundwater Elevation (feet NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Elevation Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

Groundwater measurements were not collected synoptically during this event since the Remedial Investigation Work Plan did not specify collection of synoptic measurements, and previous tidal studies concluded there was minimal tidal influence at the site.

N
W E
S

0 50 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Groundwater Elevation Contours from November 2009 Monitoring Event
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011

Figure 6

Legend

- Measured Monitoring Well and Groundwater Elevation (ft NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Elevation Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

Groundwater measurements were not collected synoptically during this event since the Remedial Investigation Work Plan did not specify collection of synoptic measurements, and previous tidal studies concluded there was minimal tidal influence at the site.

N
W E
S

0 50 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

Groundwater Elevation Contours
from December 2009 Monitoring Event
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011

Figure 7

Legend

- Measured Monitoring Well and Groundwater Elevation (ft NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

Groundwater measurements were collected synoptically on March 17, 2010 from 12:50 through 1:37 pm.

N
W E
S

0 50 100 200 Feet

Groundwater Elevation Contours from March 2010 Monitoring Event
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011 Figure 8

Legend

- Measured Monitoring Well and Groundwater Elevation (ft NGVD29)
- Monitoring Well Not Measured During Event
- Groundwater Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

NGVD29 = National Geodetic Vertical Datum of 1929
NM = not measured

Groundwater measurements were collected synoptically on August 18, 2010 from 10:30 through 11:20 am.

N
W E
S

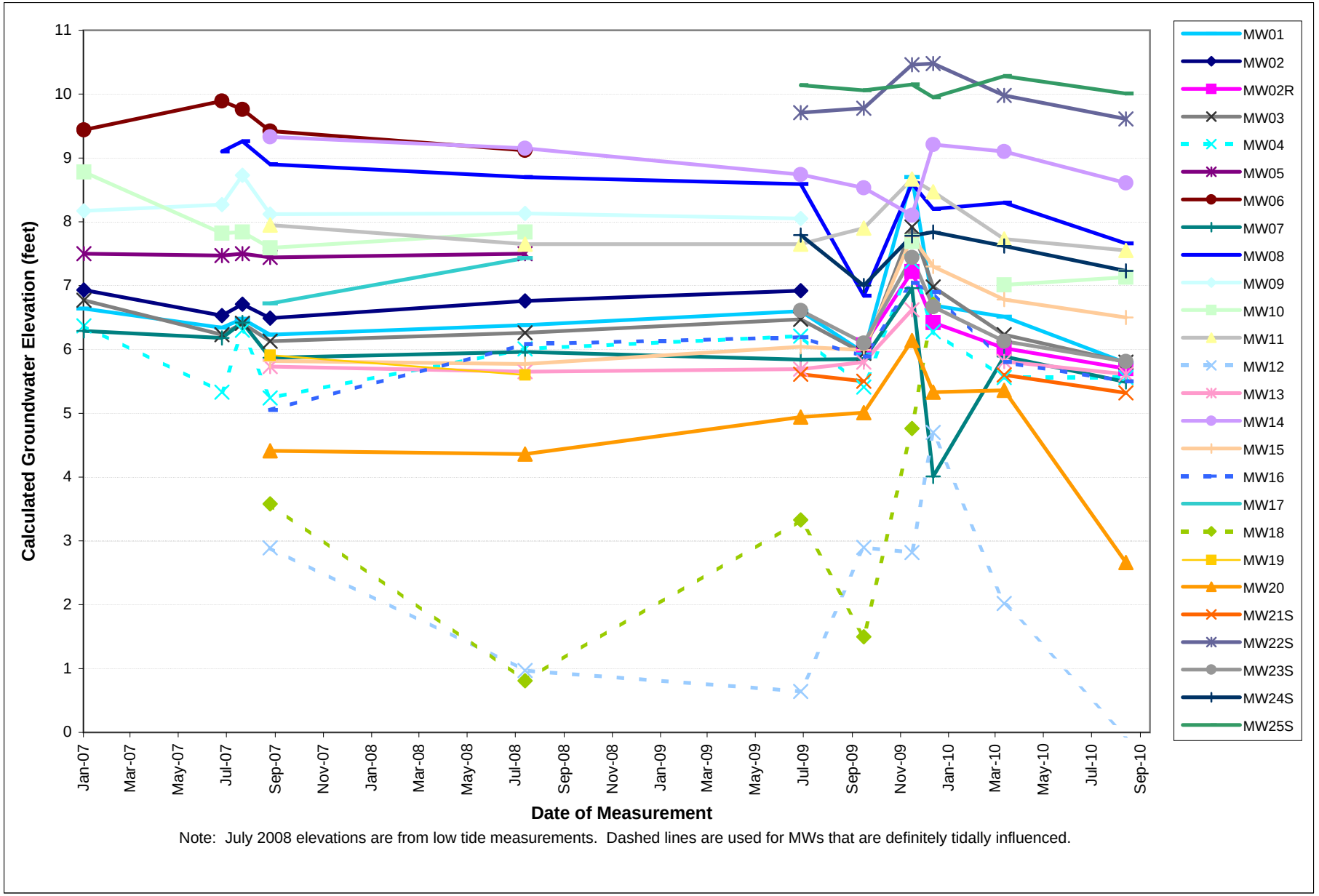
0 50 100 200 Feet

Groundwater Elevation Contours
from August 2010 Monitoring Event
East Bay Soil-to-Surface Water
Empirical Demonstration Report

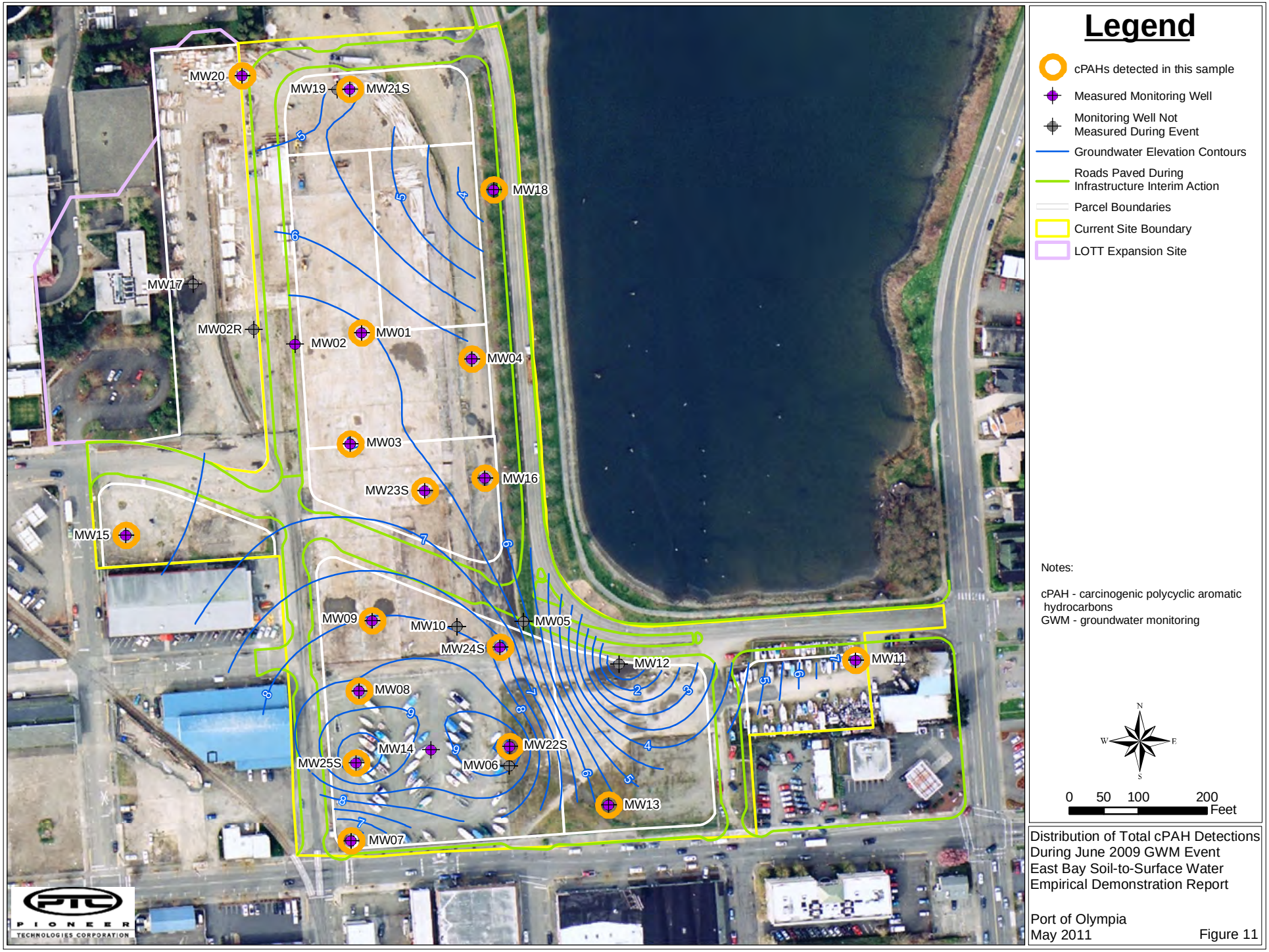
Port of Olympia
May 2011 Figure 9

PIONEER TECHNOLOGIES CORPORATION

Figure 10
Groundwater Hydrograph



Note: July 2008 elevations are from low tide measurements. Dashed lines are used for MWs that are definitely tidally influenced.



Legend

- cPAHs detected in this sample
- Measured Monitoring Well
- Monitoring Well Not Measured During Event
- Groundwater Elevation Contours
- Roads Paved During Infrastructure Interim Action
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:

cPAH - carcinogenic polycyclic aromatic hydrocarbons
GWM - groundwater monitoring

N
W E
S

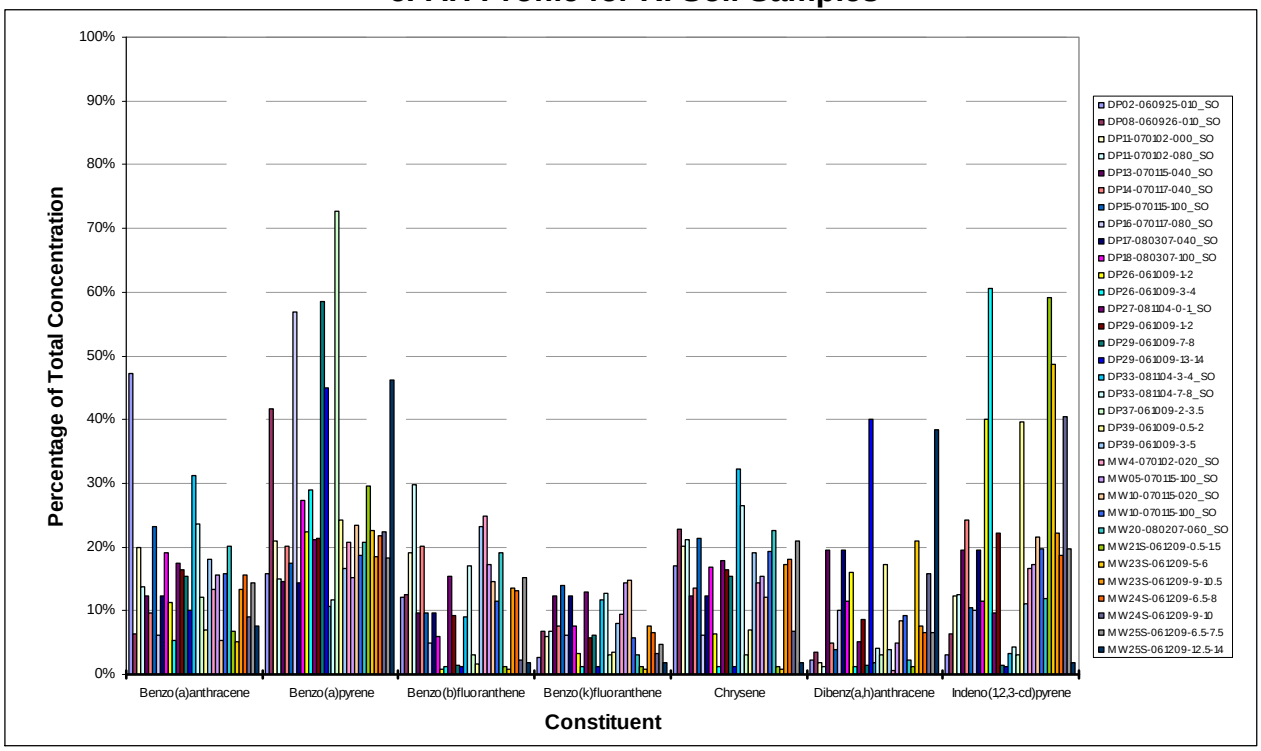
0 50 100 200 Feet

PIONEER TECHNOLOGIES CORPORATION

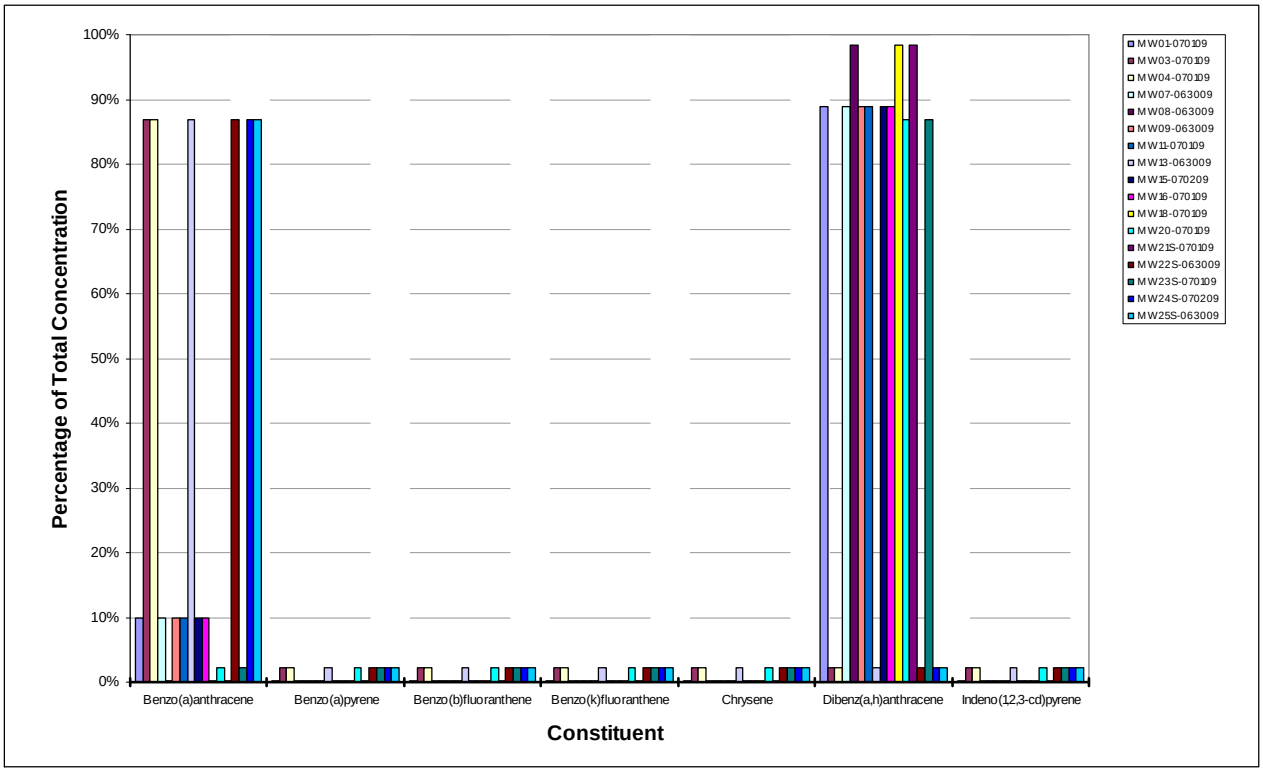
Distribution of Total cPAH Detections
During June 2009 GWM Event
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011 Figure 11

cPAH Profile for RI Soil Samples[1, 2]



cPAH Profile for June 2009 Groundwater Samples[2, 3]

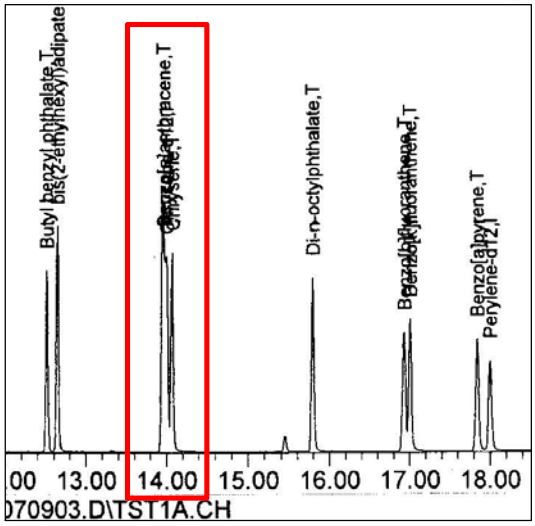


Notes:
[1]Data from 33 Remedial Investigation soil samples in which total cPAH concentration on toxicity equivalence quotient basis was greater than MTCA Method A soil cleanup level for unrestricted land use.
[2]Non detects were assumed to be equal to half the practical quantitation limit.
[3]Data for 17 groundwater samples from June 2009 groundwater monitoring event in which cPAHs were detected.

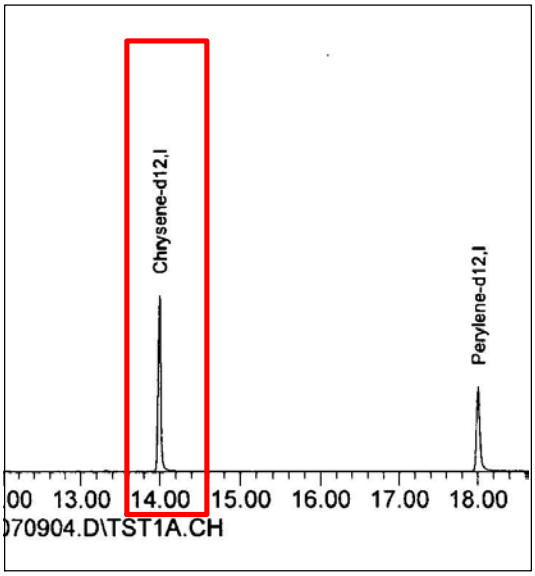
PIONEER TECHNOLOGIES CORPORATION

Figure 12 - Comparison of Soil and Groundwater cPAH Profiles
East Bay Soil-to-Surface Water Empirical Demonstration Report

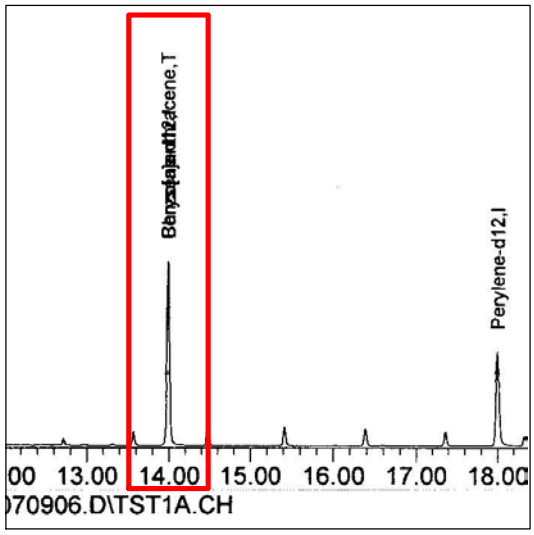
Initial Calibration Standard



Method Blank



MW01

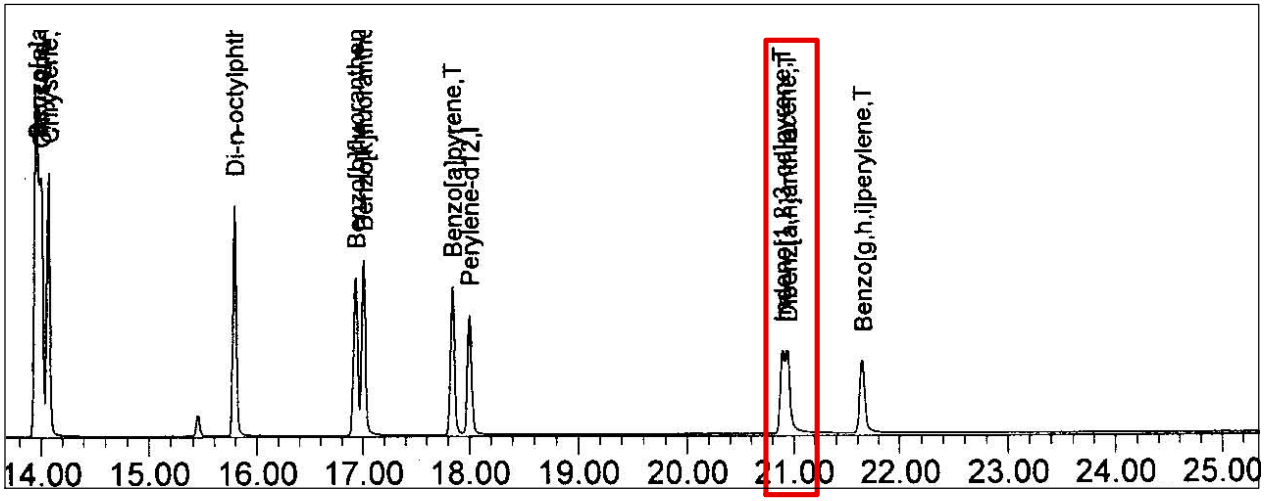


Notes:
1. These chromatograms are cropped to focus attention on the retention times at which these cPAHs elute out of the column. Time is on the x-axis and abundance is on the y-axis.
2. The initial calibration standard (which is referred to as 10 ppm SVOC on quantitation report), method blank, and MW01 were analyzed sequentially in the same batch.
3. MW01 had reported a benzo(a)anthracene concentration equal to the highest reported concentrations for samples collected during the June 2009 groundwater monitoring event. The reported benzo(a)anthracene concentration was 0.02 ug/L.

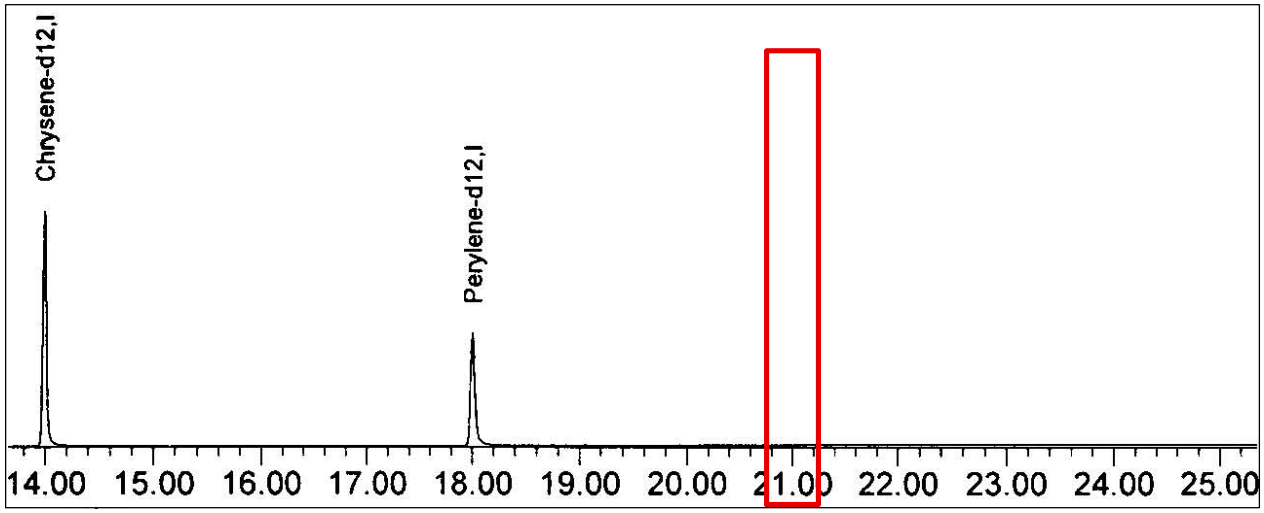
PIONEER TECHNOLOGIES CORPORATION

Figure 13 - Benzo(a)anthracene Chromatogram Comparison
East Bay Soil-to-Surface Water Empirical Demonstration Report

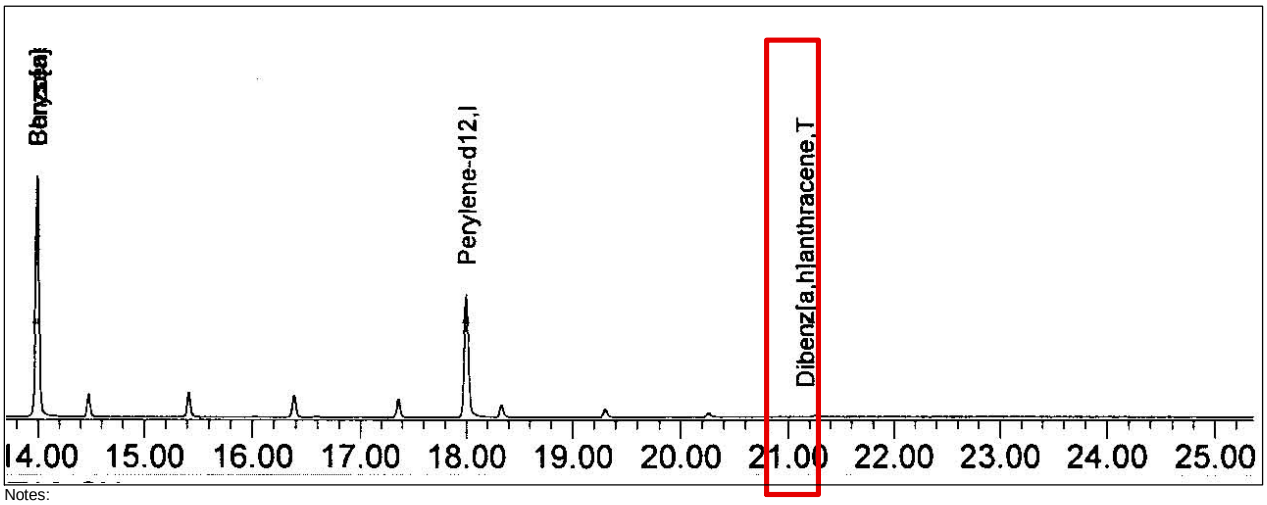
Initial Calibration Standard



Method Blank



MW01



Notes:

1. These chromatograms are cropped to focus attention on the retention times at which these cPAHs elute out of the column. Time is on the x-axis and abundance is on the y-axis.
2. The initial calibration standard (which is referred to as 10 ppm SVOC on quantitation report), method blank, and MW01 were analyzed sequentially in the same batch.
3. MW01 had reported a dibenzo(a,h)anthracene concentration equal to the highest reported concentrations for samples collected during the June 2009 groundwater monitoring event. The reported dibenzo(a,h)anthracene concentration was 0.18 ug/L.

PIONEER TECHNOLOGIES CORPORATION

Figure 14 - Dibenzo(a,h)anthracene Chromatogram Comparison
East Bay Soil-to-Surface Water Empirical Demonstration Report

Legend

Monitoring Well Locations

- Groundwater Concentration <= SWSL
- Groundwater Concentration > SWSL

Existing Soil Data (0-2' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (2-6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (>= 6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU
- Groundwater Elevation Contours from the September 2009 GWM Event
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:
MTCA Method A SCL for URLU = 20 mg/kg
Surface Water Screening Level = 5 ug/L
bgs = below ground surface
GWM = groundwater monitoring event
MTCA = Model Toxics Control Act
SCL = Soil Cleanup Level
SWSL = Surface Water Screening Level
URLU = Unrestricted Land Use
-Maximum concentration of unqualified dissolved arsenic groundwater results are shown for each sample location. Only sample locations with exceedances are labeled.
-Soil data shown on this figure is from the following sources: GeoEngineers 2007d, GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Brown and Caldwell 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009. On-site soil data will be presented comprehensively in the Remedial Investigation Report. The purpose of including the soil data on this figure is simply to show the locations of surface water screening level exceedances relative to potential soil source areas.

N
W E
S

0 50 100 200
Feet

PIONEER TECHNOLOGIES CORPORATION

Soil and Groundwater Data
Comparison for Arsenic
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011

Figure 15

Legend

Monitoring Well Locations

- Groundwater Concentration <= SWSL
- Groundwater Concentration > SWSL

Existing Soil Data (0-2' bgs)

- Soil Concentration <= SSL
- Soil Concentration > SSL

Existing Soil Data (2-6' bgs)

- Soil Concentration <= SSL
- Soil Concentration > SSL

Existing Soil Data (>= 6' bgs)

- Soil Concentration <= SSL
- Soil Concentration > SSL
- Groundwater Elevation Contours from the September 2009 GWM Event
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:
Soil screening level = 48 mg/kg, which is MTCA Method A soil cleanup level for URLU for chromium VI adjusted up to Puget Sound area background for total chromium (Ecology 1994).
Surface Water Screening Level = 50 ug/L
bgs = below ground surface
GWM = groundwater monitoring event
MTCA = Model Toxics Control Act
SSL = Soil Screening Level
SWSL = Surface Water Screening Level
URLU = Unrestricted Land Use
-All soil concentrations shown are total chromium
-Maximum concentration of dissolved chromium groundwater results are shown for each sample location. Only sample locations with exceedances are labeled.
-Soil data shown on this figure is from the following sources: GeoEngineers 2007d, GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Brown and Caldwell 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009. On-site soil data will be presented comprehensively in the Remedial Investigation Report. The purpose of including the soil data on this figure is simply to show the locations of surface water screening level exceedances relative to potential soil source areas.

N
W E
S

0 50 100 200
Feet

Soil and Groundwater Data Comparison for Chromium
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011

Figure 16

PIONEER TECHNOLOGIES CORPORATION

Legend

Monitoring Well Locations

- Groundwater Concentration <= SWSL
- Groundwater Concentration > SWSL

Existing Soil Data (0-2' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (2-6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (>= 6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU
- Groundwater Elevation Contours from the September 2009 GWM Event
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:
MTCA Method A Soil CL for URLU = 250 mg/kg
Surface Water Screening Level = 8.1 ug/L
bgs = below ground surface
GWM = groundwater monitoring event
MTCA = Model Toxics Control Act
SCL = Soil Cleanup Level
SWSL = Surface Water Screening Level
URLU = Unrestricted Land Use
-Maximum concentration of dissolved lead groundwater results are shown for each sample location. Only sample locations with exceedances are labeled.
-Soil data shown on this figure is from the following sources: GeoEngineers 2007d, GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Brown and Caldwell 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009. On-site soil data will be presented comprehensively in the Remedial Investigation Report. The purpose of including the soil data on this figure is simply to show the locations of surface water screening level exceedances relative to potential soil source areas.

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0 50 100 200
Feet

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Soil and Groundwater Data Comparison for Lead
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011

Figure 17

Legend

Monitoring Well Locations

- Groundwater Concentration <= SWSL
- Groundwater Concentration > SWSL

Existing Soil Data (0-2' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- cPAH > SCL

Existing Soil Data (2-6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (>= 6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU
- Groundwater Elevation Contours from the September 2009 GWM Event
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:
MTCA Method A Soil CL for URLU = 0.095 mg/kg
Surface Water Screening Level = 0.018 ug/L
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
bgs = below ground surface
GWM = groundwater monitoring event
MTCA = Model Toxics Control Act
SCL = Soil Cleanup Level
SWSL = Surface Water Screening Level
URLU = Unrestricted Land Use
-Only detected results greater than the SCL were shown as exceedances. For detailed soil cPAH results see Table 31.
-NJ flagged results are not included on figure.
-Maximum concentration for each sample location is shown and only exceedances are labeled
-Soil data shown on this figure is from the following sources: GeoEngineers 2007d, GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Brown and Caldwelll 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009. On-site soil data will be presented comprehensively in the Remedial Investigation Report. The purpose of including the soil data on this figure is simply to show the locations of surface water screening level exceedances relative to potential soil source areas.

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Soil and Groundwater Data Comparison for Total cPAHs
East Bay Soil-to-Surface Water Empirical Demonstration Report

Port of Olympia
May 2011

Figure 18

Legend

Monitoring Well Locations

- Groundwater Concentration <= SWSL
- Groundwater Concentration > SWSL

Existing Soil Data (0-2' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (2-6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (>= 6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU
- Groundwater Elevation Contours from the September 2009 GWM Event
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:
MTCA Method A SCL for URLU = 2000 mg/kg
SWSL = 500 ug/L
bgs = below ground surface
GWM = groundwater monitoring event
MTCA = Model Toxics Control Act
SCL = Soil Cleanup Level
SWSL = Surface Water Screening Level
URLU = Unrestricted Land Use
-Maximum concentration for each sample location is shown and only exceedances are labeled.
-Soil data shown on this figure is from the following sources: GeoEngineers 2007d, GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Brown and Caldwelll 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009. On-site soil data will be presented comprehensively in the Remedial Investigation Report. The purpose of including the soil data on this figure is simply to show the locations of surface water screening level exceedances relative to potential soil source areas.

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Feet

PIONEER TECHNOLOGIES CORPORATION

Soil and Groundwater Data
Comparison for TPH-D
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011

Figure 19

Legend

Monitoring Well Locations

- Groundwater Concentration <= SWSL
- Groundwater Concentration > SWSL

Existing Soil Data (0-2' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (2-6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU

Existing Soil Data (>= 6' bgs)

- Soil Concentration <= MTCA Method A SCL for URLU
- Soil Concentration > MTCA Method A SCL for URLU
- Groundwater Elevation Contours from the September 2009 GWM Event
- Parcel Boundaries
- Current Site Boundary
- LOTT Expansion Site

Notes:
MTCA Method A SCL for URLU = 2000 mg/kg
SWSL = 500 ug/L
bgs = below ground surface
GWM = groundwater monitoring event
MTCA = Model Toxics Control Act
SCL = Soil Cleanup Level
SWSL = Surface Water Screening Level
URLU = Unrestricted Land Use
-Maximum concentration for each sample location is shown and only exceedances are labeled.
-Soil data shown on this figure is from the following sources: GeoEngineers 2007d, GeoEngineers and PIONEER 2008, PIONEER 2009a, PIONEER 2009b, Brown and Caldwell 2007a, Brown and Caldwell 2007b, Brown and Caldwell 2007c, and Brown and Caldwell 2009. On-site soil data will be presented comprehensively in the Remedial Investigation Report. The purpose of including the soil data on this figure is simply to show the locations of surface water screening level exceedances relative to potential soil source areas.

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Feet

PIONEER TECHNOLOGIES CORPORATION

Soil and Groundwater Data
Comparison for TPH-HO
East Bay Soil-to-Surface Water
Empirical Demonstration Report

Port of Olympia
May 2011

Figure 20

APPENDIX A

EXCERPTS FROM DECEMBER 20, 2007 DRAFT REMEDIAL INVESTIGATION-FEASIBILITY STUDY AND CONCEPTUAL CLEANUP ACTION PLAN

TABLE 3
GROUNDWATER CHEMICAL ANALYTICAL RESULTS:
DETECTIONS AND EXCEEDANCES
PORT OF OLYMPIA - EAST BAY REDEVELOPMENT
OLYMPIA, WASHINGTON

CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	DP01	DP04	DP07	DP09	DP10	MW01	MW01	MW02	MW02	MW03	MW03	MW04	MW04	MW04
			Date Sampled	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	1/5/2007	6/28/2007	1/4/2007	6/28/2007	1/4/2007	6/28/2007	1/5/2007	6/29/2007	7/13/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
METALS	ARSENIC	5	--	4.1	2 U	2 U	2 U	2 U	1.3 J	4.1	2 U	2 U	2 U	2 U	**16**	**13**	--
METALS	BARIUM	3,200	--	15 J	41 J	47 J	47 J	16 J	24	37	33	10 U	22	23	14	49	--
METALS	CADMIUM	5	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--
METALS	CHROMIUM	50	--	10 U	10 U	10 U	10 U	10 U	10 U	25 U	2.8 J	25 U	10 U	25 U	10 U	25 U	--
METALS	LEAD	15	--	0.23 UJ	0.08 UJ	2 U	2 U	2 U	0.025 J	2 U	5.1 J	2 U	0.24 UJ	2 U	0.04 J	2 U	--
METALS	MERCURY	2	--	0.29	0.14 J	0.11 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.087 J	0.2 U	0.2 U	0.2 U	--
METALS	SELENIUM	80	--	50 U	50 U	50 U	50 U	50 U	50 U	100 U	50 U	100 U	50 U	100 U	50 U	100 U	--
METALS	SILVER	80	--	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	20 U	10 U	20 U	10 U	20 U	--
PAH	1-METHYLNAPHTHALENE	2.4	--	0.7	0.3 U	0.31 U	0.31 U	0.31 U	0.005 J	0.029 U	0.03 U	0.028 U	0.14	0.11	0.012 J	0.029 U	--
PAH	2-METHYLNAPHTHALENE	32	--	1.3	1 U	1 U	1 U	1 U	0.0095 J	0.095 U	0.099 U	0.094 U	0.098 U	0.095 U	0.024 J	0.095 U	--
PAH	ACENAPHTHENE	960	--	0.52 U	0.081 J	0.52 U	0.52 U	0.51 U	0.048 U	0.048 U	0.067	0.066	0.52	0.048 U	0.05 U	0.048 U	--
PAH	ACENAPHTHYLENE	NE	--	0.42 U	0.4 U	0.42 U	0.41 U	0.41 U	0.038 U	0.038 U	0.04 U	0.038 U	0.012 J	0.038 U	0.032 J	0.038 U	--
PAH	ANTHRACENE	4,800	--	0.068 J	0.028 J	0.21 U	0.21 U	0.2 U	0.019 U	0.019 U	0.0094 J	0.019 U	0.013 J	0.019 U	0.02 U	0.019 U	--
PAH	BENZO(GHI)PERYLENE	NE	--	0.079 UJ	0.051 UJ	0.1 U	0.1 U	0.1 U	0.029 U	0.029 U	0.021 J	0.028 U	0.029 U	0.029 U	0.03 U	0.029 U	--
PAH	FLUORANTHENE	640	--	0.086 J	0.07 J	0.26 U	0.26 U	0.26 U	0.024 U	0.024 U	0.03	0.024 U	0.014 J	0.024 U	0.025 U	0.024 U	--
PAH	FLUORENE	640	--	0.31 U	0.1 J	0.31 U	0.31 U	0.054 J	0.029 U	0.029 U	0.027 J	0.045	0.059	0.077	0.03 U	0.029 U	--
PAH	NAPHTHALENE	160	--	1.4	1 U	1 U	0.077 J	0.017 J	0.016 J	1 U	0.023 J	1 U	0.03 J	1 U	0.029 J	1 U	--
PAH	PHENANTHRENE	NE	--	0.1 J	0.14 J	0.42 U	0.41 U	0.41 U	0.0069 J	0.038 U	0.024 J	0.038 U	0.017 J	0.038 U	0.04 U	0.038 U	--
PAH	PYRENE	480	--	0.13 J	0.1 J	0.31 U	0.31 U	0.31 U	0.004 J	0.029 U	0.035	0.028 U	0.018 J	0.029 U	0.03 U	0.029 U	--
SVOC	3- & 4-METHYLPHENOL	NE	--	9.6	4 U	0.41 J	4.1 U	4.1 U	0.38 U	--	0.057 J	--	0.39 U	--	3.3	--	--
SVOC	4-CHLORO-3-METHYLPHENOL	NE	--	2.1 U	2 U	2.1 U	2.1 U	2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	--
SVOC	BENZOIC ACID	64,000	--	11	5.4 J	5.5 J	5.3 J	10 U	0.95 U	0.95 UJ	0.99 U	0.94 UJ	0.98 U	0.95 UJ	7	0.95 UJ	--
SVOC	BENZYL ALCOHOL	2,400	--	0.14 J	0.22 J	2.1 U	2.1 U	2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	--
SVOC	BENZYL BUTYL PHTHALATE	3,200	--	2.7 J	3 U	0.59 J	0.36 J	0.44 J	0.058 UJ	0.29 U	0.078 UJ	0.28 U	0.084 UJ	0.29 U	0.22 UJ	0.29 U	--
SVOC	BIS (2-ETHYLHEXYL) PHTHALATE	6.3	--	2.8 J	0.42 J	16 U	15 U	15 U	0.096 UJ	1.4 U	0.098 UJ	1.4 U	0.098 UJ	1.4 U	0.21 UJ	1.4 U	--
SVOC	DIBENZOFURAN	32	--	2.1 U	2 U	2.1 U	2.1 U	2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	--
SVOC	DIETHYL PHTHALATE	13,000	--	0.39 J	1 J	0.21 J	0.14 J	0.13 J	0.029 UJ	0.19 U	0.03 UJ	0.19 U	0.055 UJ	0.19 U	0.043 UJ	0.19 U	--
SVOC	DIMETHYL PHTHALATE	NE	--	2.1 U	0.14 J	2.1 U	2.1 U	2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	--
SVOC	DI-N-BUTYL PHTHALATE	1,600	--	3.6 J	1.1 UJ	1.1 UJ	0.95 UJ	0.89 UJ	0.056 UJ	0.19 U	0.13 UJ	0.19 U	0.12 UJ	0.19 U	0.22 UJ	0.19 U	--
SVOC	DI-N-OCTYL PHTHALATE	320	--	2.1 U	2 U	1.4 J	2.1 U	2 U	0.19 U	0.19 U	0.091 J	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	--
SVOC	PENTACHLOROPHENOL	0.73	--	**3.3 J**	3.5 U	3.6 U	3.6 U	3.6 U	0.33 U	0.33 U	0.35 U	0.33 U	0.14 J	0.33 U	0.35 U	0.33 U	--
SVOC	PHENOL	4,800	--	3.1 U	3 U	3.1 U	3.1 U	3.1 U	0.29 U	0.29 U	0.3 U	0.28 U	0.29 U	0.29 U	0.39	0.29 U	--

CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	GeoEngineers														
				DP01	DP04	DP07	DP09	DP10	MW01	MW01	MW02	MW02	MW03	MW03	MW04	MW04	MW04	
			Date Sampled	9/25/2006	9/25/2006	9/26/2006	9/25/2006	9/26/2006	1/5/2007	6/28/2007	1/4/2007	6/28/2007	1/4/2007	6/28/2007	1/5/2007	6/29/2007	7/13/2007	
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
TPH	#2 DIESEL	500	--	250 J	**2,000**	90 J	260 U	55 J	41 J	120 U	120 U	120 U	130 U	120 U	77 J	--	120 UJ	
TPH	GASOLINE	800	--	73	26 J	18 J	12 J	50 U	16 J	50 U	11 J	50 U	21 J	50 U	44 J	79	--	
TPH	MOTOR OIL	500	--	360 J	**3,800**	230 J	520 U	140 J	250 U	--	250 U	--	250 U	--	250 U	--	--	
VOC	1,1-DICHLOROETHANE	800	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.28 J	1 U	--	
VOC	1,2,4-TRIMETHYLBENZENE	NE	--	2.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	1,3,5-TRIMETHYLBENZENE	NE	--	0.65 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	BENZENE	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	BUTYLBENZENE, TERT-	NE	--	0.39 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	CHLOROMETHANE	3.4	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	ETHYLBENZENE	700	--	0.4 J	0.36 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	ISOPROPYLBENZENE	800	--	0.095 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	ISOPROPYLTOLUENE, P-	NE	--	1 U	1 U	2.7	0.12 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9	17	--	
VOC	PROPYLBENZENE, N-	NE	--	0.23 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	
VOC	TOLUENE	1,000	--	0.86 J	0.37 J	0.077 J	1 U	1 U	1 U	1 U	0.075 J	1 U	0.076 J	1 U	0.26 J	0.12 J	--	
VOC	XYLENE, M,P-	1,000	--	1.5 J	1.1 J	0.22 J	2 U	2 U	2 U	--	2 U	--	2 U	--	2 U	--	--	
VOC	XYLENE, O-	16,000	--	0.96 J	0.4 J	0.079 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	

CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	GeoEngineers													
				MW05	MW05	MW05	MW06	MW06	MW06	MW07	MW07	MW07	MW08	MW08	MW08	MW09	MW09
			Date Sampled	1/16/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/28/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
METALS	ARSENIC	5	--	2 U	2 U	--	2 U	2 U	--	2 U	2.5	--	2.3	2	--	2 U	2 U
METALS	BARIUM	3,200	--	140	110	--	100	120	--	5 U	16	--	27	190	--	48	41
METALS	CADMIUM	5	--	2 U	2 U	--	2 U	2 U	--	2 U	2 U	--	2 U	2 U	--	2 U	2 U
METALS	CHROMIUM	50	--	10 U	25 U	--	10 U	25 U	--	10 U	25 U	--	10 U	25 U	--	10 U	25 U
METALS	LEAD	15	--	2 U	2 U	--	2 U	2 U	--	2 U	2 U	--	2 U	2 U	--	2 U	2 U
METALS	MERCURY	2	--	0.2 U	0.2 U	--	0.2 U	0.2 U	--	0.2 U	0.2 U	--	0.2 U	0.2 U	--	0.2 U	0.2 U
METALS	SELENIUM	80	--	50 U	100 U	--	50 U	100 U	--	50 U	100 U	--	50 U	100 U	--	50 U	100 U
METALS	SILVER	80	--	10 U	20 U	--	10 U	20 U	--	10 U	20 U	--	10 U	20 U	--	10 U	20 U
PAH	1-METHYLNAPHTHALENE	2.4	--	0.029 U	0.029 U	--	0.035	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.028 U	--	0.029 U	0.028 U
PAH	2-METHYLNAPHTHALENE	32	--	0.097 U	0.095 U	--	0.095 U	0.096 U	--	0.095 U	0.095 U	--	0.095 U	0.094 U	--	0.095 U	0.094 U
PAH	ACENAPHTHENE	960	--	0.048 U	0.048 U	--	0.047 U	0.048 U	--	0.047 U	0.048 U	--	0.047 U	0.15	--	0.048 U	0.047 U
PAH	ACENAPHTHYLENE	NE	--	0.039 U	0.038 U	--	0.038 U	0.038 U	--	0.038 U	0.038 U	--	0.038 U	0.038 U	--	0.038 U	0.038 U
PAH	ANTHRACENE	4,800	--	0.019 U	0.019 U	--	0.019 U	0.019 U	--	0.019 U	0.019 U	--	0.019 U	0.019 U	--	0.019 U	0.019 U
PAH	BENZO(GHI)PERYLENE	NE	--	0.029 U	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.028 U	--	0.029 U	0.028 U
PAH	FLUORANTHENE	640	--	0.024 U	0.024 U	--	0.024 U	0.024 U	--	0.024 U	0.024 U	--	0.024 U	0.024 U	--	0.024 U	0.024 U
PAH	FLUORENE	640	--	0.029 U	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.028 U	--	0.029 U	0.028 U
PAH	NAPHTHALENE	160	--	0.19 U	1 U	--	0.19 U	1 U	--	0.19 U	1 U	--	0.19 U	1 U	--	0.19 U	1 U
PAH	PHENANTHRENE	NE	--	0.039 U	0.038 U	--	0.039	0.038 U	--	0.038 U	0.038 U	--	0.038 U	0.038 U	--	0.038 U	0.038 U
PAH	PYRENE	480	--	0.029 U	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.029 U	--	0.028 U	0.028 U	--	0.029 U	0.028 U
SVOC	3- & 4-METHYLPHENOL	NE	--	0.39 U	--	--	1.3	--	--	0.38 U	--	--	0.38 U	--	--	2.3	--
SVOC	4-CHLORO-3-METHYLPHENOL	NE	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U
SVOC	BENZOIC ACID	64,000	--	1.1	0.95 UJ	--	0.95 U	0.96 UJ	--	1.3	0.95 UJ	--	0.95 U	0.94 UJ	--	0.95 U	0.94 UJ
SVOC	BENZYL ALCOHOL	2,400	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U
SVOC	BENZYL BUTYL PHTHALATE	3,200	--	0.29 U	0.29 U	--	0.28 U	0.29 U	--	0.28 U	0.29 U	--	0.28 U	0.28 U	--	0.29 U	0.28 U
SVOC	BIS (2-ETHYLHEXYL) PHTHALATE	6.3	--	1.4 U	1.4 U	--	**76**	1.4 U	--	1.4 U	1.4 U	--	**8.1**	1.4 U	--	1.4 U	1.4 U
SVOC	DIBENZOFURAN	32	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U
SVOC	DIETHYL PHTHALATE	13,000	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.23	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U
SVOC	DIMETHYL PHTHALATE	NE	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U
SVOC	DI-N-BUTYL PHTHALATE	1,600	--	0.19 U	0.19 U	--	0.23	0.19 U	--	0.19 U	0.19 U	--	0.31	0.19 U	--	0.23	0.19 U
SVOC	DI-N-OCTYL PHTHALATE	320	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U	--	0.19 U	0.19 U
SVOC	PENTACHLOROPHENOL	0.73	--	0.34 U	0.33 U	--	0.33 U	0.34 U	--	0.33 U	0.33 U	--	0.33 U	0.33 U	--	0.33 U	0.33 U
SVOC	PHENOL	4,800	--	0.29 U	0.29 U	--	0.32	0.29 U	--	0.28 U	0.29 U	--	0.28 U	0.28 U	--	0.29 U	0.28 U

				GeoEngineers												
CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	MW05	MW05	MW05	MW06	MW06	MW06	MW07	MW07	MW07	MW08	MW08	MW08	MW09	MW09
			Date Sampled	1/16/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/29/2007	7/13/2007	1/18/2007	6/28/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
TPH	#2 DIESEL	500	--	120 U	--	81 UJ	170	--	59 UJ	120 U	--	37 UJ	120 U	--	45 UJ	120 U	120 U
TPH	GASOLINE	800	--	50 U	50 U	--	50 U	50 U	--	50 U	50 U	--	50 U	50 U	--	180	58
TPH	MOTOR OIL	500	--	240 U	--	--	240 U	--	--	240 U	--	--	240 U	--	--	240 U	--
VOC	1,1-DICHLOROETHANE	800	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	1,2,4-TRIMETHYLBENZENE	NE	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	1,3,5-TRIMETHYLBENZENE	NE	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	BENZENE	5	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	BUTYLBENZENE, TERT-	NE	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	CHLOROMETHANE	3.4	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	ETHYLBENZENE	700	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	ISOPROPYLBENZENE	800	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	ISOPROPYLTOLUENE, P-	NE	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	0.1 J	--	58	19
VOC	PROPYLBENZENE, N-	NE	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U
VOC	TOLUENE	1,000	--	0.069 J	1 U	--	0.56 J	2.6	--	0.086 J	1 U	--	0.08 J	1 U	--	0.89 J	7.4
VOC	XYLENE, M,P-	1,000	--	2 U	--	--	2 U	--	--	2 U	--	--	2 U	--	--	2 U	--
VOC	XYLENE, O-	16,000	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U

				GeoEngineers											
CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	MW10	MW10	MW10	MW11	MW12	MW13	MW15	MW16	MW17	MW18	MW19	MW20
			Date Sampled	1/16/2007	6/29/2007	7/13/2007	8/15/2007	8/15/2007	8/14/2007	8/15/2007	8/15/2007	8/14/2007	8/15/2007	8/14/2007	8/14/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
METALS	ARSENIC	5	--	--	2 U	--	2 U	2 U	**6.1**	2 U	2 U	**140**	2 U	2 U	2 U
METALS	BARIUM	3,200	--	--	80	--	16	110	63	66	49	18	150	67	110
METALS	CADMIUM	5	--	--	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
METALS	CHROMIUM	50	--	--	25 U	--	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
METALS	LEAD	15	--	--	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
METALS	MERCURY	2	--	--	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
METALS	SELENIUM	80	--	--	100 U	--	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
METALS	SILVER	80	--	--	20 U	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
PAH	1-METHYLNAPHTHALENE	2.4	--	0.029 U	0.029 U	--	0.029 U	0.028 U	**20**	0.028 U	0.029 U	0.028 U	0.028 U	0.028 U	0.028 U
PAH	2-METHYLNAPHTHALENE	32	--	0.097 U	0.095 U	--	0.095 U	0.094 U	26	0.094 U	0.096 U	0.094 U	0.093 U	0.094 U	0.094 U
PAH	ACENAPHTHENE	960	--	0.049 U	0.048 U	--	0.048 U	0.047 U	38	0.047 U	0.087	0.047 U	0.047 U	0.047 U	0.047 U
PAH	ACENAPHTHYLENE	NE	--	0.039 U	0.038 U	--	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.037 U	0.038 U	0.038 U
PAH	ANTHRACENE	4,800	--	0.019 U	0.019 U	--	0.019 U	0.019 U	1.4	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
PAH	BENZO(GHI)PERYLENE	NE	--	0.029 U	0.029 U	--	0.029 U	0.028 U	0.028 U	0.028 U	0.029 U	0.028 U	0.028 U	0.028 U	0.028 U
PAH	FLUORANTHENE	640	--	0.024 U	0.024 U	--	0.024 U	0.024 U	0.81	0.024 U	0.025	0.024 U	0.023 U	0.024 U	0.024 U
PAH	FLUORENE	640	--	0.029 U	0.029	--	0.029 U	0.028 U	20	0.028 U	0.029 U	0.028 U	0.028 U	0.028 U	0.028 U
PAH	NAPHTHALENE	160	--	0.19 U	0.088 J	--	1 U	1 U	0.36 J	1 U	0.089 J	1 U	1 U	1 U	1 U
PAH	PHENANTHRENE	NE	--	0.039 U	0.038 U	--	0.038 U	0.038 U	14	0.038 U	0.038 U	0.038 U	0.037 U	0.038 U	0.038 U
PAH	PYRENE	480	--	0.029 U	0.029 U	--	0.029 U	0.028 U	0.27	0.028 U	0.029 U	0.028 U	0.028 U	0.028 U	0.028 U
SVOC	3- & 4-METHYLPHENOL	NE	--	6.6	--	--	--	--	--	--	--	--	--	--	--
SVOC	4-CHLORO-3-METHYLPHENOL	NE	--	0.42	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	BENZOIC ACID	64,000	--	7.3	0.95 UJ	--	0.95 U	0.94 U	0.94 U	0.94 U	1.7	0.94 U	0.93 U	0.94 U	1
SVOC	BENZYL ALCOHOL	2,400	--	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	BENZYL BUTYL PHTHALATE	3,200	--	0.29 U	0.29 U	--	0.29 U	0.28 U	0.28 U	0.28 U	0.29 U	0.28 U	0.28 U	0.28 U	0.28 U
SVOC	BIS (2-ETHYLHEXYL) PHTHALATE	6.3	--	**24**	1.4 U	--	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
SVOC	DIBENZOFURAN	32	--	0.19 U	0.19 U	--	0.19 U	0.19 U	13	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	DIETHYL PHTHALATE	13,000	--	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	DIMETHYL PHTHALATE	NE	--	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	DI-N-BUTYL PHTHALATE	1,600	--	4	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	DI-N-OCTYL PHTHALATE	320	--	0.19 U	0.19 U	--	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
SVOC	PENTACHLOROPHENOL	0.73	--	0.34 U	0.33 U	--	0.33 U	0.33 U	0.33 U	0.33 U	0.34 U	0.33 U	0.33 U	0.33 U	0.33 U
SVOC	PHENOL	4,800	--	0.29 U	0.29 U	--	0.29 U	0.28 U	0.28 U	0.28 U	0.29 U	0.28 U	0.28 U	0.28 U	0.28 U

				GeoEngineers											
CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	MW10	MW10	MW10	MW11	MW12	MW13	MW15	MW16	MW17	MW18	MW19	MW20
			Date Sampled	1/16/2007	6/29/2007	7/13/2007	8/15/2007	8/15/2007	8/14/2007	8/15/2007	8/15/2007	8/14/2007	8/15/2007	8/14/2007	8/14/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
TPH	#2 DIESEL	500	--	120 U	--	82 UJ	120 U	120 U	500	130 U	120 U	120 U	120 U	120 U	120
TPH	GASOLINE	800	--	50 U	50 U	--	50 U	50 U	100	50 U	50 U	50 U	50 U	50 U	50 U
TPH	MOTOR OIL	500	--	250 U	--	--	--	--	--	--	--	--	--	--	--
VOC	1,1-DICHLOROETHANE	800	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOC	1,2,4-TRIMETHYLBENZENE	NE	--	0.15 J	0.16 J	--	1 U	1 U	0.93 J	1 U	1 U	1 U	1 U	1 U	1 U
VOC	1,3,5-TRIMETHYLBENZENE	NE	--	1 U	1 U	--	1 U	1 U	0.13 J	1 U	1 U	1 U	1 U	0.09 J	1 U
VOC	BENZENE	5	--	0.11 J	0.12 J	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOC	BUTYLBENZENE, TERT-	NE	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOC	CHLOROMETHANE	3.4	--	1 U	1 U	--	0.2 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOC	ETHYLBENZENE	700	--	1 U	1 U	--	1 U	1 U	0.13 J	0.15 J	1 U	1 U	1 U	1 U	1 U
VOC	ISOPROPYLBENZENE	800	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOC	ISOPROPYLTOLUENE, P-	NE	--	0.21 J	0.42 J	--	1 U	1 U	0.091 J	1 U	4	1 U	1 U	1 U	0.43 J
VOC	PROPYLBENZENE, N-	NE	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOC	TOLUENE	1,000	--	0.27 J	0.35 J	--	1 U	1 U	0.12 J	1 U	0.078 J	1 U	1 U	1 U	1 U
VOC	XYLENE, M,P-	1,000	--	0.22 J	--	--	--	--	--	--	--	--	--	--	--
VOC	XYLENE, O-	16,000	--	0.11 J	1 U	--	1 U	1 U	0.42 J	0.34 J	0.099 J	1 U	0.13 J	0.073 J	1 U

CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	Brown and Caldwell 1	2	5	6	7	8	9	10
			Date Sampled	11/9/2006	11/9/2006	2/14/2007	2/14/2007	2/14/2007	2/14/2007	2/14/2007	2/14/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
METALS	ARSENIC	5	--	**29 J**	**100**	**32.4**	**98.5**	**102**	**13.4**	**11.3**	**22.8**
METALS	BARIUM	3,200	--	1,300 UJ	100 UJ	216	341	12.4	126	35	1420
METALS	CADMIUM	5	--	5 U	**110**	1 U	3.66	1 U	1.1	1 U	1.42
METALS	CHROMIUM	50	--	**94**	24	31.4	**83.8**	1.43	40	13	**122**
METALS	LEAD	15	--	**330**	**280**	**156**	**950**	1 U	**221**	**102**	**71.2**
METALS	MERCURY	2	--	--	--	0.2 U	0.264	0.2 U	0.2 U	0.2 U	0.2 U
METALS	SELENIUM	80	--	50 U	10 J	1 U	1.72	1 U	2.33	1 U	1.89
METALS	SILVER	80	--	10 U	10 U	1 U	1.75	1 U	1 U	1 U	1.14
PAH	1-METHYLNAPHTHALENE	2.4	--	--	--	--	--	--	--	--	--
PAH	2-METHYLNAPHTHALENE	32	--	--	--	--	--	--	--	--	--
PAH	ACENAPHTHENE	960	--	--	--	--	--	--	--	--	--
PAH	ACENAPHTHYLENE	NE	--	--	--	--	--	--	--	--	--
PAH	ANTHRACENE	4,800	--	--	--	--	--	--	--	--	--
PAH	BENZO(GHI)PERYLENE	NE	--	--	--	--	--	--	--	--	--
PAH	FLUORANTHENE	640	--	--	--	--	--	--	--	--	--
PAH	FLUORENE	640	--	--	--	--	--	--	--	--	--
PAH	NAPHTHALENE	160	--	--	--	--	--	--	--	--	--
PAH	PHENANTHRENE	NE	--	--	--	--	--	--	--	--	--
PAH	PYRENE	480	--	--	--	--	--	--	--	--	--
SVOC	3- & 4-METHYLPHENOL	NE	--	--	--	--	--	--	--	--	--
SVOC	4-CHLORO-3-METHYLPHENOL	NE	--	--	--	--	--	--	--	--	--
SVOC	BENZOIC ACID	64,000	--	--	--	--	--	--	--	--	--
SVOC	BENZYL ALCOHOL	2,400	--	--	--	--	--	--	--	--	--
SVOC	BENZYL BUTYL PHTHALATE	3,200	--	--	--	--	--	--	--	--	--
SVOC	BIS (2-ETHYLHEXYL) PHTHALATE	6.3	--	--	--	--	--	--	--	--	--
SVOC	DIBENZOFURAN	32	--	--	--	--	--	--	--	--	--
SVOC	DIETHYL PHTHALATE	13,000	--	--	--	--	--	--	--	--	--
SVOC	DIMETHYL PHTHALATE	NE	--	--	--	--	--	--	--	--	--
SVOC	DI-N-BUTYL PHTHALATE	1,600	--	--	--	--	--	--	--	--	--
SVOC	DI-N-OCTYL PHTHALATE	320	--	--	--	--	--	--	--	--	--
SVOC	PENTACHLOROPHENOL	0.73	--	--	--	--	--	--	--	--	--
SVOC	PHENOL	4,800	--	--	--	--	--	--	--	--	--

CHEMICAL GROUP	CHEMICAL	MTCA Method A or B Cleanup Level (ug/l)	Sample Location	Brown and Caldwell 1	2	5	6	7	8	9	10
			Date Sampled	11/9/2006	11/9/2006	2/14/2007	2/14/2007	2/14/2007	2/14/2007	2/14/2007	2/14/2007
			Unit	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
TPH	#2 DIESEL	500	--	--	--	--	--	--	--	236 U	236 U
TPH	GASOLINE	800	--	--	--	--	--	--	--	--	--
TPH	MOTOR OIL	500	--	--	--	--	--	--	--	--	--
VOC	1,1-DICHLOROETHANE	800	--	1 U	1 U	--	--	--	--	--	--
VOC	1,2,4-TRIMETHYLBENZENE	NE	--	--	--	--	--	--	--	--	--
VOC	1,3,5-TRIMETHYLBENZENE	NE	--	--	--	--	--	--	--	--	--
VOC	BENZENE	5	--	1 U	1 U	--	--	--	--	--	--
VOC	BUTYLBENZENE, TERT-	NE	--	--	--	--	--	--	--	--	--
VOC	CHLOROMETHANE	3.4	--	1 U	1 U	--	--	--	--	--	--
VOC	ETHYLBENZENE	700	--	0.091 J	1 U	--	--	--	--	--	--
VOC	ISOPROPYLBENZENE	800	--	--	--	--	--	--	--	--	--
VOC	ISOPROPYLTOLUENE, P-	NE	--	--	--	--	--	--	--	--	--
VOC	PROPYLBENZENE, N-	NE	--	--	--	--	--	--	--	--	--
VOC	TOLUENE	1,000	--	0.079 J	1 U	--	--	--	--	--	--
VOC	XYLENE, M,P-	1,000	--	--	--	--	--	--	--	--	--
VOC	XYLENE, O-	16,000	--	0.099 J	1 U	--	--	--	--	--	--

Notes:

This table only presents data with detected compounds. Samples with no detections are not shown; see chemical analytical data sheets presented in Appendix F for a full list of chemicals.

Sample matrices presented in **bold** indicate those where concentrations of chemicals of concern were detected at concentrations greater than their respective MTCA Method A or B cleanup levels.

Samples highlighted in blue indicate where any sample test result was greater than MTCA cleanup levels. Individual cPAHs are not included in this schema.

See Table 6 for results of cPAH TEM results.

See Table 7 for results of dioxin TEM results.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U = Chemical was not detected at the given concentration.

UJ = An estimated non-detect value. The analyte was not detected above the sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NE = Not evaluated by Ecology.

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TABLE 4
GROUNDWATER ELEVATIONS: AUGUST 28, 2007
PORT OF OLYMPIA - EAST BAY REDEVELOPMENT
OLYMPIA, WASHINGTON

Well ID	Date and Time	Depth to Groundwater (feet btoc)	Well Elevation (feet)	Groundwater Elevation (feet)
MW01	8/28/2007 8:51	4.55	10.73	6.18
MW02	8/28/2007 8:44	3.92	10.5	6.58
MW03	8/28/2007 8:48	4.92	11.02	6.1
MW04	8/28/2007 8:24	6.46	11.72	5.26
MW05	8/28/2007 9:28	4.25	11.64	7.39
MW06	8/28/2007 9:08	0.84	10.28	9.44
MW07	8/28/2007 9:05	5.12	10.85	5.73
MW08	8/28/2007 9:02	2.42	11.36	8.94
MW09	8/28/2007 8:55	2.66	10.76	8.1
MW10	8/28/2007 9:12	3.8	11.37	7.57
MW11	8/28/2007 9:18	3.12	11.03	7.91
MW12	8/28/2007 9:00	7.48	10.32	2.84
MW13	8/28/2007 9:13	4.18	9.86	5.68
MW14	8/28/2007 9:08	1.41	10.92	9.51
MW15	8/28/2007 8:39	4.04	9.85	5.81
MW16	8/28/2007 8:33	6.35	11.40	5.05
MW17	8/28/2007 8:34	3.56	10.23	6.67
MW18	8/28/2007 8:21	8.63	12.13	3.50
MW19	8/28/2007 8:24	3.47	9.32	5.85
MW20	8/28/2007 8:29	5.65	9.94	4.29

Notes:

Elevation datum is based on NGVD 29 from ties to City of Olympia vertical control.

btoc = below top of casing

TACO:\0\615034\02\Finals\061503402Draft_RI_FS_MasterTables_122007.xls

APPENDIX C
FIELD PROCEDURES

1.0 INTRODUCTION

This appendix generally describes field procedures used during site investigations conducted by GeoEngineers on behalf of the Port of Olympia. The standard field procedures for soil sampling, soil classification, well construction and groundwater sampling are presented in the sections below. The logs for explorations, monitoring wells and test pits are included in this appendix as well as historical boring logs from previous studies within the project area.

2.0 SAMPLE LOCATION SELECTION

Monitoring well locations were selected with the intent of characterizing (a) contaminants in groundwater that may be migrating on-site from potential upgradient, off-site sources (south and west) (b) within the project area to characterize groundwater conditions in the vicinity of historical areas of concern (AOCs), (c) to assess whether contaminants are present in groundwater at the project area and, if present, are migrating off-site and (d) provisional locations to be established after further review of historical information.

Soil samples were obtained for analysis of dioxins at two locations where salt-laden wood waste was potentially burned. The locations of these potential dioxin sources are as follows:

1. The boiler house and "fuel bin" areas in the west-central portion of Parcel 4 (AOC 17 and 18), and
2. The boiler house area in the southeast portion of Parcel 3 (AOC 22).

In addition, the City of Olympia requested that soil samples be obtained for dioxin analysis at the three parcels that they may acquire as part of the redevelopment project: Parcel 5, Parcel 4 and Parcel 3. One potential source sample location is already located on Parcel 4 (list item 1 above), so two additional sample locations were needed to satisfy the City's request. These sample locations were determined using the physical dimensions of each lot (Parcels 3 and 5) and a random number-generation function calculation provided in a spreadsheet computer program[7]. The application of this function provided random coordinates for sample locations within each lot. Test pit locations (TP01 through TP04) are shown in Figures 3 and 11.

3.0 STANDARD PROCEDURES

3.1 FIELD SCREENING OF SOIL SAMPLES

Soil samples obtained from borings and test pit excavations were screened in the field for evidence of petroleum-related contamination using: (1) visual examination, (2) sheen testing, or (3) headspace vapor screening. The results of headspace or sheen screening are included on the boring and test pit logs of this report.

[7] One randomly selected soil sample obtained at a redevelopment lot cannot be used as a method of characterizing soil conditions at each individual lot.

Visual screening consists of inspecting the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons such as motor oil or when hydrocarbon concentrations are high. Water sheen testing and headspace vapor screening are more sensitive methods that have been effective in identifying soil that is not likely to have concentrations of petroleum contaminants greater than regulatory cleanup guidelines. However, field screening results are site-specific. The effectiveness of field screening results will vary with temperature, moisture content, organic content, soil type, and type and age of contaminant. The presence or absence of a sheen or headspace vapors does not necessarily indicate the presence or absence of petroleum hydrocarbons.

Water sheen screening involves placing soil in water and observing the water surface for signs of sheen. Sheen screening may detect both volatile and nonvolatile petroleum hydrocarbons. Sheen classifications are as follows:

- No Sheen (NS) No visible sheen on water surface.
- Slight Sheen (SS) Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil may produce a slight sheen.
- Moderate Sheen (MS) Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on water surface.
- Heavy Sheen (HS) Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening involves placing a soil sample in a plastic sample bag. Air is captured in the bag, and the bag is shaken to expose the soil to the air trapped in the bag. The probe of an organic vapor detector is inserted in the bag and the organic vapor detector measures the concentration of combustible vapors present within the sample bag headspace. Headspace vapor screening targets certain volatile chemical compounds, which on this site were assumed to represent petroleum hydrocarbon vapors. The organic vapor detector measures vapor concentrations in parts per million (ppm) relative to an isobutylene calibration standard.

3.2 SOIL SAMPLE COLLECTION

Subsurface conditions beneath the project area were explored by excavating test pits, direct-push sampling or hollow-stem auger drilling techniques. Soil samples were obtained from the sample locations and submitted for possible chemical analysis of gasoline-, diesel- and motor oil-range petroleum hydrocarbons, metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and/or polychlorinated biphenyls (PCBs). Samples were placed in containers provided by the analytical laboratory. Each sample container was securely capped, labeled and placed in a cooler with ice immediately upon collection.

Drilling activities were observed by a qualified GeoEngineers staff person who obtained soil samples, classified the soil encountered and prepared detailed field notes describing their observations. Soil samples obtained from the borings were visually classified in general accordance with American Society of Testing and Materials (ASTM) D-2488. The samples also were evaluated for the potential presence of hydrocarbon contamination using field screening techniques. Observations of soil and groundwater conditions and soil field screening results for each exploration are included in each boring log. Each boring was backfilled to grade with bentonite chips unless a monitoring well was installed in the boring.

3.2.1 Direct-Push Borings

Direct-push samples were obtained using a 1-inch inside diameter barrel sampler with a disposable polyvinyl chloride (PVC) liner driven into the ground. Once the barrel was removed from the subsurface, the PVC liner was extracted from the barrel and cut perpendicular to its long axis exposing a "fresh face" of soil. After the soil was exposed, a portion of the material from the center of the sample was obtained and sampled for VOCs in general accordance with the sample procedures described in EPA SW846 Method 5035A. The remaining sample volume was homogenized using dedicated stainless-steel spoons and bowls, and placed into precleaned glass sample containers for chemical analysis. If possible, soil obtained for analysis consisted of material that was sand-sized or finer.

3.2.2 Hollow-Stem Auger Borings

Borings were drilled using truck-mounted, hollow-stem auger drilling equipment. Soil samples were obtained from the hollow-stem auger borings using a 2.4-inch inside diameter split-barrel sampler. Samples from the soil borings were prepared by removing soil from the split-barrel sampler, homogenizing the soil in a stainless steel bowl and placing the homogenized soil sample directly into the sample containers using a stainless steel spoon. Samples for VOC analysis were obtained using EPA Method 5035A directly from the sampler and prior to homogenization.

3.2.3 Dioxin Sampling Protocol

Discrete soil samples were obtained from the sidewall of shallow test pit excavations. Soil samples were obtained from the upper part of the soil horizon that existed at the time that the mills were operating. The identification of the historical working surface was based on anthropomorphic features such as past dredge/fill materials, oiled or graded roadways, ash, wood chips, or any other significant and abrupt changes that were observed in subgrade strata. If the subgrade material was consistent throughout the excavation, a sample was to be obtained beneath the existing working surface with the assumption that the current working surface was the historical working surface. The test pit explorations did not extend below 4 feet bgs, and groundwater was not encountered in any of the test pits.

3.2.4 Sampling Equipment Decontamination

The drilling equipment and drill augers/rods were decontaminated using a hot-water pressure washer before beginning each exploration.

Reusable sampling equipment (split barrel samples, spoons, etc.) that came in contact with soil or groundwater was decontaminated before each use. Decontamination procedures for this equipment consisted of the following: (1) wash with nonphosphate detergent solution (Liquinox and distilled water), (2) rinse with distilled water, and (3) place the decontaminated equipment on clean plastic sheeting or in a plastic bag. Wash water used to decontaminate the drilling and sampling equipment was stored on-site in labeled 55-gallon drums for subsequent characterization and disposal.

3.2.5 Monitoring Well Construction

The monitoring wells constructed in direct-push and hollow-stem auger borings were constructed using 1- and 2-inch-diameter PVC risers and prepacked well screens, respectively, as shown in the boring logs. Medium sand was placed in the borehole annulus surrounding the slotted portion of the well. Skillings Connolly surveyed ground surface and top of well casing elevations for all 20 existing wells on the

project area. These elevations were referenced to the Mean Lower Low Water Level for the Port of Olympia using the 1929 National Geographic Vertical Datum (NGVD 29).

The wells were developed by removing groundwater from the wells using a peristaltic pump until water quality parameters stabilized and turbidity measurements were below 10 nephelometric turbidity units (NTUs), when achievable. Water removed from the wells was stored on-site in labeled 55-gallon drums, along with water generated during equipment decontamination activities.

3.3 GROUNDWATER SAMPLING

Groundwater samples were obtained from selected monitoring wells with a peristaltic pump and dedicated polyethylene tubing using low-flow sampling techniques. New sample tubing was used at all wells. Prior to obtaining a sample, the depth to water was measured in each well. Each well was purged at a rate of approximately 0.5 to 1.0 liters per minute.

Groundwater samples were obtained using low-flow/low-turbidity sampling techniques to minimize the suspension of sediment in groundwater samples. A Horiba U-22 water quality measuring system (with flow-through-cell) was used to monitor one or more of the following water quality parameters during purging: electrical conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature. Turbidity was measured in the field using a turbidity meter.

The monitoring well was considered sufficiently purged once measured groundwater parameters varied by less than 10 percent. Groundwater samples were obtained after the wells were purged. The samples were obtained by flowing water directly from the tubing into sample containers provided by the analytical laboratory. Each sample container was securely capped, labeled and placed in a cooler with ice immediately upon collection for transport under chain-of-custody documentation to the testing laboratory.

Samples obtained for the analysis of dissolved metals were filtered using a 0.45 micrometer (µm) in-line filter.

Prior to groundwater sampling, a five-gas meter was used to measure vapors that may have collected in the well casings. The vapor screening process was conducted to help evaluate if methane gas is present in the subsurface. Based on field measurements, methane gas either is not present or is present at low concentrations (less than 2 percent by volume) in the 10 wells monitored, with the exception of MW07 where methane was identified at a concentration greater than 30 percent.

3.3.1 Chain-of-Custody Records

A chain-of-custody form was completed at the end of each field day for samples being shipped to the laboratory. Information on the chain-of-custody form included:

- Project name and number.
- Sample identification number.
- Date and time of sampling.
- Sample matrix (soil, water, etc.) and number of containers from each sampling point, including preservatives used.
- Depth of subsurface soil sample.

- Analyses to be performed.
- Names of sampling personnel and transfer of custody acknowledgment spaces.
- Shipping information including shipping container number.

The original chain-of-custody record was signed by a member of the field team.

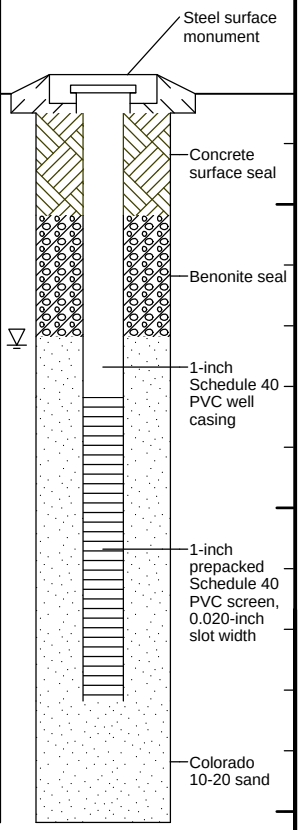
3.3.2 Depth to Water/Fluid Measurements

The depths to groundwater relative to the well casing rims were measured using an electric water level indicator. The water level indicator was decontaminated between use at each monitoring well by washing the downhole portion of each meter in a Liquinox wash and a distilled water rinse. Groundwater elevations were calculated by subtracting the depth to groundwater from the surveyed casing rim elevations. The time of day and tide were noted during measurement.

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	12	Ground Surface Elevation (ft)	101.82	Groundwater Elevation (ft)	97.68
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.0483000631 -122.896724939

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		12					CC	Concrete slab		
								SP	Brown fine to coarse sand with gravel (loose to medium dense, moist)	NS	
					020	CA				NS	
			12								
	5				040				Grades to loose, moist	NS	
										NS	
			36					GP	Brown gravel with sand (loose, wet)		
					080					NS	
	10										
					100	CA					
	15										
	20										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW01 (AKA 425)

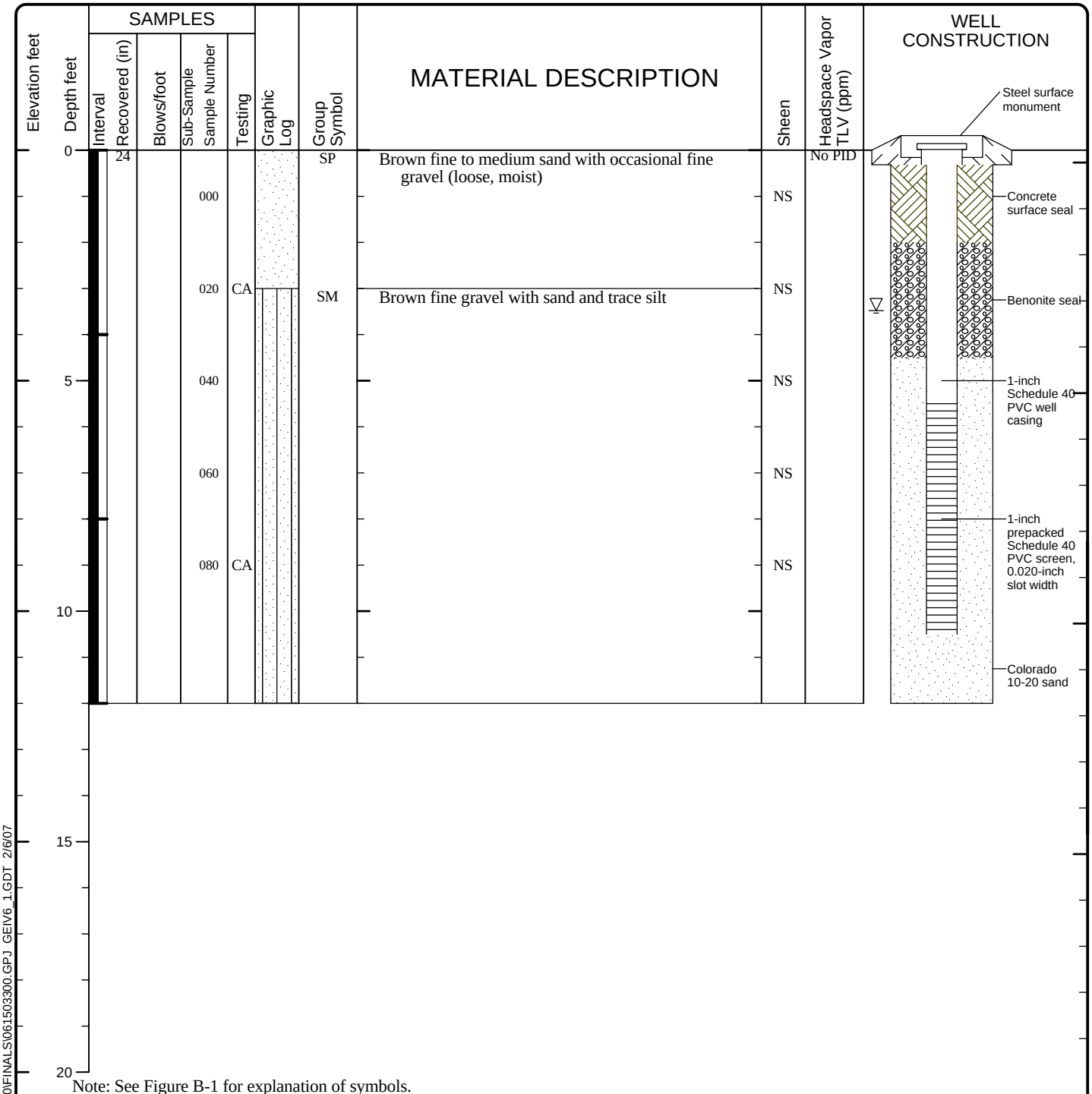
GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-4
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	12	Ground Surface Elevation (ft)	100.27	Groundwater Elevation (ft)	96.79
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.0481962236 -122.897072584



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW02 (AGT 115)

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

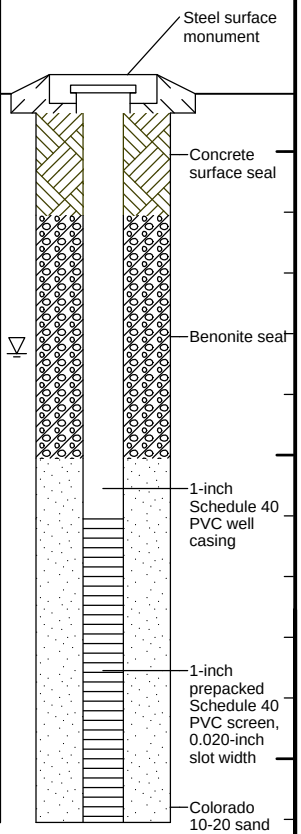
Figure B-5
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	12	Ground Surface Elevation (ft)	100.95	Groundwater Elevation (ft)	96.67
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.04784838 -122.896712081

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		12					CC	Concrete slab		
								SP	Brown fine to coarse sand with gravel (medium dense, moist)		
					000					NS	0.0
					020					NS	0.0
			48								
	5				040	CA				NS	0.0
										NS	0.0
			24					GP	Gray/brown gravel with sand (medium dense, wet)		
					080	CA				NS	0.0
	10										
	15										
	20										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW03 (AKA 427)

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

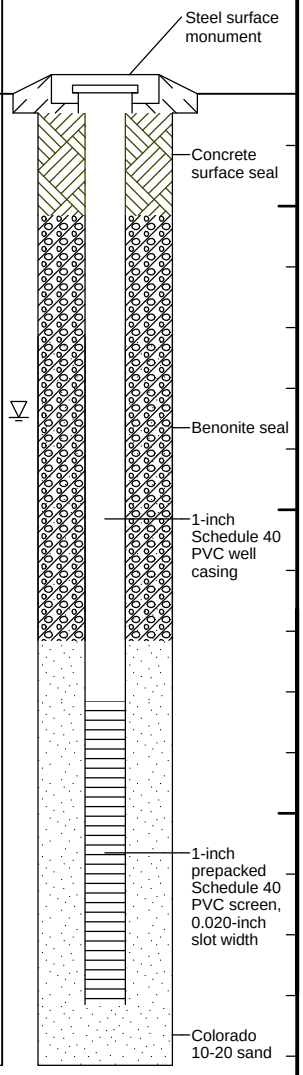
Figure B-6
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/02/07	Logged By	TSG	Checked By	KMB
Drilling Contractor	ESN-NW	Drilling Method	Direct Push	Sampling Methods	Grab; 5035A for VOCs
Auger Data	NA	Hammer Data	Pneumatic	Drilling Equipment	Stratoprobe
Total Exploration Depth (ft)	16	Ground Surface Elevation (ft)	101.85	Groundwater Elevation (ft)	96.52
Vertical Datum	Assumed (100')	Datum/ System	GCS - North American - 1983	Easting(x): Northing(y):	47.048155726 -122.896040672

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		40		000			GP	Medium brown gravel with sand (medium dense, moist to dry)	NS	0.0
					020	CA		SP	Dark brown sand with gravel and brick (fill)	NS	0.0
			24					OL	Brown organic silt		
	5				040			ML/SP	Gray silt with layers of fine to coarse graded sand with shells (dense/loose, wet)	NS	0.0
			40							NS	0.0
					080					NS	0.0
	10				100			SP	Black sand with decomposing wood material (moist)	NS	0.0
			48						Dark brown coarse sand with occasional gravel (loose, wet) Preservative odor		
					120				Sewage odor	NS	0.0
	15				140	CA			Dark brown/black coarse sand with gravel and wood debris (loose, wet) Intense preservative odor	NS	0.0
	20										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW04 (AKA 424)

GeoEngineers

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

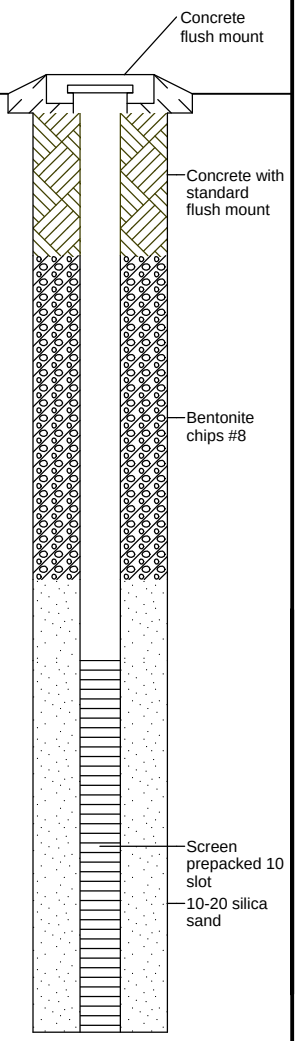
Figure B-7
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	11.59	Top of Casing Elevation (ft)	101.66	Groundwater Elevation (ft)	97.45
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126252.22 24078.30508

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		30		1			TS	Grass and topsoil		0.0
								SM	Brown to gray fine to coarse sand with gravel and silt (moist)		
	5		32		2			ML	Brown to black silty fine to coarse sand with gravel (wet)	SS	0.0
			14		3			SM	Dark brown to black silty fine to coarse sand with gravel (wet)	SS	0.0
	10					CA					
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-05

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

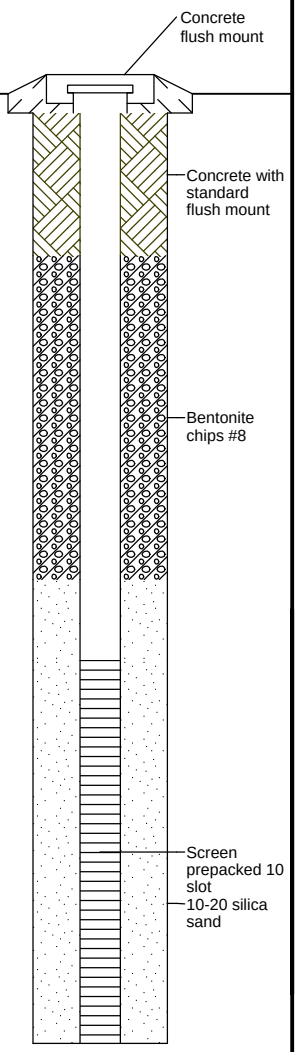
Figure B-6
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	11.73	Top of Casing Elevation (ft)	100.15	Groundwater Elevation (ft)	99.4
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126234.941 23866.98668

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		12		1			SM	Brown to gray fine to coarse sand with silt and gravel (wet)		0.0
						CA					
			30		2			SM	Dark brown silty fine to coarse sand with gravel, wood debris		
	5										
			30		3			SM	Brown to gray silty gravely fine to coarse sand	SS	0.0
	10					CA		ML	Dark brown to black fine to coarse sandy silt with wood debris		
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-06

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

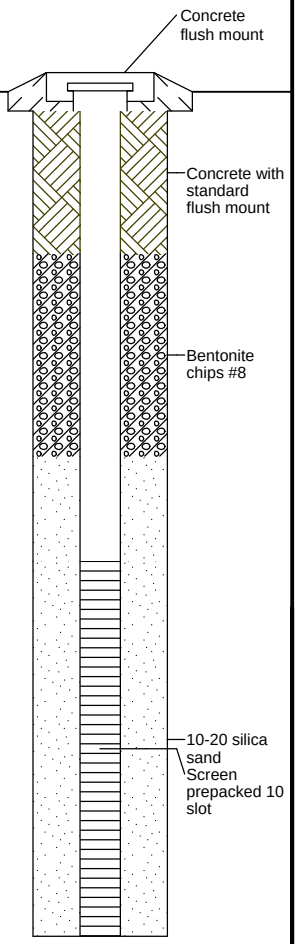
Figure B-7
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	10.43	Top of Casing Elevation (ft)	101.12	Groundwater Elevation (ft)	96.41
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126004.866 23757.36587

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		28		1			GRAV	Gravel parking lot		0.0
								SM	Brown to gray silty fine to coarse sand with gravel (moist)		
	5		24		2			SM	Dark brown to black silty fine to medium sand, occasional wood debris (wet)		0.0
			29		3			SM	Gray fine to coarse sand with silt and fine gravel (wet)		0.0
	10										
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-07

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

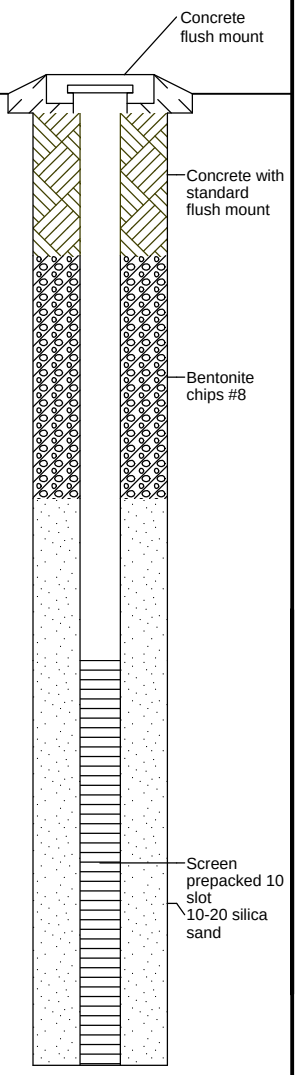
Figure B-8
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	12	Top of Casing Elevation (ft)	101.4	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126015.008 23976.86119

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		37		1			SM	Brown fine to coarse sand with gravel and silt, occasional concrete debris (moist)		0.0
						CA		SM	Gray silty fine to coarse sand with gravel		
			14		2	CA		SM	Gray silty fine to coarse sand with gravel (wet)	SS	0.0
	5										
			24		3	CA					0.0
									Wood debris		
	10										
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-08

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

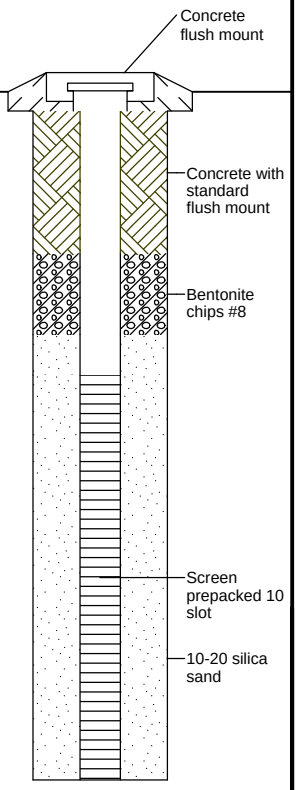
Figure B-9
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	01/17/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	8.15	Top of Casing Elevation (ft)	101.79	Groundwater Elevation (ft)	99.18
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126031.66 24077.90447

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		30		1			CC	5 inches concrete slab		
						CA		SM	Brown to gray fine to coarse sand with gravel and silt (moist)	NS	0.0
	10				2	CA		SM	Brown to gray fine to coarse sand with gravel and silt (wet)		
	5									SS	0.0
			0		3				No recovery. Rock in tip of sampler.		
	10										
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-09

GeoEngineers

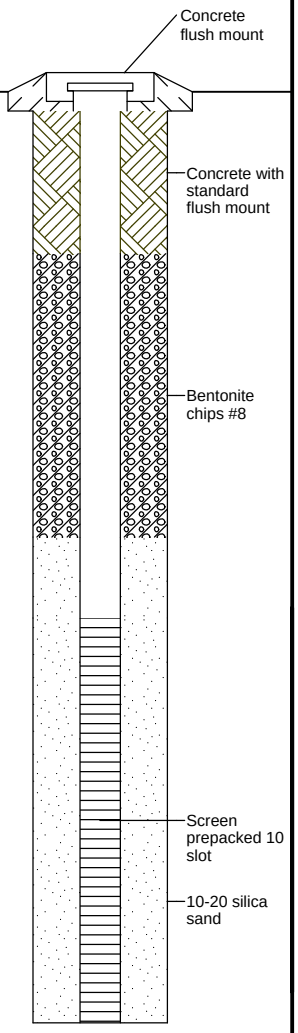
Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

Figure B-10
Sheet 1 of 1

Date(s) Drilled	01/15/07	Logged By	JCD	Checked By	KMB
Drilling Contractor	ESN Northwest	Drilling Method	Direct Push	Sampling Methods	Grab/5035A (VOCs)
Auger Data	4-foot Acetate-Lined Stainless Steel Sampler	Hammer Data	N/A	Drilling Equipment	Push-Probe Rig
Total Well Depth (ft)	12	Top of Casing Elevation (ft)	101.38	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	Assumed 100 feet	Datum/ System	WGS 1984	Easting(x): Northing(y):	1126158.842 24072.36851

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor TLV (ppm)
	0		25		1			AC	Asphalt	NS	0.0
								SM	Brown to gray fine to coarse sand with gravel and silt, brick debris in tip of sampler (moist)		
			30		2	CA		SM	Dark brown to black silty fine to coarse sand with gravel, occasional brick debris	SS	0.8
	5										
			8		3			SM	Dark brown to back silty fine to coarse sand with gravel, occasional wood and brick debris (wet)	SS	0.0
	10					CA					
	15										

WELL CONSTRUCTION



Note: See Figure B-1 for explanation of symbols.

LOG OF MONITORING WELL MW-10

GeoEngineers

Project: City of Olympia City Hall
Project Location: Olympia, Washington
Project Number: 0415-052-03

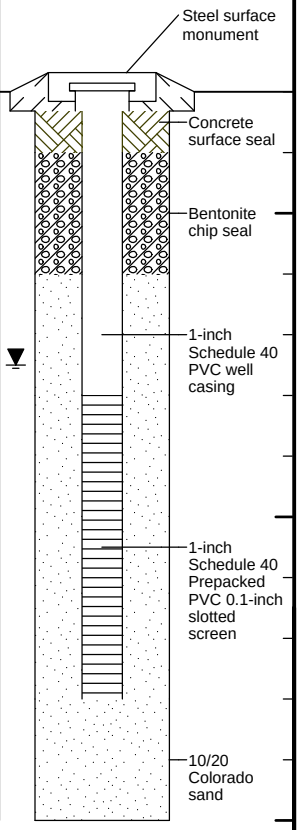
Figure B-11
Sheet 1 of 1

V6_ENVWELL P:\0\0415052\03\FINALS\041505203.GPJ GEIV6_1.GDT 4/24/07

Date(s) Drilled	08/03/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	7.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126736.65701 24022.2700981

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0				000			GM	Brown gravel with silt and sand (medium dense, moist) (fill)	SS	0
						CA				SS	70.2
					020						
			36					SW-GW	Gray fine gravel with coarse sand and occasional silt (loose, wet)		
	5				040						
								ML/GM	Brown gravel with silt and occasional fine to coarse sand (loose, wet)	NS	0
										NS	0
					080			WD	Thin seam 3 inches of black sandy wood (ash?)		
								ML	Gray/brown silt with wood shreds (stiff, moist) and fine sand		
	10					CA		SM		SS	2.0
								ML	Gray silty fine sand (medium dense, moist)	SS	50.8
					100				Gray silty fine sand (soft, moist)		
			48								
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-11

GeoEngineers

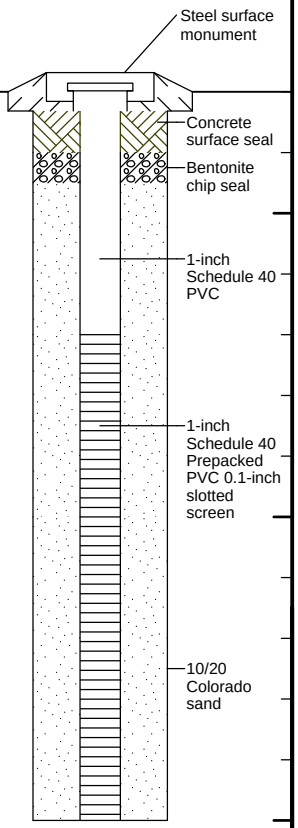
Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-11
Sheet 1 of 1

Date(s) Drilled	08/01/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	Not Encountered
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126391.2635 24014.473978

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0				000			GW	Brown fine gravel with fine to coarse sand and silt (dense, moist to dry)	NS	16.9
					020			SW	Brown fine to coarse sand with occasional gravel and silt (dense, moist to dry)	NS	81
			48			CA					
	5				040					NS	0
								SW	Brown fine to coarse sand with occasional gravel and trace silt (medium dense, wet)		
					060			SW	Brown coarse sand with occasional gravel and trace silt (medium dense, wet) circular rock, possible clay	NS	0
			36								1.6
					080						
	10					CA				SS	1.0
					100					NS	
			30								
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-12

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

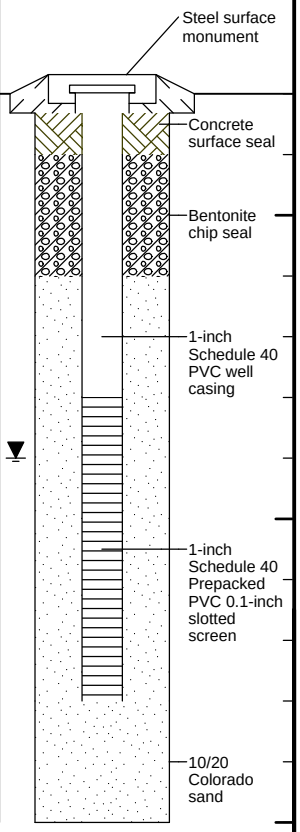
Figure A-12
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/01/07	Logged By	TSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126377.54827 23808.4551652

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							SOD	6 inches topsoil and sod		
					000			GW	Brown gravel with fine to coarse sand and occasional silt (medium dense, moist)	NS	2.0
											85.5
					020			SW	Brown fine to coarse sand with gravel and silt (medium dense, moist) potential historic working surface	SS	1.0
			40								
	5				040						
						CA		SW	Gray coarse sand with occasional gravel (medium dense, wet)		
					060			SM	Black sand with silt and occasional shredded wood (medium dense, moist to wet)	NS	0
			36					SW	Gray coarse sand with occasional gravel (medium dense, wet)		
								ML	Black sandy silt with occasional shreds of wood (medium stiff, moist)		
					080					NS	75
	10					CA		ML	Brown silt with occasional fine sand and trace shreds of wood (very stiff, moist)	NS	0
					100			SW	Gray fine to medium sand with trace silt (medium dense, moist)	NS	0
			36								
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-13

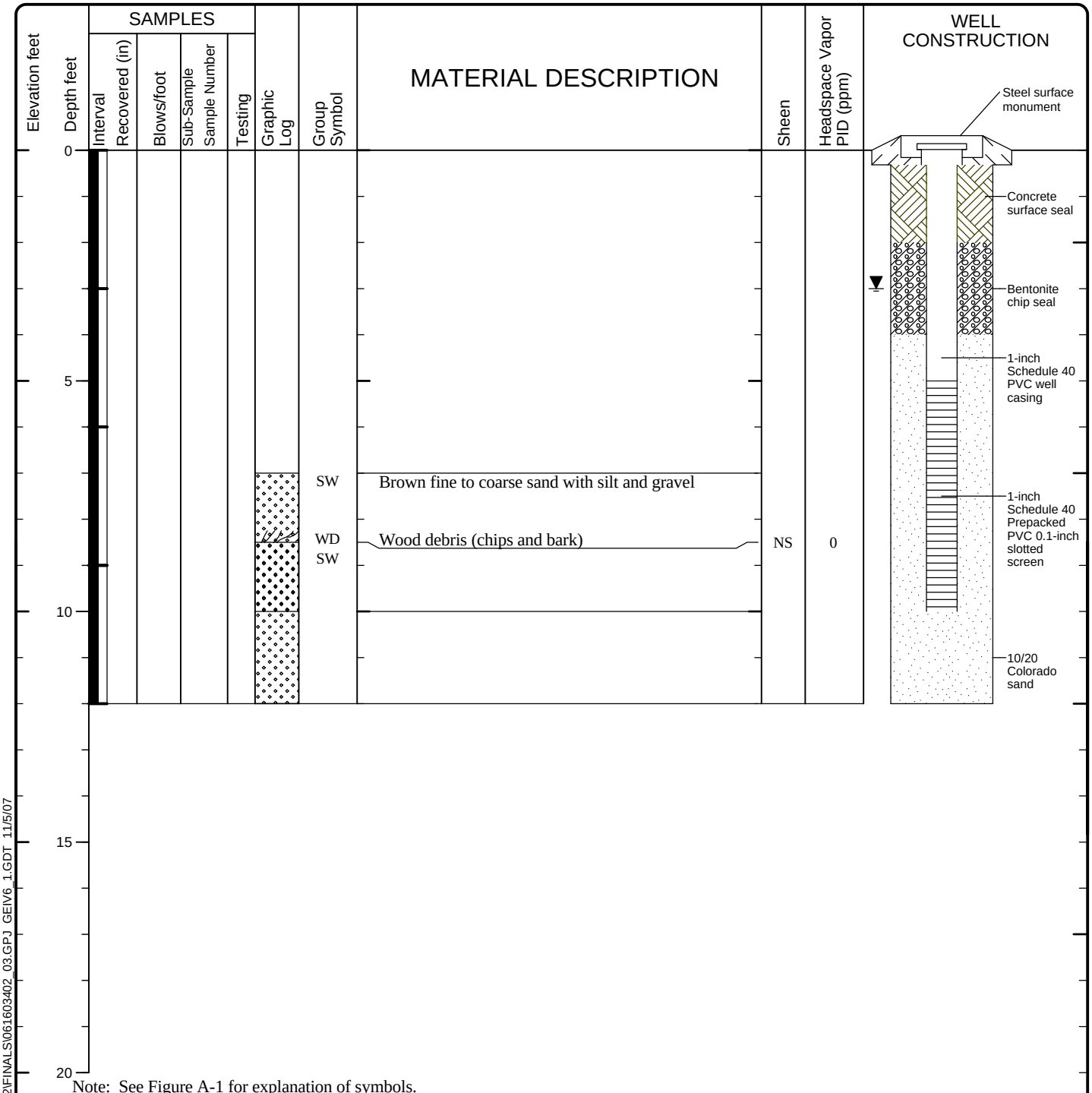
GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-13
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/07/07	Logged By	JCD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Powerprobe 9630
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	9
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126121.72214 23892.6846638



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-14

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

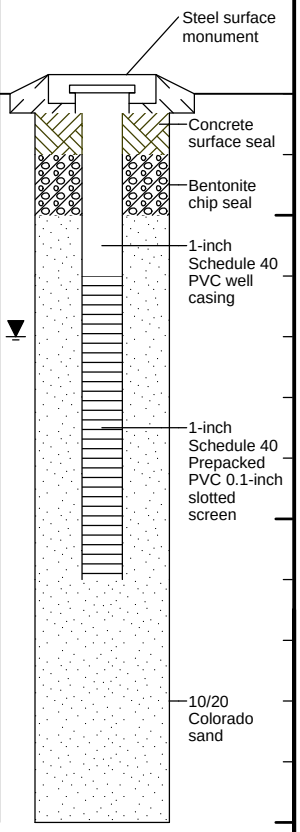
Figure A-14
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/03/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Strataprobe
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	8
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125674.2296 24199.1161341

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							AC	3 inches asphalt		
								GW	Brown gravel with sand and silt (medium dense, moist)	NS	0
					000			SW	Brown fine to medium sand with occasional silt and occasional gravel (medium dense, moist)	SS	0
			36		020						
						CA		SW	Gray fine to medium sand with occasional silt and gravel and shells (dense, wet)	SS	0
	5				040						
			36							NS	0
					060			ML	Gray silt		
								SW	Gray fine to medium sand with occasional silt and gravel (medium dense, wet)	NS	0
			36		080	CA					
	10							WD	Pulp/shredded wood 1/2-1/4 centimeter, not decomposed	NS	0
					100						
								ML	Gray silt with sand and gravel (soft, wet)	NS	0
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-15

GeoEngineers

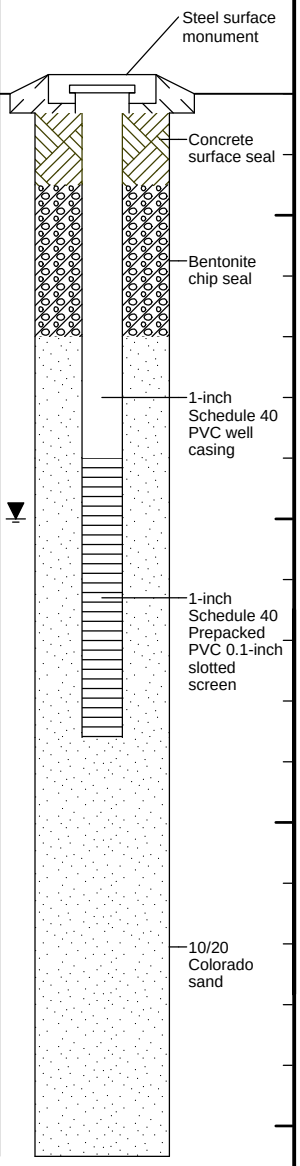
Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-15
Sheet 1 of 1

Date(s) Drilled	07/31/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	17.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126199.16148 24288.4074665

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	21	1			GW	Brown fine to coarse gravel with sand, trace silt (dense, moist)	SS	0
								GW	Brown fine to coarse gravel with sand, trace silt (medium dense, moist)	NS	0
			2	12	2						
			6	7	3			SW	Gray fine to medium sand with trace silt and small chunks of wood (loose, moist)		
	5		5			CA				SS	0
			12	5	4			SW	Gray fine to medium sand with trace silt (loose, wet)	NS	0
			15	52	5					NS	0
								WD	Light brown silt, in mostly solid wood chunks (whole tube) looked like rotting wood	SS	0
								SW	Gray fine to medium sand with trace silt and wood chunks		
	10		3	15	6					SS	0
			5	10	7						
			13			CA				SS	0
			2	3	8						
	15					CA					
			18	2/18"	9			ML	Gray fine sandy silt with shells and occasional wood bits (stiff, moist)		
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-16

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

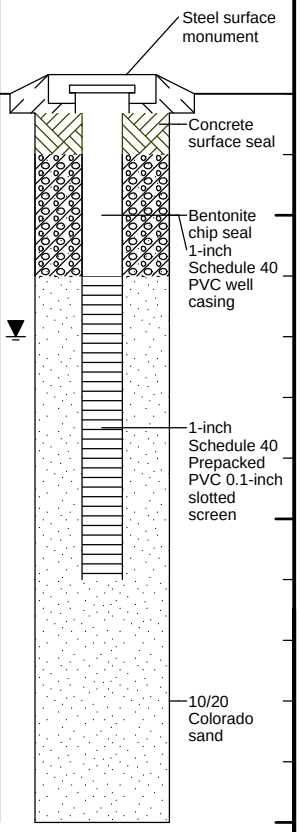
Figure A-16
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Direct Push	Sampling Methods	Continuous Split Spoon
Auger Data	N/A	Hammer Data	N/A	Drilling Equipment	Powerprobe 9630
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	8
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125771.79202 24572.6003773

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							AC	Asphalt		
								GW	Brown/gray gravel with sand and silt (dense, moist)	NS	0
					000			SW	Brown fine to medium sand with silt (medium dense, moist)		
										MS	0
					020			SW	Gray fine to medium sand with silt (medium dense, moist)	NS	0
			48							NS	0
	5				040	CA					
								ML	Gray silt with occasional sand (soft, wet)		
					060			WD	Black shredded wood (burnt)	NS	0
									2 inches of laminated silty sand (wet)	NS	0
			48					SM	Black/gray silty fine to medium sand with black wood bits (mutchy) (wet)		
					080					NS	0
	10					CA		WD	Brown shredded wood (not burnt) pretty solid		
					100						
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-17

GeoEngineers

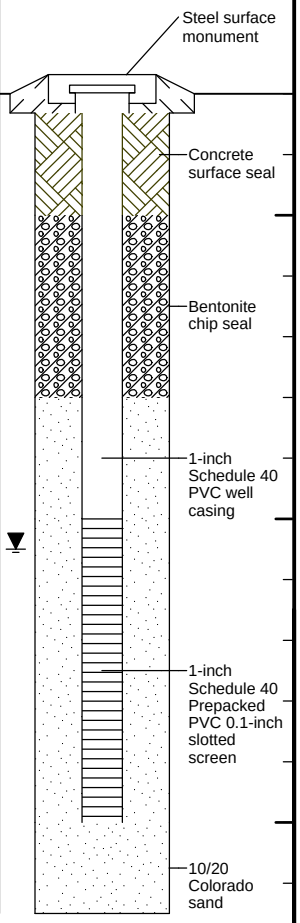
Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-17
Sheet 1 of 1

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	13.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	4.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1126205.92375 24712.3138997

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	26	1			TS	Topsoil		
								GM	Brown fine gravel with silt and sand (medium dense, moist)	NS	13.4
			8	27	2	CA			Grades to dense	NS	0.8
			5	48	3					SS	7.1
	5								Grades to very dense		
			8	66	4					NS	18.5
			3	20	5			GW	Gray gravel with sand and trace silt (medium dense, wet)	SS	47.3
	10		3	15	6	CA					
			2	4	7			GW	Gray fine gravel with sand trace silt (loose, wet)	NS	10.8
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-18

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

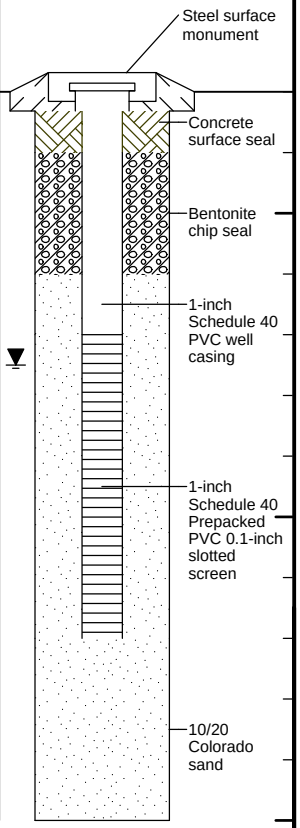
Figure A-18
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/01/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	12	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	7.5
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125982.35546 24852.0294173

Elevation feet	Depth feet	SAMPLES: Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0							AC	Asphalt		
								SW	Brown silty fine to coarse sand with silt and gravel (medium dense, moist)	SS	2.2
					000						
								WD	3-inch thick, 3-inch pieces of wood (moist) (not solid)	SS	0
								ML	Brown silt with fine sand (stiff, moist)	SS	
					020			ML	Gray silt with fine sand (stiff, moist)		
								SW	Gray fine to medium sand with silt (medium dense, moist)	SS	0
			48			CA					
	5				040						
								ML	Silt with shredded wood (stiff, wet)		32.1
					060					NS	0
						CA					
					080					NS	0
	10										
			18								
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-19

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

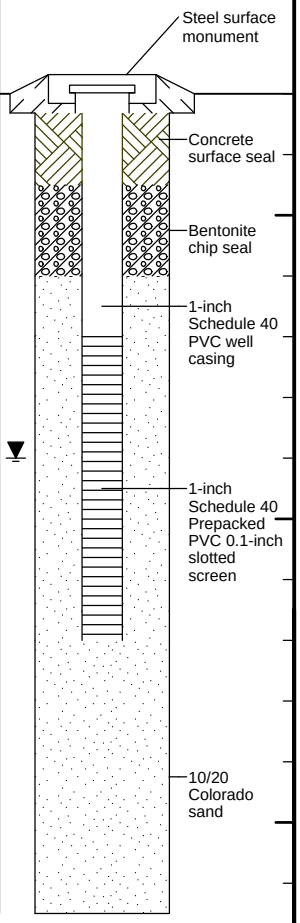
Figure A-19
Sheet 1 of 1

V6_ENVWELL P:\0061503402\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Date(s) Drilled	08/02/07	Logged By	PSD	Checked By	KMB/EWH
Drilling Contractor	ESN	Drilling Method	Hollow Stem Auger	Sampling Methods	Split Spoon
Auger Data	4 inch	Hammer Data	140 lb hammer/140 in drop	Drilling Equipment	Powerprobe 9630 Pro-PTD
Total Well Depth (ft)	13.5	Ground Surface Elevation (ft)	12	Groundwater Elevation (ft)	6
Vertical Datum	NGVD 29	Datum/ System		Easting(x): Northing(y):	1125840.17135 24875.8803879

Elevation feet	Depth feet	SAMPLES Interval	Recovered (in)	Blows/foot	Sub-Sample Sample Number	Testing	Graphic Log	Group Symbol	MATERIAL DESCRIPTION	Sheen	Headspace Vapor PID (ppm)
	0		12	22	1			AC	Asphalt		
								GP	Brown fine gravel with sand, trace silt (medium dense, moist)	SS	468
								SW	Gray fine to medium sand with trace silt and occasional gravel (medium dense, moist)	SS	585
			12	6	2	CA				NS	101
			8	4	3			ML	Silt with black, hard shredded wood (some burnt)		
	5									NS	18
			3	2/18"	4	CA					
										NS	0.8
			6	5	5						
										NS	0.0
	10		0	1/6"	6						
								WD ML	2 inch pieces of shredded wood in shoe (loose, wet)		
										NS	0.0
	15										
	20										

WELL CONSTRUCTION



Note: See Figure A-1 for explanation of symbols.

LOG OF MONITORING WELL MW-20

GeoEngineers

Project: Port of Olympia East Bay Redevelopment
Project Location: Olympia, Washington
Project Number: 0615-034-02/03

Figure A-20
Sheet 1 of 1

APPENDIX B

PREVIOUS TIDAL INFLUENCE STUDIES

out of sequence to accommodate other borings completed in the Port's East Bay Redevelopment project area and the previous study at the project area. For example, boring IDs DP11 or DP12 were not used as part of this study because these borings were located on another part of the East Bay Redevelopment project area. A handheld GPS unit was used to locate proposed boring and well locations and capture their coordinates once completed.

6.3.1 Soil

Historical well logs, previous subsurface explorations by others, and our past experience in the region indicate that dredged hydraulic fill consists of clayey silt to silty sand with a trace to occasional gravel and shell fragments that extend to the depth of the original mudflat surface (at least 12 feet below the current ground surface). Hydraulic fill in areas with a history of lumber milling operations adjacent to surface water bodies may also contain wood waste fill that generally consists of saw dust, bark, and wood scraps with interbedded layers of sand and silt.

Subsurface soil encountered in borings advanced generally consisted of fine- to medium-grained sand with a trace of silt and occasional gravel ranging from approximately 1 to 5 feet bgs. This sand was underlain with black and brown silt with fine sand and some organic material (e.g., small plant roots) from 5 to 8 feet bgs. Wood-debris fill (i.e., dimensional lumber and wood chips) was encountered in the northern portion of the project area at depths of approximately 4 to 12 feet bgs. This wood debris fill varies from 4 to 8 feet in thickness and was likely deposited in association with historic lumber processing activities. Brick debris was also encountered in borings located in the northeast portion of the project area at depths ranging from 4 to 8 feet bgs. Boring logs and well completion diagrams are included as Appendix B.

6.3.2 Groundwater

Groundwater was observed in monitoring wells completed during this RI at depths ranging between approximately 2.61 and 4.71 feet below the top of the well casing. The groundwater depth in MW06 was 0.75 feet below the top of casing, which is anomalous because it is located in a wet area that is suspected to be near a seep, which may be attributable to a naturally occurring artesian spring (Rod Hudson, 2006). A groundwater level study was completed to characterize the hydrogeologic regime underlying the project area and help determine if 1) shallow groundwater is tidally influenced and 2) the flow direction and gradient of groundwater beneath the project area.

The groundwater study consisted of capturing groundwater levels in four monitoring wells (MW05, MW06, MW07 and MW09) using down-hole transducers and data loggers for a three day period at five-minute intervals. The wells were chosen based on their spatial relationship to each other and the East Bay waterway. Although observed groundwater levels in the wells did fluctuate, the variance is not consistent with the pattern typically associated with tidally influenced groundwater. The observed variations in groundwater levels appear to be directly related to changes in ambient barometric pressure, as observed at the nearby Swantown Marina weather station (i.e., increases in barometric pressure correlate to decreases in groundwater elevation). Measured variances in groundwater levels were between 0.1 and 0.2 feet. Groundwater levels observed in monitoring well MW06 do not correlate as closely to the barometric pressure as the other three wells; this difference may be due to the presence of standing water (likely associated with a naturally occurring artesian spring) in the vicinity of the well. Graphs showing the groundwater levels in each well and barometric pressure are presented in Appendix C. The groundwater level data was used to calculate a mean groundwater elevation for each well studied, as shown in Table 3.

Based on the results of the January/February 2007 groundwater level study, groundwater beneath the project area appears to generally flow to the northeast, toward East Bay. However, the calculated mean groundwater elevation in monitoring well MW07 (southwestern-most well) is lower than the other three wells. This result indicates that groundwater may be either 1) "mounded" beneath the project area and also flowing to the southwest or 2) migrating locally into more permeable backfill material associated with underground utilities in the vicinity of the well. The shallow groundwater flow beneath the project area likely is influenced by 1) heterogeneous fill and inconsistent fill placement/thickness, 2) the orientation of the lower permeability undulating native soil surface (beneath the fill) and 3) naturally occurring artesian springs observed in the area.

In order to further evaluate groundwater conditions in the vicinity of the project area, we reviewed a 1982 Dames and Moore geotechnical investigation report of the East Bay Marina property. Dames and Moore described two distinct groundwater units in their report. The East Bay Marina is approximately 1/2 mile north of the project area. Their description of groundwater in the near vicinity of the East Bay Marina property included what they interpreted to be 1) a perched groundwater condition observed within hydraulic sand fill, typically located overlying silt and mud bay deposits (depths approximately 9 to 30 feet bgs) and 2) a deeper groundwater unit that they interpreted to be tidally influenced and hydraulically connected to East Bay. They observed that the deeper groundwater unit was located in sands underlying the silt and mud bay deposits; this sand unit extended from depths of approximately 18 to 36 feet bgs. The borings during our investigation were not advanced to depths where the silt and mud bay deposits described by Dames and Moore were observed.

6.4 CHEMICAL ANALYTICAL RESULTS

6.4.1 General

Soil and groundwater samples were submitted for chemical analysis to Severn Trent Laboratories (STL) of Fife, Washington. The samples were submitted for chemical analysis of gasoline-, diesel- and motor oil-range petroleum hydrocarbons, RCRA 8 metals, VOCs, SVOCs, cPAHs and/or PCBs.

Chemical analytical results are discussed relative to MTCA Method A soil cleanup levels for unrestricted land uses and MTCA Method A cleanup levels for groundwater[2]. A summary of chemical analytical results from this RI that exceed MTCA cleanup levels for soil and groundwater are presented in Tables 4 and 5, respectively. Chemical analytical results from both this RI and the previous Phase II ESA conducted at the project area are depicted on Figures 3 and 4. Laboratory data reports for chemical analyses completed during this RI are attached as Appendix D.

6.4.2 Soil

Twenty soil samples were submitted for chemical analysis. The soil samples were obtained from depths ranging from 1 to 12 feet bgs. Gasoline-range petroleum hydrocarbons, RCRA 8 metals, VOCs, SVOCs and PCBs were either not detected or were detected at concentrations less than their respective MTCA cleanup levels in all soil samples analyzed during this RI (Section 5 describes other compounds detected at the project area during the Phase II ESA at concentrations greater than applicable cleanup levels). Diesel- and motor oil-range petroleum hydrocarbons (two samples) and cPAHs (five samples) were detected in soil samples at concentrations greater than applicable MTCA cleanup levels, as discussed below.

[2] MTCA Method B cleanup levels were used where MTCA Method A cleanup levels are not established.

TABLE 3
MEAN GROUNDWATER ELEVATION - JANUARY 30, 2007 THROUGH FEBRUARY 2, 2007
CITY OF OLYMPIA CITY HALL
OLYMPIA, WASHINGTON

Monitoring Well ID	Well Elevation (ft) (assumed)	Mean Groundwater Elevation (ft)	Well Elevation[1] (ft)	Depth to Groundwater (feet bgs)
MW05	101.66	97.47	12.11	4.19
MW06	100.15	99.33	10.63	0.82
MW07	101.12	96.42	NS	4.7
MW08	101.4	NS	11.62	—
MW09	101.79	99.18	NS	2.61
MW10	101.79	99.18	11.75	2.61

Notes

[1] The wells were surveyed by others as part of the City Hall site redevelopment.

NS: Not surveyed

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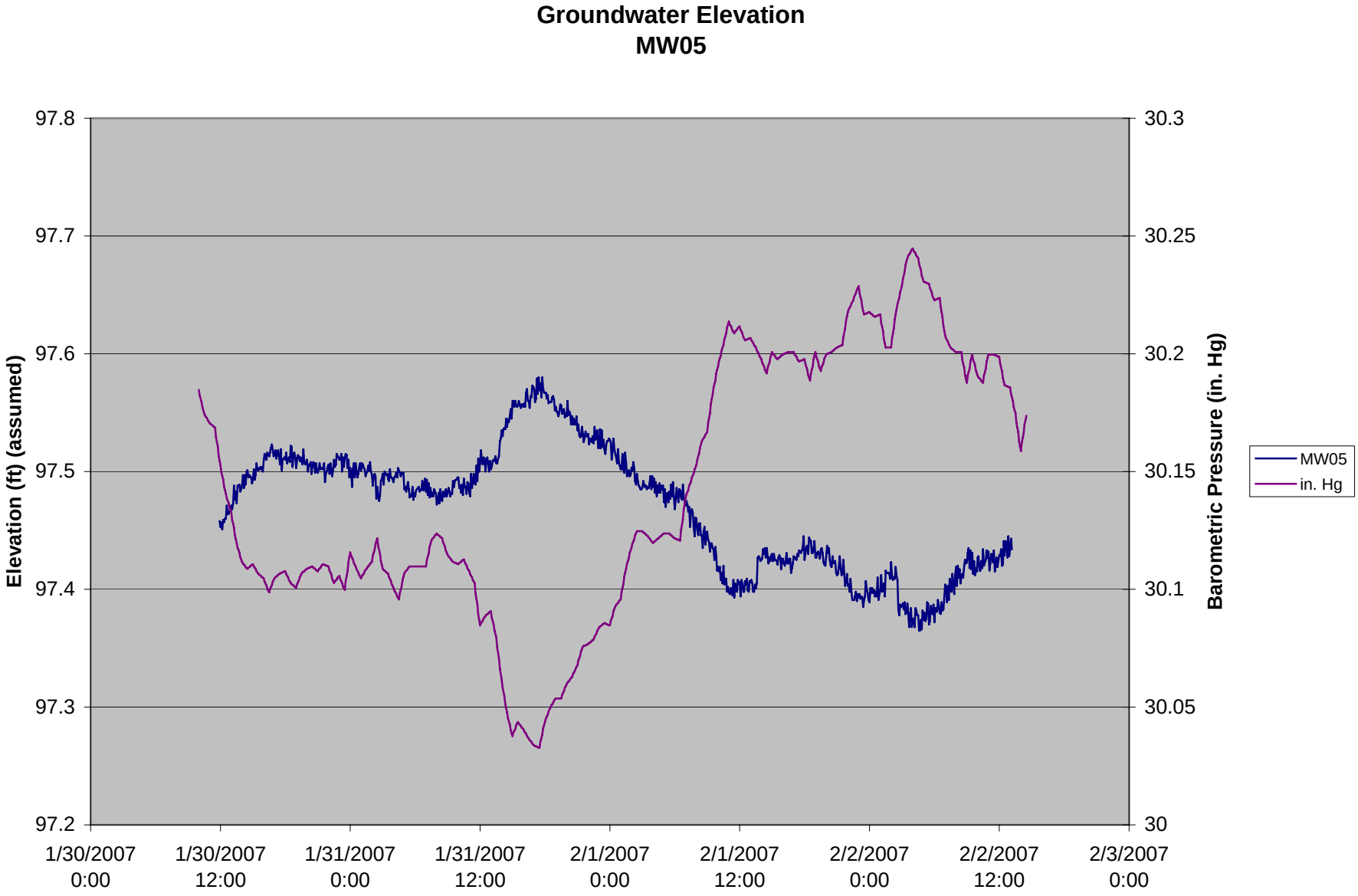
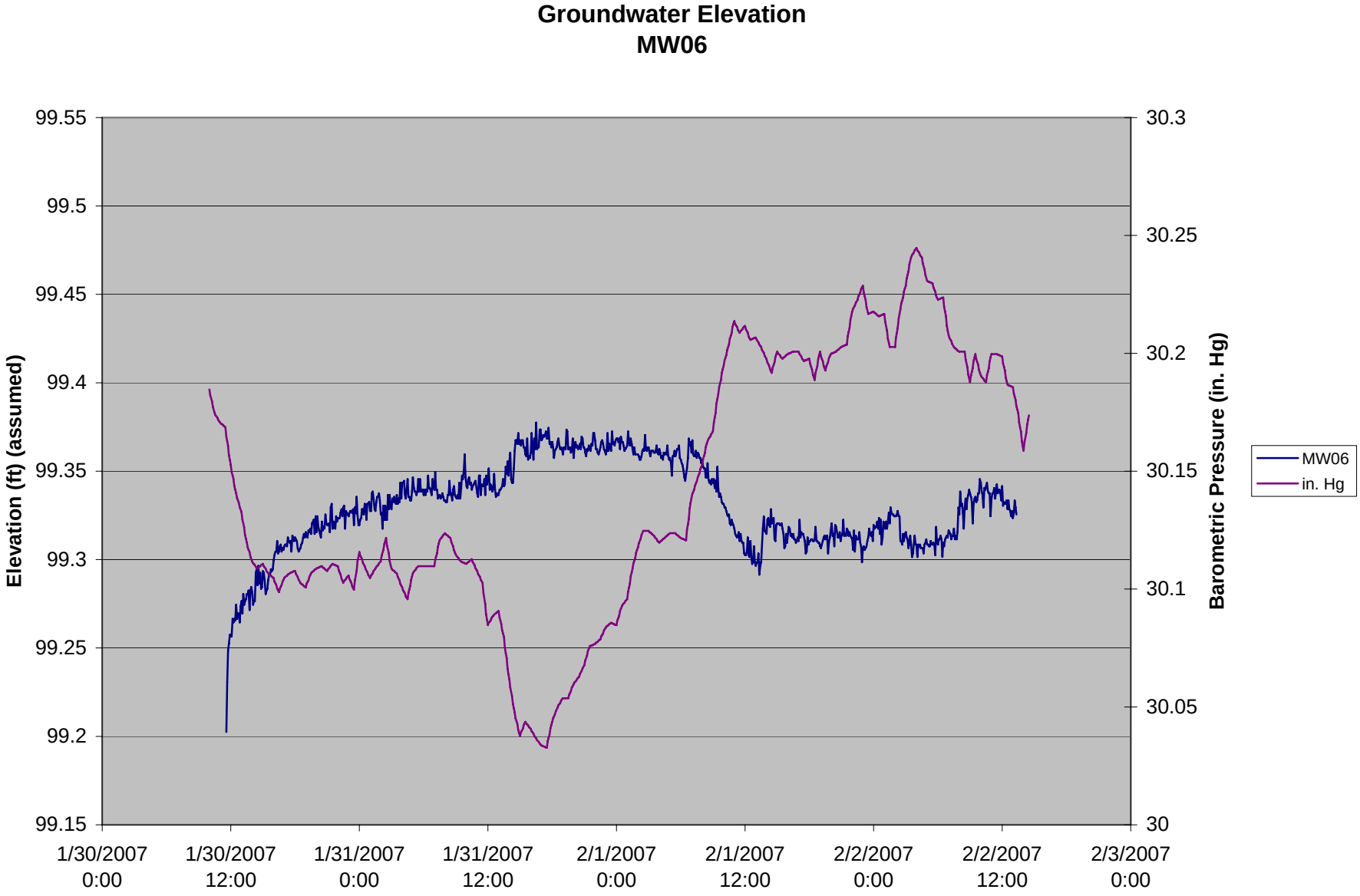

Groundwater Elevation
MW05
Elevation (ft) (assumed)
Barometric Pressure (in. Hg)
97.8
97.7
97.6
97.5
97.4
97.3
97.2
30.3
30.25
30.2
30.15
30.1
30.05
30
1/30/2007 0:00
1/30/2007 12:00
1/31/2007 0:00
1/31/2007 12:00
2/1/2007 0:00
2/1/2007 12:00
2/2/2007 0:00
2/2/2007 12:00
2/3/2007 0:00
MW05
in. Hg


Groundwater Elevation
MW06
Elevation (ft) (assumed)
Barometric Pressure (in. Hg)
99.55
99.5
99.45
99.4
99.35
99.3
99.25
99.2
99.15
30.3
30.25
30.2
30.15
30.1
30.05
30
1/30/2007 0:00
1/30/2007 12:00
1/31/2007 0:00
1/31/2007 12:00
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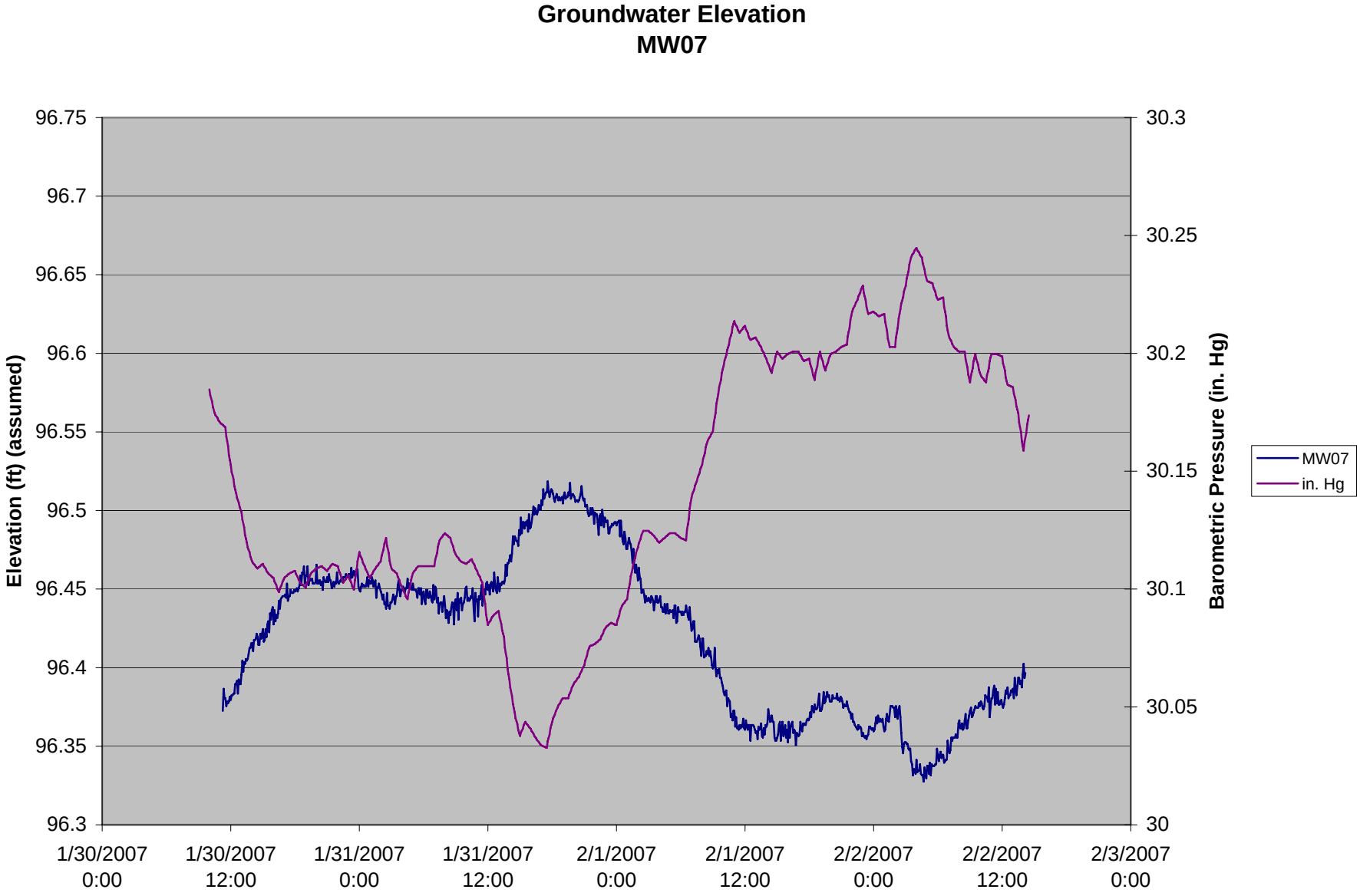
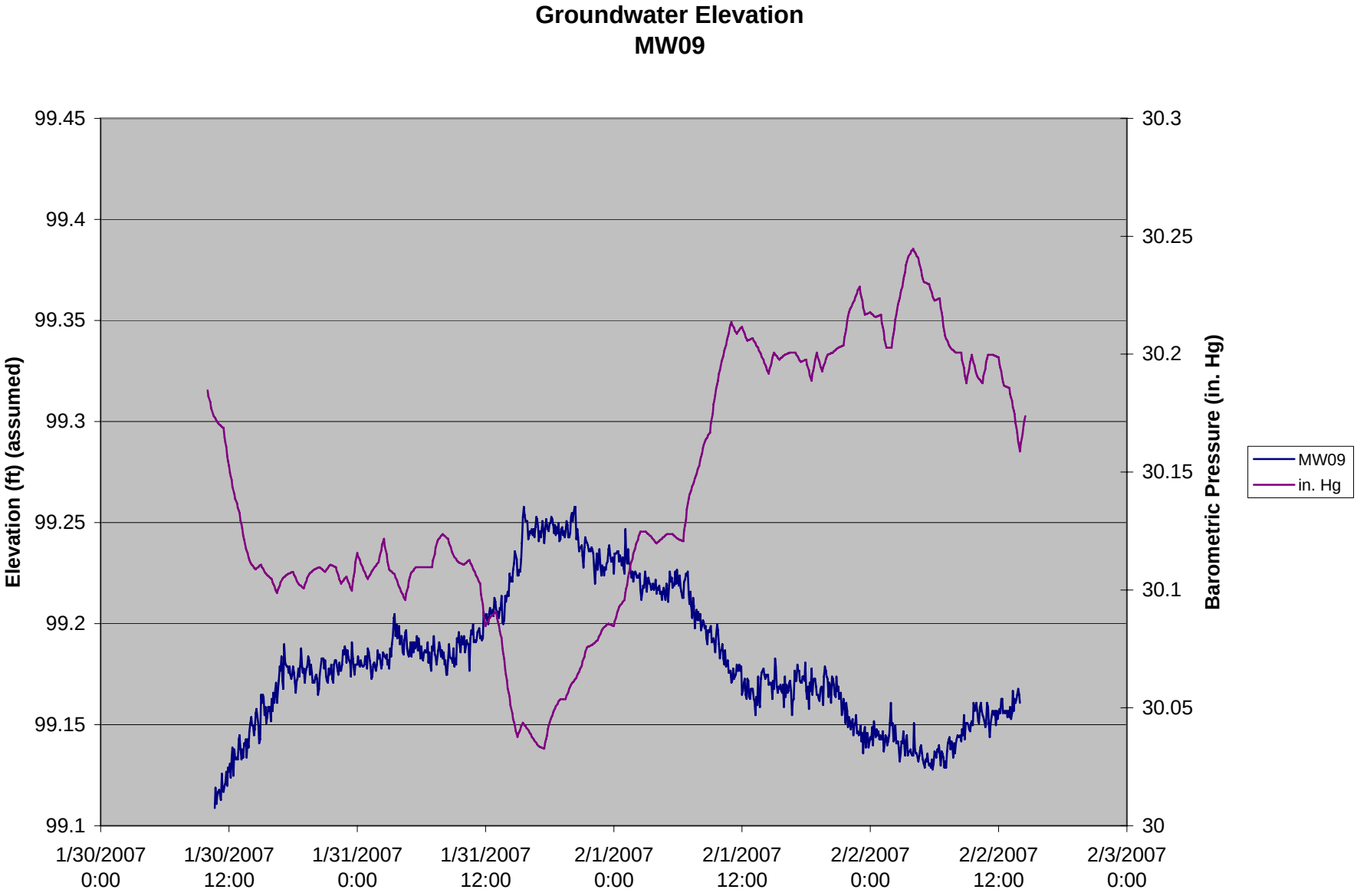
MW06
in. Hg


Groundwater Elevation
MW07
Elevation (ft) (assumed)
Barometric Pressure (in. Hg)
96.75
96.7
96.65
96.6
96.55
96.5
96.45
96.4
96.35
96.3
30.3
30.25
30.2
30.15
30.1
30.05
30
1/30/2007 0:00
1/30/2007 12:00
1/31/2007 0:00
1/31/2007 12:00
2/1/2007 0:00
2/1/2007 12:00
2/2/2007 0:00
2/2/2007 12:00
2/3/2007 0:00
MW07
in. Hg


Groundwater Elevation
MW09
Elevation (ft) (assumed)
Barometric Pressure (in. Hg)
99.45
99.4
99.35
99.3
99.25
99.2
99.15
99.1
30.3
30.25
30.2
30.15
30.1
30.05
30
1/30/2007 0:00
1/30/2007 12:00
1/31/2007 0:00
1/31/2007 12:00
2/1/2007 0:00
2/1/2007 12:00
2/2/2007 0:00
2/2/2007 12:00
2/3/2007 0:00
MW09
in. Hg

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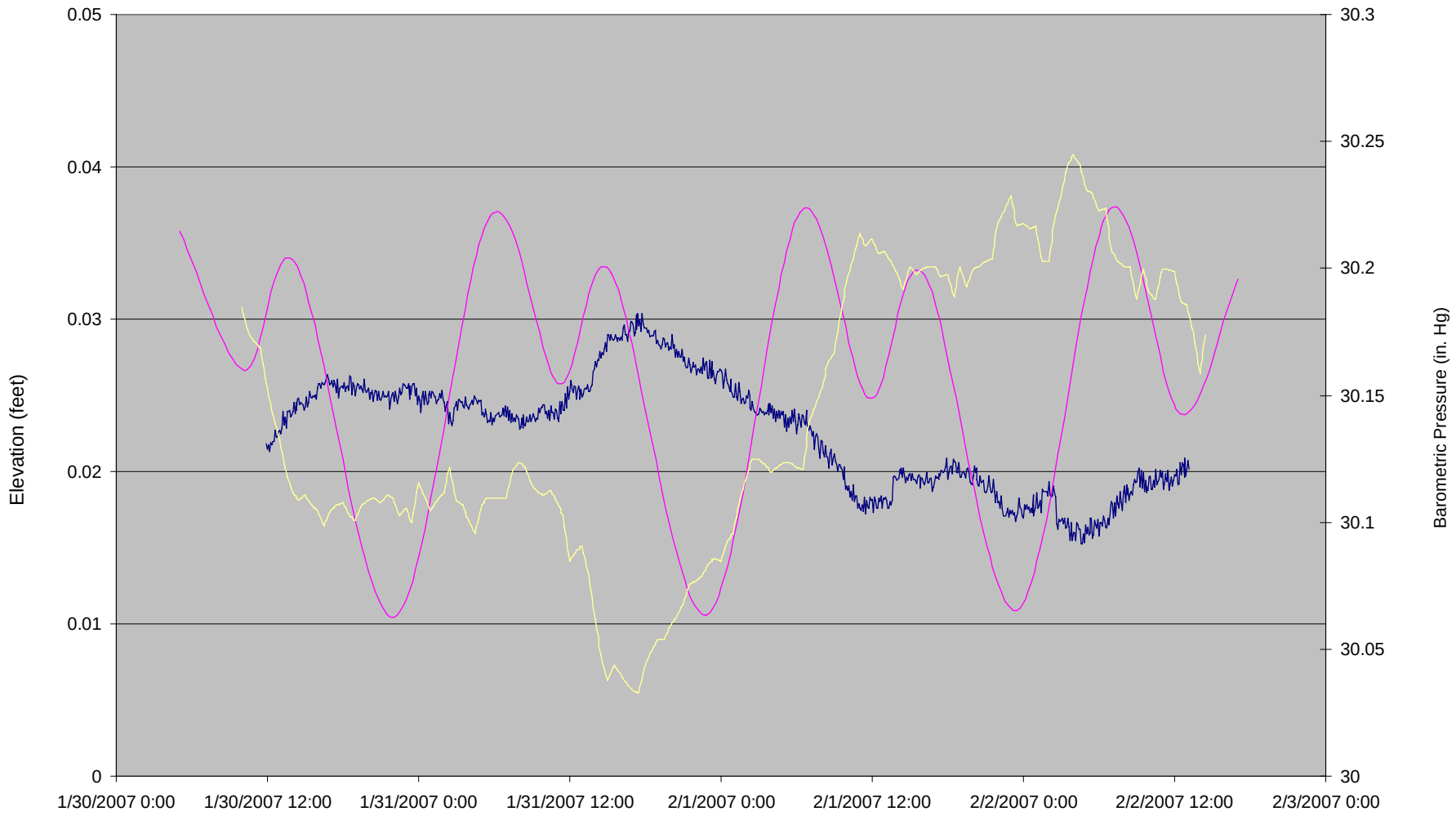

Groundwater Elevation
Tidal Fluctuation
Barometric Pressure

Note: Elevations of groundwater levels and tidal fluctuations were adjusted to fit the scale of this graph. A multiplier was applied to each dataset, as follows: groundwater levels (0.0701) and tidal data (0.0015).

Groundwater Elevations – MW05
72-hour Transducer Study

Port of Olympia – East Bay Redevelopment
Olympia, Washington

GeoEngineers

Chart D-1

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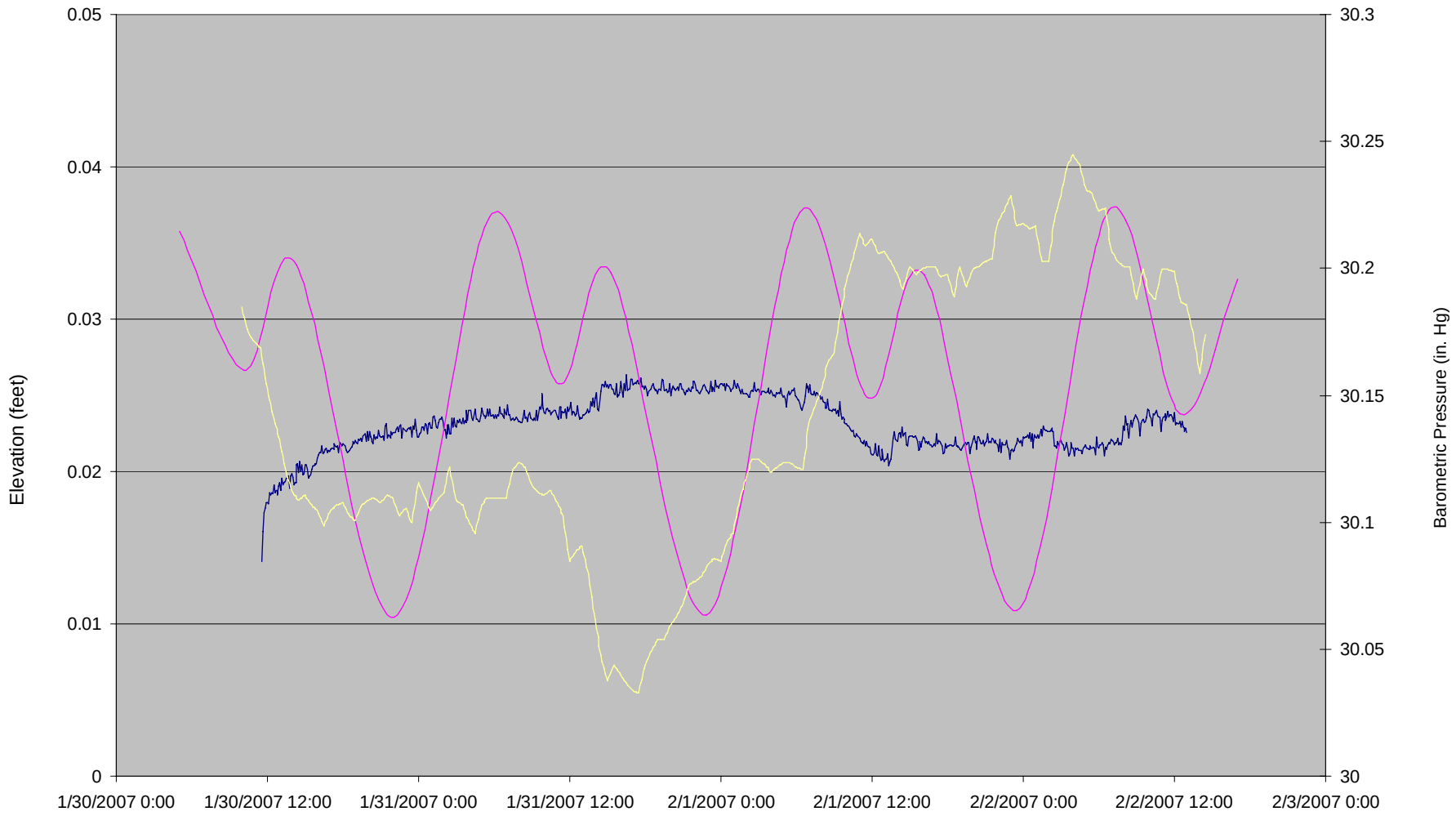

Groundwater Elevation
Tidal Fluctuation
Barometric Pressure

Note: Elevations of groundwater levels and tidal fluctuations were adjusted to fit the scale of this graph. A multiplier was applied to each dataset, as follows: groundwater levels (0.0701) and tidal data (0.0015).

Groundwater Elevations – MW06
72-hour Transducer Study

Port of Olympia – East Bay Redevelopment
Olympia, Washington

GeoEngineers

Chart D-2

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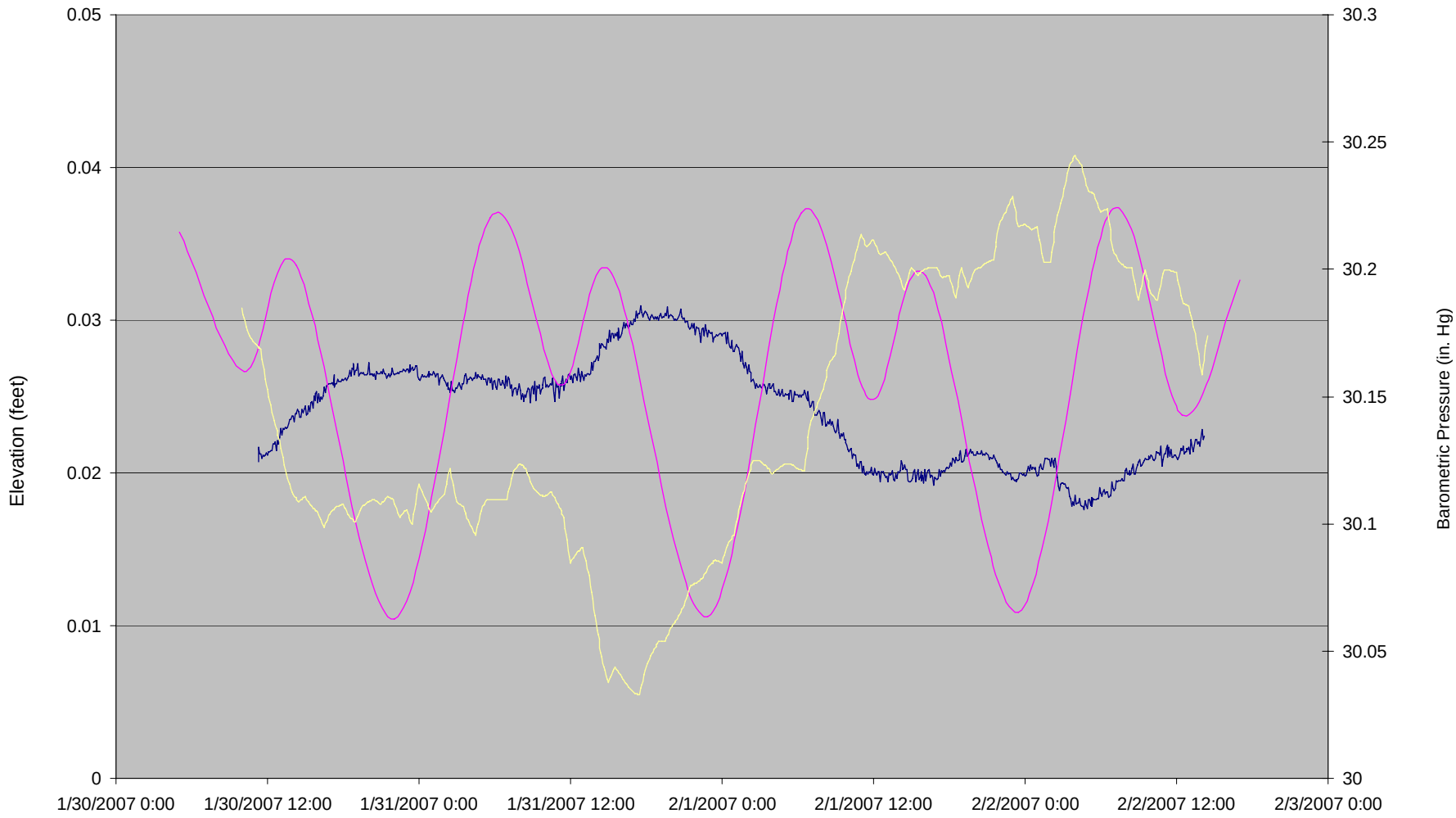


Groundwater Elevation
Tidal Fluctuation
Barometric Pressure

Note: Elevations of groundwater levels and tidal fluctuations were adjusted to fit the scale of this graph. A multiplier was applied to each dataset, as follows: groundwater levels (0.0701) and tidal data (0.0015).

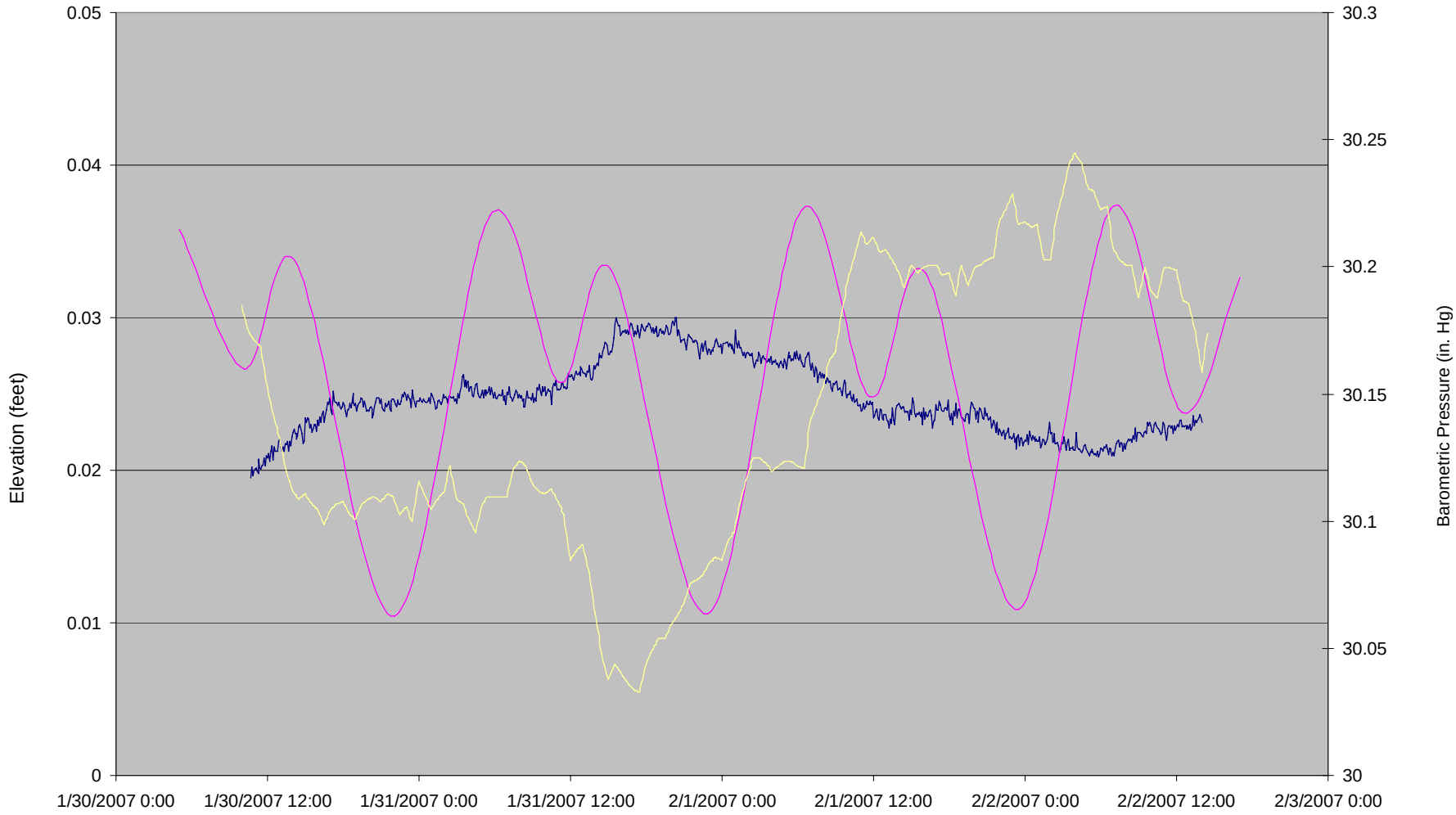
Groundwater Elevations – MW07
72-hour Transducer Study

Port of Olympia – East Bay Redevelopment
Olympia, Washington

GeoEngineers

Chart D-3

TACO\:\9876062\00\987606200A.ppt SYF:SYF 10/01/03



Groundwater Elevation
Tidal Fluctuation
Barometric Pressure

Note: Elevations of groundwater levels and tidal fluctuations were adjusted to fit the scale of this graph. A multiplier was applied to each dataset, as follows: groundwater levels (0.0701) and tidal data (0.0015).

Groundwater Elevations – MW09
72-hour Transducer Study

Port of Olympia – East Bay Redevelopment
Olympia, Washington

GeoEngineers

Chart D-4

GREYLOCK
CONSULTING LLC
Water Resources & Environmental Services

August 21, 2008

Ms. Joanne Snarski
Port of Olympia
915 Washington St. NE
Olympia, WA 98501

Re: **Groundwater Flow During High and Low Tides**
Port of Olympia East Bay Site
Olympia, Washington

Dear Ms. Snarski:

This letter documents the results of our evaluation of groundwater elevation data obtained from the East Bay Site in Olympia, Washington.

Background

The Port of Olympia (Port) is in the process of negotiating an Agreed Order with the Department of Ecology (Ecology) for an interim action at the East Bay Site (Figure 1). Various environmental studies have previously been performed at this Site (GeoEngineers, 2007a,b). Ecology has requested that the Port identify a hydrogeologic conceptual model for the site. A key component in understanding the hydrogeology of the site is to identify flow directions and gradients at varying tidal stages. This study evaluates groundwater flow directions and gradients at the site during a low and high tide on July 16, 2008.

Site

The East Bay Site (Site) is located on the south end of the Port Peninsula adjacent to the East Bay of Budd Inlet in Olympia, Washington (Figure 1).

The site consists of approximately 13.6 acres of mixed use and commercial properties. The project area is generally flat. The northern and western portions of the site are paved with asphalt, and the southern and eastern portions of the site are covered with crushed rock and bare land.

Most of the site has historically been used for commercial and light industrial purposes, including wood process and milling operations and warehousing. For a detailed discussion of the history of the Site, please see GeoEngineers' Draft Remedial Investigation/Feasibility Study (GeoEngineers, 2007b).

P.O. Box 23254, Federal Way, WA 98093 • Office: (253) 941-0654 • Cel: (253) 266-2838 • Fax: (253) 941-2705

Subsurface Soils

Predominant subsurface soils (0 to 15 ft bgs) at this site consist of coarse sand and gravel with occasional silt. Thin silt lenses and wood layers have also been observed in near surface soils. Significant filling has occurred at this site, therefore much of the shallow subsurface soils are non-native.

Monitoring Wells

Twenty shallow monitoring wells were previously constructed on and adjacent to the site by others. The monitoring wells vary in diameter from 1- to 2-inches, and vary in depth from 8 to 15 ft bgs. The effective depths of wells were measured on July 16, 2008 and are provided in Tables 1 and 2.

Groundwater

Water levels were collected at the site on July 16, 2008 by Greylock and its subconsultant Stemen Environmental Inc. (Stemen). Water levels were collected within 1 hour and 19 minutes of a low tide of – 1.4 ft Mean Low Low Water (MLLW), and within 1 hour of a high tide of +14.4 ft MLLW. Water level measurements collected during a low tide are provided in Table 1. Water level measurements collected during a high tide are provided in Table 2. Shallow groundwater at the site occurs at depths ranging from 1.05 ft to 9.40 ft below the top of casing (TOC) of monitoring wells. Ponded water was also observed on the surface of the ground in the vicinity of monitoring well MW-06. Based on a conversation with Al Kulp of the Port, we understand that artesian flow is directed toward MW-6 via a pipe. It is not known where the artesian flow originates.

July 16, 2008 Low Tide Monitoring Event

On July 16, 2008 water levels were collected at the site between 11:35 AM and 12:42 PM. A low tide of -1.4 ft MLLW was recorded at 11:25 AM. As shown on Figure 2, groundwater flow direction varies across the site. The majority of groundwater flow across the site is directed toward Budd Inlet. However, at the southwestern end of the site, a groundwater mound was measured in the vicinity of MW-14 and MW-06. At this location, groundwater flows in all directions from the southwest corner of the site outward, as shown in Figure 2. At the northwestern end of the site a groundwater high exists near MW-17. Groundwater flow is generally directed from the area of MW-17 toward the north, east and south across the site.

Groundwater gradients vary significantly across the site during a low tide. Gradients range from approximately 0.003 ft per ft near the center of the site to approximately 0.08 ft per ft toward the shoreline, near MW-12.

July 16, 2008 High Tide Monitoring Event

On July 16, 2008 water levels were collected at the Site between 7:20 and 8:19 PM. A high tide of +14.4 ft MLLW was recorded at 7:21 PM. As shown on Figure 3, groundwater flow direction varies across the site. In general, groundwater flow directions are similar to those measured during the low tide event earlier in the day. The majority of groundwater flow is directed toward Budd Inlet. At the southwestern end of the site, a groundwater mound is present in the vicinity of MW-14 and MW-06. Also, a groundwater high is present in the vicinity of MW-17.

Groundwater gradients vary significantly across the site during a high tide. Gradients range from approximately 0.003 ft per ft near the northern part the site to approximately 0.04 ft per ft at the southern part of the site, near MW-06.

Tidal Effect

Table 3 provides a summary of the change in groundwater elevation from low to high tide on July 16, 2008. Only two of twenty wells (MW-12 and MW-18) showed greater than one foot of change in elevation between the measuring periods. MW-12 and MW-18 are screened in coarse fill and are within approximately 110 ft of Budd Inlet.

Water levels in the majority of wells showed minimal elevation change with change in tide. With the exception of an area of coarse fill within 110 ft of the shoreline, tidal fluctuation does not significantly affect groundwater flow patterns at the site.

Discussion

Based on two groundwater monitoring events collected during a low and high tide event on July 16, 2008, the majority of groundwater flow across the site is directed toward Budd Inlet. Two groundwater highs were observed during both monitoring events: At the southwestern end of the site and at the northwestern end of the site. These groundwater highs are likely caused by leakage from artesian wells. Also, at the southwestern end of the site, recharge from ponded water likely contributes to the groundwater high in this area.

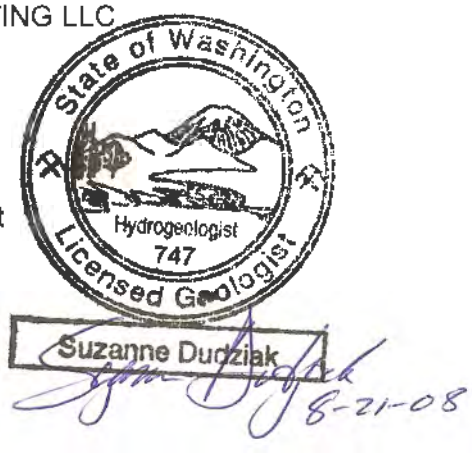
Limitations

This report is based upon the application of scientific principles and professional judgment to certain facts with resulting subjective interpretations. Professional judgments expressed herein are based upon the facts currently available within the limits of the existing data, scope of work, budget, and schedule. We make no warranties, expressed or implied, including, without limitation, warranties are to the fitness of the site for a particular purpose.

If you have any questions regarding this report, please call me at (253) 941-0654.

Sincerely,

GREYLOCK CONSULTING LLC



Suzanne Dudziak
Principal Hydrogeologist

Attachments:
1 References
3 Tables
3 Figures

P.O. Box 23254, Federal Way, WA 98093 • Office: (253) 941-0654 • Cel: (253) 266-2838 • Fax: (253) 941-2705

References

GeoEngineers Inc., 2007 a. *Remedial Investigation/Feasibility Study and Cleanup Action Plan, Potential City of Olympia City Hall, The Rants Group, Olympia, Washington.* April 24, 2007.

GeoEngineers Inc., 2007 b. *Draft Remedial Investigation/Feasibility Study and Conceptual Cleanup Action Plan Port of Olympia, Olympia, Washington.* December 20, 2007.

Table 1. East Bay Groundwater Elevations, Port of Olympia
July 16, 2008 (Low Tide of -1.4 ft MLLW @ 11:25 AM)

Station	Time	MW Elevation (1) (ft)	Depth to Water from TOC (ft)	Groundwater Elevation (ft)	Depth to Bottom of Well (ft)	Measurer
MW-1	1222	10.78	4.40	6.38	8.55	PS
MW-2	1200	10.41	3.65	6.76	10.03	PS
MW-3	1206	11.05	4.79	6.26	11.35	PS
MW-4	1141	11.7	5.69	6.01	14.55	PS
MW-5	1244	11.69	4.19	7.50	11.39	PS
MW-6	1157	10.26	1.14	9.12	11.78	SD
MW-7	1213	10.99	5.03	5.96	10.50	SD
MW-8	1205	11.32	2.62	8.7	11.91	SD
MW-9	1231	10.78	2.65	8.13	7.94	PS
MW-10	1235	11.39	3.55	7.84	10.90	PS
MW-11	1145	11.07	3.42	7.65	9.45	SD
MW-12	1135	10.37	9.40	0.97	11.30	SD
MW-13	1151	9.91	4.26	5.65	9.40	SD
MW-14	1221	10.74	1.59	9.15	9.33	SD
MW-15	1242	9.86	4.09	5.77	7.79	SD
MW-16	1212	11.4	5.32	6.08	15.00	PS
MW-17	1158	10.28	2.85	7.43	6.74	PS
MW-18	1134	12.21	No water, but wet @ bottom	0.73 (2)	11.40	PS
MW-19	1150	9.38	3.78	5.6	8.45	PS
MW-20	1154	10.06	5.70	4.36	8.90	PS

TOC = Top of Casing
PS = Paul Stemen, Stemen Environmental
SD = Suzanne Dudziak, Greylock Consulting LLC

(1) Elevations surveyed by Skillings Connelly

(2) Estimated assuming groundwater elevation is at bottom of well

Table 2. East Bay Groundwater Elevations, Port of Olympia
July 16, 2008 (High Tide of 14.4 ft MLLW @ 7:21 PM)

Station	Time	MW Elevation (1) (ft)	Depth to Water from TOC (ft)	Groundwater Elevation (ft)	Depth to Bottom of Well (ft)	Measurer
MW-1	1948	10.78	4.39	6.39	8.55	PS
MW-2	1945	10.41	3.70	6.71	10.03	PS
MW-3	1935	11.05	5.78	5.27	11.35	PS
MW-4	2006	11.7	5.65	6.05	14.55	PS
MW-5	2015	11.69	4.21	7.48	11.39	PS
MW-6	2015	10.26	1.05	9.21	11.78	SD
MW-7	1942	10.99	5.00	5.99	10.50	SD
MW-8	1930	11.32	2.55	8.77	11.91	SD
MW-9	2019	10.78	2.60	8.18	7.94	PS
MW-10	1928	11.39	3.48	7.91	10.90	PS
MW-11	--	11.07	NM	--	9.45	--
MW-12	1920	10.37	7.11	3.26	11.30	SD
MW-13	2010	9.91	4.23	5.68	9.40	SD
MW-14	1936	10.74	1.48	9.26	9.33	SD
MW-15	1953	9.86	4.09	5.77	7.79	SD
MW-16	2010	11.4	5.41	5.99	15.00	PS
MW-17	1958	10.28	2.93	7.35	6.74	PS
MW-18	2001	12.21	6.56	5.65	11.40	PS
MW-19	1951	9.38	3.68	5.7	8.45	PS
MW-20	1954	10.06	5.70	4.36	8.90	PS

TOC = Top of Casing
PS = Paul Stemen, Stemen Environmental
SD = Suzanne Dudziak, Greylock Consulting LLC
NM = Not measured; well inaccessible

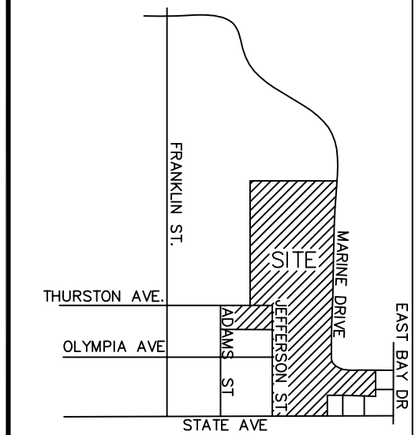
(1) Elevations surveyed by Skillings Connelly

Table 3. Change in Water Level from Low to High Tide, July 16, 2008
East Bay Site, Port of Olympia

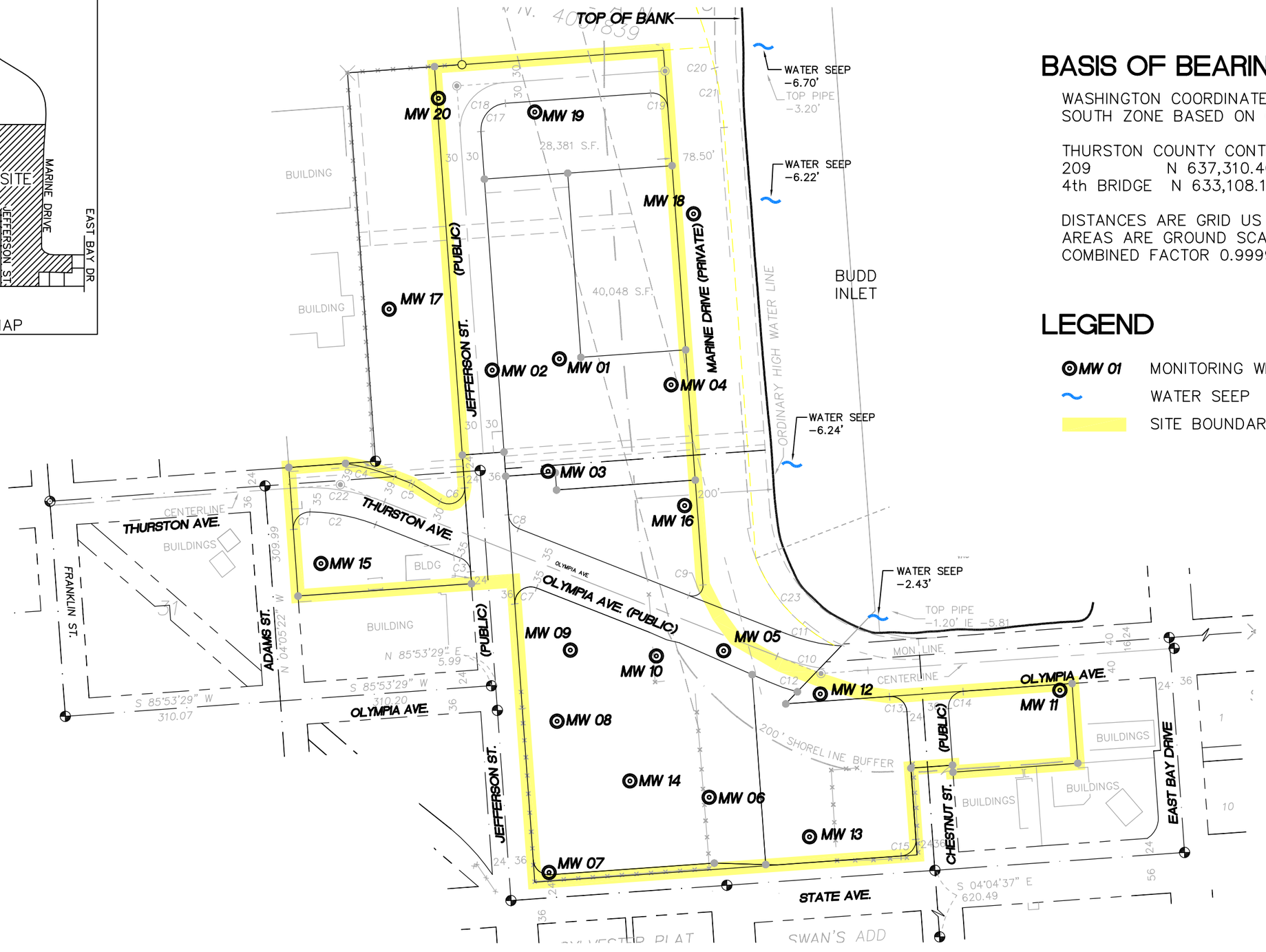
Station	Change in Water Level (ft)
MW-1	0.01
MW-2	-0.05
MW-3	-0.99
MW-4	0.04
MW-5	-0.02
MW-6	0.09
MW-7	0.03
MW-8	0.07
MW-9	0.05
MW-10	0.07
MW-12	2.29
MW-13	0.03
MW-14	0.11
MW-15	0.00
MW-16	-0.09
MW-17	-0.08
MW-18	4.84
MW-19	0.10
MW-20	0.00

Low tide of -1.4 ft MLLW @ 11:25 AM

High tide of +14.4 ft MLLW @ 7:21 PM



NTS VICINITY MAP



BASIS OF BEARINGS

WASHINGTON COORDINATE SYSTEM NAD83/91,
SOUTH ZONE BASED ON GPS RTK TIES TO:

THURSTON COUNTY CONTROL POINTS:
209 N 637,310.40, E 1,043,912.62
4th BRIDGE N 633,108.13, E 1,040,037.40

DISTANCES ARE GRID US SURVEY FEET
AREAS ARE GROUND SCALE
COMBINED FACTOR 0.99996

LEGEND

- MW 01 — MONITORING WELL
- WATER SEEP
- SITE BOUNDARY

SCALE: 1"=150 FEET

0 75 150 300

CPS August 19, 2008 – C:\clients\Greylock\eastbay.dwg

P.O. Box 23254
Federal Way, WA 98093
Office: (253) 941-0654
greylockllc@comcast.net

GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE: FIGURE 1
SITE PLAN

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS

DATE: 08/19/08

SHEET NO: 1

TOP OF BANK

WATER SEEP
−6.70'
TOP PIPE
−3.20'

WATER SEEP
−6.22'

WATER SEEP
−6.24'

WATER SEEP
−2.43'
TOP PIPE
−1.20' IE −5.81

BUDD
INLET

ORDINARY HIGH WATER LINE

MW 20
(4.36)

MW 19
(5.60)

MW 18
(0.73)

MW 17
(7.43)

MW 02
(6.76)

MW 01
(6.38)

MW 04
(6.01)

MW 03
(6.26)

MW 16
(6.08)

MW 15
(5.77)

MW 09
(8.13)

MW 10
(7.84)

MW 05
(7.50)

MW 12
(0.97)

MW 11
(7.65)

MW 08
(8.70)

MW 14
(9.15)

MW 06
(9.12)

MW 13
(5.65)

MW 07
(5.96)

JEFFERSON ST. (PUBLIC)

MARINE DRIVE (PRIVATE)

THURSTON AVE.

OLYMPIA AVE. (PUBLIC)

OLYMPIA AVE.

STATE AVE.

CHESTNUT ST. (PUBLIC)

EAST BAY DRIVE

ADAMS ST.

FRANKLIN ST.

200' SHORELINE BUFFER

BUILDING

BUILDINGS

BLDG

28,381 S.F.

40,048 S.F.

78.50'

309.99

S 85°53'29" W
310.07

N 04°05'22" W

N 85°53'29" E
5.99

S 85°53'29" W
310.20

S 04°04'37" E
620.49

SCALE: 1"=150 FEET

0 75 150 300

LEGEND

- MW 01 — MONITORING WELL
- WATER SEEP
- SITE BOUNDARY
- 7.0 — GROUNDWATER ELEVATION (IN FT. ABOVE MEAN SEA LEVEL)
- DIRECTION OF GROUNDWATER FLOW

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TITLE: **INFERRED & GENERALIZED GROUNDWATER CONTOURS**
Groundwater Elevations Date: July 16, 2008 – LOW TIDE
(−1.4 ft MLLW @ 11:25 AM)

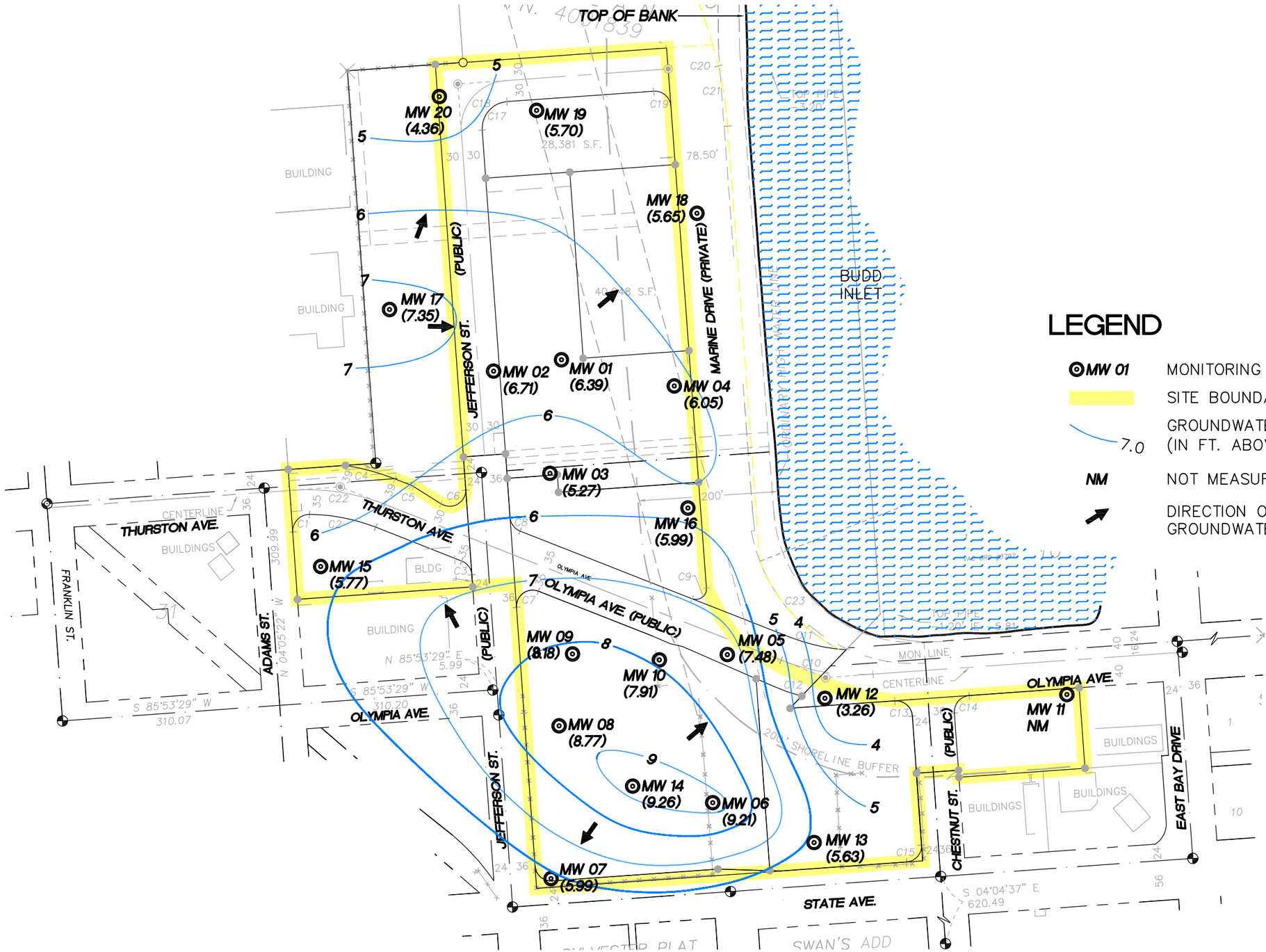
East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS

DATE: 08/19/08

SHEET NO: 2

CPS August 19, 2008 – C:\clients\Greylock\eastbay.dwg



LEGEND

MW 01	MONITORING WELL
	SITE BOUNDARY
7.0	GROUNDWATER ELEVATION (IN FT. ABOVE MEAN SEA LEVEL)
NM	NOT MEASURED, INACCESSIBLE
	DIRECTION OF GROUNDWATER FLOW

SCALE: 1"=150 FEET

0 75 150 300

CPS August 19, 2008 – C:\clients\Greylock\eastbay.dwg

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Federal Way, WA 98093
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greylockllc@comcast.net

GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE: **INFERRED & GENERALIZED GROUNDWATER CONTOURS**
Groundwater Elevations Date: July 16, 2008 – HIGH TIDE (+14.4 ft MLLW @ 7:21 PM)

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS

DATE: 08/19/08

SHEET NO: 3

APPENDIX C

ARTESIAN WELL SEARCH AND DECOMMISSIONING DOCUMENTATION

Port of Olympia

MEMORANDUM

DATE: 28 October 2008

TO: Project File

FROM: Al Kulp, East Bay Project Manager

RE: Artesian Well Search

During the week prior to the above date Mr. Eric Egge, the Port of Olympia Engineering Technical Services Coordinator, did a literature search through Port records to reconcile possible well locations provided by Mr. Steve Teel, the DOE East Bay Program Manager. Other artesian well location notes and sketches exist from City, County and building demolition sources. One of the sketches appeared to coincide with well number 47C, as listed on the DOE sketches, which were verified to have been provided by Mr. Gerald Tousley at the Thurston County Health Department. Based on that information, Mr. Paul Wallace, Port of Olympia Marina Maintenance Supervisor; Mr. Egge; and Mr. Al Kulp, Port of Olympia East Bay Engineering Project Manager attempted to locate the artesian wells from dimensions posted on the Tousley drawings, and other historical information. With the possible wells, and other known utilities in the area located, Mr. Egge investigated the area using a Schonstedt Magnetic Locator. Only one well location, Well 47C, had strong indications that a mass of vertical metal may be buried near the dimensioned well location. Based on that information, Kulp consulted with his supervisor who concurred that it was worth the effort to carefully excavate near Well 47C in an effort to locate a possible artesian well casing. From other historical data from local citizens, reference was made to several "artesian wells" on the East Bay site including at the ground level of Olympia Veneer building that was located on parcel #3 until the late 1960s or early 1970s.

On this date, Kulp coordinated with Mr. Paul Stemen, a licensed & bonded environmental contractor currently working on the East Bay site, to carefully excavate the area near Well 47C. It was agreed that all safety plans used during the nearby work would be in effect for this excavation. Kulp and Stemen decided to excavate with a Case 580 Extend-a-Hoe; starting a few feet to the east of the 18 inch circle that described the most likely location of this artesian well. At approximately 2.5 FT water was noted entering the hole. Very carefully Mr. Stemen excavated north to south moving the bucket slightly westward with each bite. Numerous pieces of #3 & #4 rebar and broken pieces of concrete were encountered. Near the assumed Well 47C location excavation continued to a depth greater than 7 FT. No well casing was located at a depth well below the grade beams supporting the ground level of the Olympia Veneer building within a 5 FT radius of the assumed Well 47C ground zero.

Within the 18-inch circle describing the possible location of Well 47C, two concrete support post bases were excavated that contained several steel bolts and steel strapping that was the likely source of the magnetic locator indication near the assumed Well 47C location. The area excavated exposed many pieces of reinforced concrete that was a grade beam system below the ground level of the Olympia Veneer building that probably tied together the concrete bases that supported the load from the building's structural wooden posts. Since we excavated below the grade beam elevation and the historical information indicates artesian wells were located at or above ground level of the building, we must assume that if artesian well casings were in this area we would have found the casings. After the majority of the steel was removed from the excavated area, Mr. Egge again checked the area exposed below the grade beam with the Schonstedt Magnetic Locator. No further major sources of metal were noted in the area below the pool of water in the bottom of the pit.

During the excavation process, Mr. Tory Bussey, representing Pioneer Technologies, inspected the excavation. He noted informally that based on his prior work with other technologies, including ground radar, the amount of rebar and other steel that was exposed in the Well 47C excavation would render other technologies non effective to locate artesian well casings. Since the Olympia Veneer building had a large footprint on parcels 2 & 3, it is likely that rebar will be present throughout the entire area that comprised the water contour "hump" that was noted as problematic to the DOE Program Manager; therefore, leading to the request to decommission artesian wells in this area.

During the excavation, water was noted seeping from the ground throughout the site. Water formed a pool that filled to approximately three feet below ground. Bubbles were noted percolating from the bottom of the pool as long as the excavated pit was exposed. Indications of water seeping through what is possibly a shallow ground aquifer was apparent during this excavation process, and was also noted by Port staff who have excavated in parcel #3 for various reasons over the years. Port staff indicated that water production increased after the last major earthquake.

Based on the above indications it appears that it is likely that any artesian well casings that did exist were likely removed before or during the Olympia Veneer building demolition, and the amount of metal buried in the top several feet of fill precludes the use of ground radar or other metal sensing devices to more accurately locate well casings.

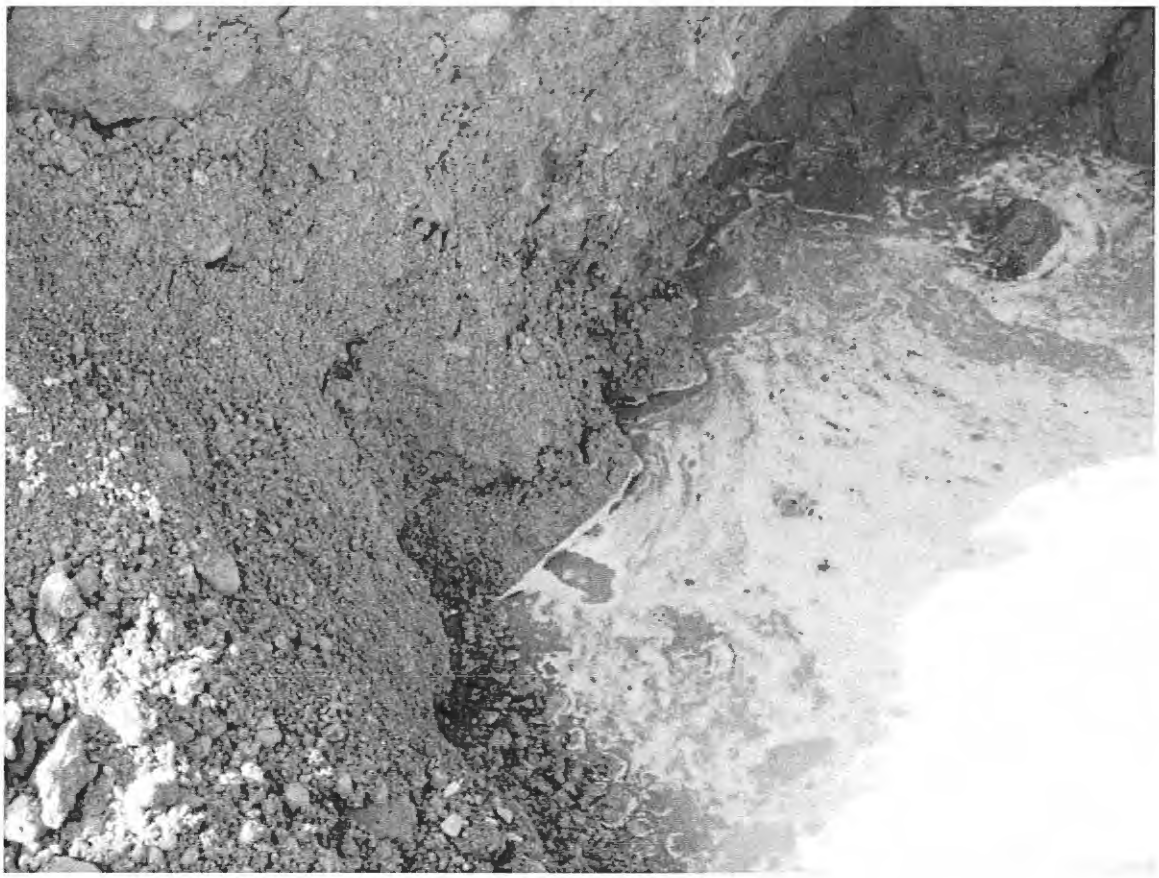
It is assumed that parts, if not all, of the East Bay infrastructure project construction process will be accomplished in wet material, and appropriate construction effluent processing is included in that scope of work; therefore, further exploration to decommission artesian wells in parcels 2 & 3 are not a cost effective measure to control construction effluent for the infrastructure project. It is possible that if artesian wells exist on the East Bay site, they will be located during the parcel cleanup process that will follow the infrastructure construction.

Well 47C Ground Zero

Water Seeping at 2.5 FT

Column Support Steel

Grade Beam Rebar



Bubbles in the pool of water

GREYLOCK
CONSULTING LLC

Water Resources & Environmental Services

To: Kevin Dragon, Port of Olympia

From: Suzanne Dudziak, Greylock Consulting LLC

cc: Joanne Snarski, Port of Olympia

Date: May 20, 2009

Re: Findings of Artesian Well Search, East Bay Project

This memo provides a summary of the findings of field work completed on March18, March 19, and April 7, 2009 at the East Bay Site.

Purpose

The purpose of the field work was to locate possible artesian wells in accordance with the Excavation Plan dated February 27, 2009.

A geophysical survey was completed in January, 2009. Four geophysical targets were detected during this survey. A map showing approximate locations of the geophysical targets provided in Figure 1. In March and April, 2009 follow-on testing was completed to determine if these targets were artesian wells.

Test Pit 1/AW-1

Test Pit 1 (TP-1) was excavated at the Probable Well location on Parcel 9 (Figure 1). The dimensions of TP-1 were approximately 6.5 ft by 7.5 ft by 2.5 ft in depth. No water was observed in the test pit at this depth. No sheen or odor was observed in soil from the test pit.

A capped well approximately 1.5 ft below grade was discovered. The well is a 3-inch Inner Diameter (I.D.) steel well with a 3.5-inch Outer Diameter (O.D.). No concrete or other sealants were observed around the well. No water seepage was observed coming from the capped area or from around the casing. For the purposes of this investigation, the well will be named AW-1 (Artesian Well 1).

Photos of TP-1/AW-1 are provided in Attachment A. As seen in the photos, a small capped pipe was observed close to AW-1. A very small amount of water was draining from that pipe into the test pit.

Excavated soil was temporarily stockpiled on a 10 mil visqueen liner. Conductor casing was installed around AW-1. Excavated soil was returned to TP-1 and compacted around the conductor casing for stability. AW-1 was surveyed by a licensed surveyor (Figure 2).

On April 7, 2009 testing was performed by Hokkaido Drilling to identify the depth, static head, and flow of AW-1. The following information was collected:

- Depth: 83.6 ft below ground surface
- Static Head: 7.44 ft above ground surface
- Flow Rate: 20 gpm

Test Pit 2/P-1

Test Pit 2 (TP-2) was excavated at the Probable Well location on the southwest area of Parcel 3 (Figure 1). Mr. Bill Lum of Department of Ecology observed the excavation of this test pit.

Water entered the test pit at about 1 ft below grade. During excavation of TP-2, a petroleum sheen and a small amount of oil was observed on the water in the excavation. Water from the excavation was pumped to a storage tank.

The dimensions of TP-2 were approximately 8 ft by 8 ft by 3 ft in depth. A circular metal pipe approximately 10-inches in diameter, with an outer pipe approximately 12-inches in diameter, with a large metal plate was encountered. A metal strap was also observed near this structure. The 10-inch diameter pipe was filled with concrete. Bill Dodge of Hokkaido Drilling inspected these pipes. He stated that he believed this structure was not a well. Photos of TP-2/P-1 are provided in Attachment A.

Soil from this test pit contained sheen, but minimal odor. Soil from TP-2 was transported to Parcel 4 and placed on and covered with 10-mil visqueen.

A wood stake was placed on top of the metal structure and TP-2 was backfilled with clean imported 1 to 3-inch diameter quarry spalls and gravel. Backfill materials were compacted for stability. The wood stake was painted orange. The stake was surveyed (Figure 2).

Test Pit 3

Test Pit 3 (TP-3) was excavated at the Possible Well location on the north-central part of Parcel 3 (Figure 1). This location was in the area where Al Kulp, a former Port of Olympia employee, had previously excavated soils (in the middle of the roadway).

During the excavation of TP-3, metal rebar and metal strapping was encountered. Minimal seepage of water occurred during the excavation. An area 8 ft by 8 ft by 4 ft deep was excavated with no evidence of an artesian well. Using a magnetometer, Phil Duoos believed he detected metal at one corner of the excavation, therefore, we expanded and deepened the test pit to 8 ft by 12 ft by 5 ft deep. We continued to encounter metal and rebar at this depth. It's likely that the magnetometer was detecting this metal and rebar; therefore we terminated the test pit.

At the time of backfilling, water had recharged into the test pit to about 2 ft below grade. TP-3 was backfilled with clean imported 1 to 3-inch diameter quarry spalls and gravel and compacted. Surplus excavated material was stockpiled on Parcel 4 until and covered with visqueen. Photos of TP-3 are provided in Attachment A.

Test Pit 4/P-2

Test Pit 4 (TP- 4) was excavated at the Possible Well location approximately 40 ft southeast of TP-3 (Figure 1). Steve Teel of Ecology arrived at the site at the time we uncovered a possible well. The dimensions of TP- 4 were approximately 7.5 ft by 7.5 ft by 3 ft in depth. Water entered the test pit very quickly at a depth of approximately 1 ft below grade. No sheen or odor was observed in soil or water from the test pit.

A small diameter pipe approximately 1.5 ft below grade was discovered. The pipe had a metal plate welded onto the top. The pipe had a 2.5-inch O.D. No concrete or other sealants were observed around the pipe.

No water seepage was observed coming from the capped area or from around the casing. However, significant seepage was observed coming from the sides of the test pit.

Excavated soil was temporarily stockpiled on a 10 mil visqueen liner. Conductor casing was installed around the pipe. TP-4 was backfilled with clean imported 1- to 2-inch gravel to the water table. Soil from the test pit was placed above the gravel and compacted. Surplus excavated material was stockpiled on Parcel 4 until and covered with visqueen.

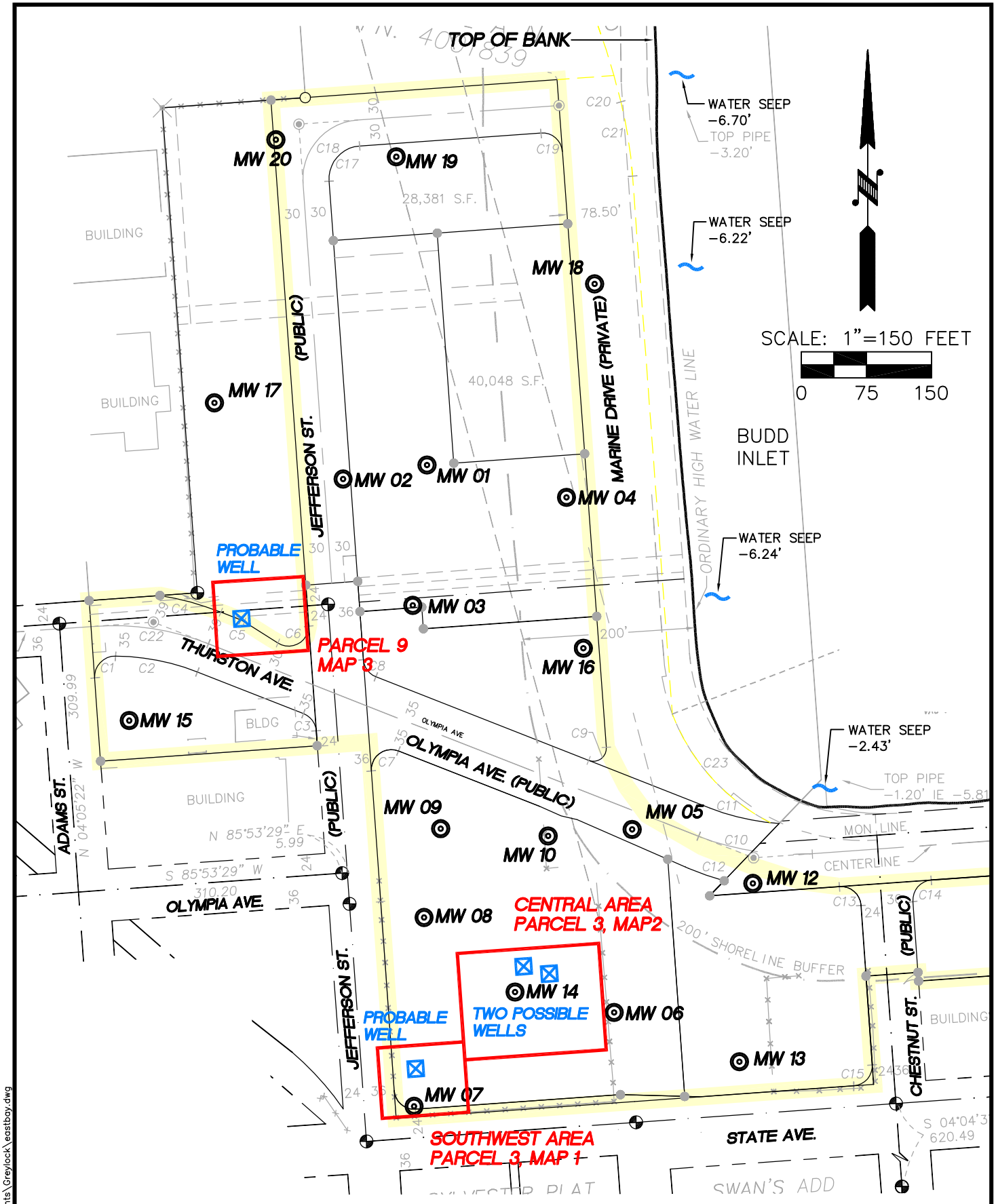
On April 7, 2009, Hokkaido Drilling was onsite to test the possible well at this location. The welded metal plate was removed and no flow from the pipe was observed. A depth sounder was dropped inside of the metal pipe. Refusal was encountered at 1.5 ft below the top of the pipe. It was determined that this pipe was not an artesian well. The pipe (P-2) was capped and surveyed (Figure 2). Photos of TP-4/P-2 are provided in Attachment A.

AW-2

There is a known artesian well beneath the rail tracks on the East Bay Site (AW-2). At the time of our investigation, the well was under water and could not be accessed. However, the location was surveyed and is shown on Figure 2.

Attachments

Figure 1 - General Site Plan, Geophysical Survey Areas
Figure 2 - Artesian Well Findings
Attachment A – Field Photos



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GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE:

FIGURE 1
GENERAL SITE PLAN
GEOPHYSICAL SURVEY AREAS

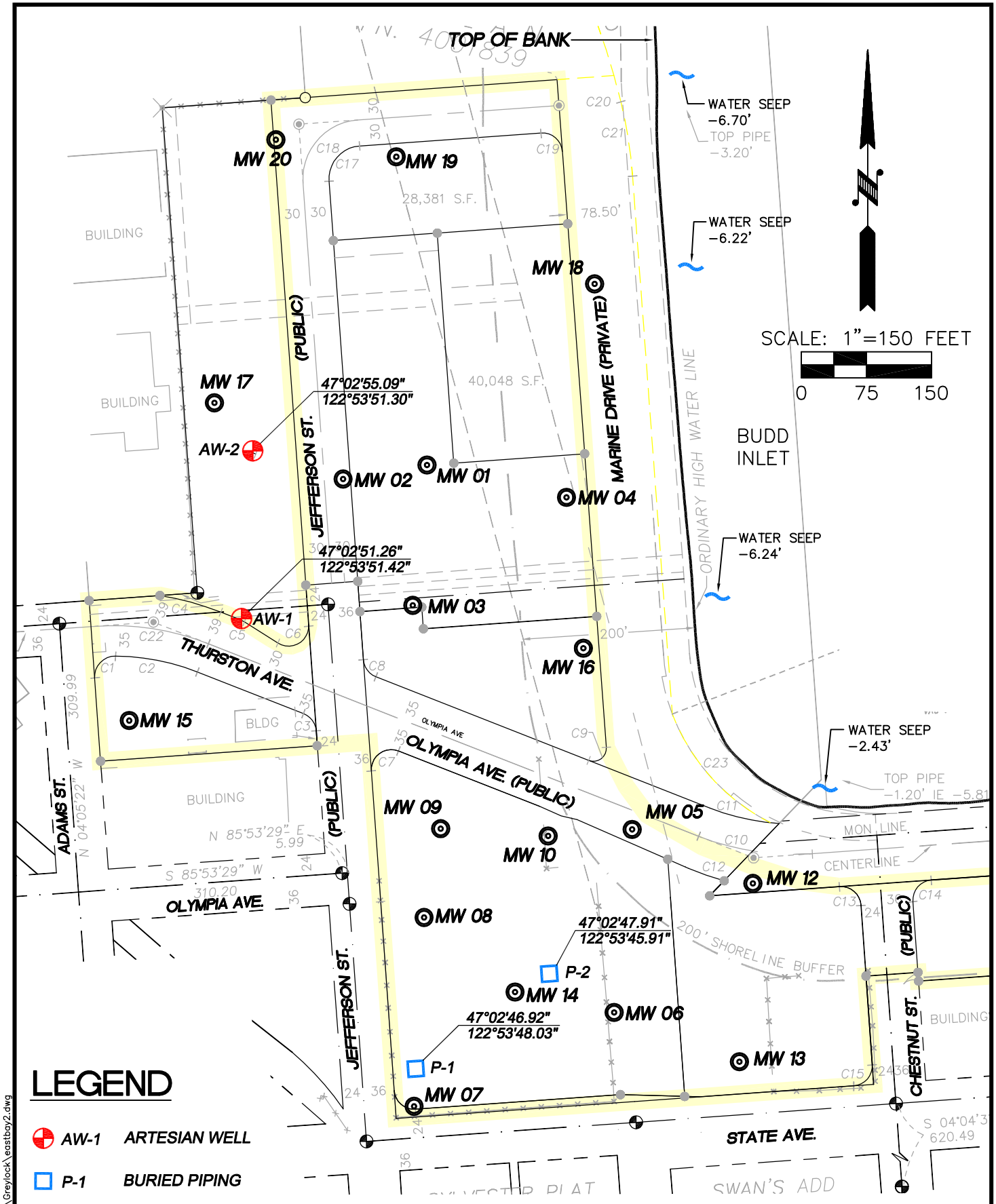
East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS

DATE: 02/04/09

SHEET NO: 1

CPS February 4, 2009 – C:\clients\Greylock\eastbay.dwg



LEGEND

- AW-1 ARTESIAN WELL
- P-1 BURIED PIPING

GREYLOCK CONSULTING LLC
Water Resources & Environmental Services
P.O. Box 23254
Federal Way, WA 98093
Office: (253) 941-0654
greylockllc@comcast.net

TITLE:

FIGURE 2
ARTESIAN WELL FINDINGS

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS

DATE: 04/21/09

SHEET NO: 1

CPS April 22, 2009 – C:\clients\Greylock\eastbay2.dwg

ATTACHMENT A - FIELD PHOTOS

Test Pit 1/AW-1

Test Pit 2/P-1

Test Pit 3

Test Pit 4/P-2

AW-2

MEMORANDUM

Project No.: 080205

July 30, 2009

To: Kevin Dragon, PE, Port of Olympia

cc: Suzanne Dudziak, LHG, Greylock Consulting, LLC

From: Tyson D. Carlson, LHG
Senior Project Hydrogeologist

Doug Hillman, LHG
Principal Hydrogeologist

Re: **Artesian Well Decommissioning: Summary of Field Work**
Port of Olympia – East Bay Redevelopment

The purpose of this memorandum is to document the well decommissioning work completed on July 20 and 21, 2009 at the Port of Olympia, East Bay Redevelopment site. All work was completed by Arcadia Drilling of Shelton, Washington. Suzanne Dudziak of Greylock Consulting (Greylock) and Tyson Carlson of Aspect Consulting, LLC (Aspect) provided field oversight. Bill Lum and John Pearch of the Washington State Department of Ecology (Ecology) and Sara Brallier representing Thurston County Public Health and Social Services were also periodically on site to observe and discuss the ongoing work.

Artesian Well AW-1 was decommissioned and AW-2, the second well planned for decommissioning, could not be found. After an extensive search for the wellhead, we concluded – with concurrence from Ecology and Thurston County – that AW-2 was not located in the railroad bay and likely does not exist. Photographs of each location are included as Attachment A.

Artesian Well AW-1

Decommissioning of AW-1 was completed in general accordance with the Artesian Well Decommissioning Work Plan prepared by Aspect (dated May 4, 2009), the Work Plan Addendum (dated May 29, 2009), and the approved variance from Ecology (dated June 23, 2009). Any deviation from the procedures specified in these documents was approved in the field by Bill Lum.

Artesian Well AW-1 was decommissioned by filling the casing with bentonite and constructing a surface seal by overdrilling the casing and placing bentonite chips to a depth of 6 feet below ground surface (bgs). The Water Well Report prepared by Arcadia Drilling documenting the decommissioning of AW-1 is included as Attachment B for reference. A copy of the report has been submitted to Ecology.

Artesian Well AW-2

Prior to driller mobilization, the railroad tracks and ties were removed by the general contractor working on the East Bay project. In addition, dewatering of the adjacent utility trenches removed the standing water from the railroad bay. Therefore, no further pumping was required to access the bay.

The AW-2 wellhead was anticipated to be located in the concrete vault located on the floor of the railroad bay; however, inspection of the vault indicated that the structure was a sump and no wellhead was present. The sump was approximately 24 inches deep, with perforated sides to allow the inflow of water.

A small trackhoe was used in an effort to locate the wellhead. The sump was excavated to ensure the wellhead was not buried beneath it. The excavation was slowly advanced the width of the bay, a length of 25 feet, and to a depth of 3 to 4 feet below the grade of the railroad bay, or approximately 7 to 8 feet bgs. No wellhead was encountered. The only obstacles located were a corrugated metal drain pipe running down the center of the bay, and a 2-inch PVC pipe. The PVC pipe was excavated an additional ~60 feet down the length of the bay to confirm it was not associated with the artesian well.

During the excavation, water was pumped from below grade with a small trash pump capable of approximately 20 gallon per minute (gpm). Discharge from the pump was routed to the temporary construction water treatment facility.

Following completion of the excavation, the pump was turned off and the turbid water was observed for signs of small currents or signs of inflow of clean water. No such observations were made by either Aspect or Ecology. It was therefore concluded by Greylock and Aspect (in agreement with Ecology and Thurston County) that AW-2 was not located in the railroad bay and likely does not exist.

Attachments

Attachment A – Photographs of AW-1 and AW-2 locations
Attachment B – Water Well Report, Arcadias Drilling

V:\080205 Port of Olympia E Bay Redevelopment\Deliverables\Field Confirmation Letter\Field Confirmation Letter.doc

ATTACHMENT A

Photographs of AW-1 and AW-2 Locations

Photograph 1 – Overdrilling AW-1 prior to constructing the surface seal.

Photograph 2 – Hydrating the bentonite surface seal at AW-1.

Photograph 3 – Excavated concrete vault (sump) in railroad bay (AW-2).

Photograph 4 – Corrugated drainage pipe in railroad bay (AW-2).

ATTACHMENT B

Water Well Report
Arcadias Drilling

WATER WELL REPORT

ECOLOGY

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

Construction/Decommission *("x" in circle)*

☐ Construction

☒ Decommission *ORIGINAL INSTALLATION*

Notice of Intent Number _____

PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____

☐ New well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 2 inches, drilled 86 ft.

Depth of completed well 86 ft.

CONSTRUCTION DETAILS

Casing Installed: ☐ Welded _____" Diam. from _____ ft. to _____ ft.

☐ Liner installed _____" Diam. from _____ ft. to _____ ft.

☐ Threaded _____" Diam. From _____ ft. to _____ ft.

Perforations: ☐ Yes ☒ No

Type of perforator used _____

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location _____

Manufacturer's Name _____

Type _____ Model No. _____

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☐ No Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: ☒ Yes ☐ No To what depth? 6 ft.

Material used in seal BENTONITE CHIPS

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level FLOWING ft. below top of well Date 7/21/2009

Artesian pressure 4.7 lbs. per square inch Date 7/20/2009

Artesian water is controlled by BENTONITE (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☐ No If yes, by whom? _____

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer Test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

Artesian flow 20 g.p.m. Date 7/20/2009

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. AE06406

Unique Ecology Well ID Tag No. N/A

Water Right Permit No. EXEMPT WELL

Property Owner Name PORT OF OLYMPIA

Well Street Address 915 WASHINGTON ST NE

City OLYMPIA County THURSTON

Location SE 1/4-1/4 NW 1/4 Sec 14 Twn 18N R 2W EWM ☐ Check Or WWM ☐ One

(s, t, r Still REQUIRED)

Lat/Long Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No. (Required) 66130000100

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
DONE IN ACCORDANCE WITH		
WAC 173-160-381-(4)		
SEE ATTACHED VARIENCE		

Start Date 07/20/2009 Completed Date 07/21/2009

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print) ROGER PHYTHIAN

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. 2053

IF TRAINEE: Driller's License No: _____

Driller's Signature: _____

Drilling Company ARCADIA DRILLING INC

Address PO BOX 1790

City, State, Zip SHELTON , WA , 98584

Contractor's Registration No. ARCADDIO98K1 Date 07/21/2009

APPENDIX D

GREYLOCK CONSULTING PILOT DEWATERING TEST REPORT

DRAFT

PILOT DEWATERING TEST
PORT OF OLYMPIA EAST BAY SITE
OLYMPIA, WASHINGTON
NOVEMBER 5, 2008

Prepared For:

Skillings Connolly Inc. & Port of Olympia

Prepared By:

GREYLOCK CONSULTING LLC

GC Project No. 0380

TABLE OF CONTENTS

1.0 INTRODUCTION

This report presents the findings of a pilot dewatering test completed at the Port of Olympia's East Bay site located in Olympia, Washington. The project work was completed in accordance with our proposal dated August 20, 2008 and our Work Plan dated September 10, 2008.

The Port of Olympia (Port) is constructing new infrastructure on Port property and nearby right-of-way called the East Bay Site (Site). The site is located on the south end of the Port Peninsula adjacent to the East Bay of Budd Inlet in Olympia, Washington (Figure 1). This site has been the subject of several environmental studies (GeoEngineers, 2007a, b, Greylock, 2008).

The site consists of approximately 13.6 acres of mixed use and commercial properties. The project area is generally flat. The northern and western portions of the site are paved with asphalt, and the southern and eastern portions of the site are covered with crushed rock and bare land.

Shallow groundwater occurs at approximately 1 to 7 ft below ground surface (bgs) across the site, with an average depth of approximately 4 ft bgs. Previous studies indicate that shallow groundwater within approximately 110 ft of Budd Inlet is tidally influence (Greylock, 2008). Tidal influence has not been observed in shallow groundwater further inland.

2.0 BACKGROUND

The Port has been working with Ecology to accomplish both the cleanup and development of the site. Skillings Connolly (Skillings) is preparing engineering documents and construction specifications for the Port. Pilot dewatering tests were completed for Skillings and the Port to evaluate issues associated with management of construction water.

In a letter from Mohsen Kourehdar of Ecology to Jeffrey Lincoln of the Port on July 17, 2008, Ecology outlined the requirements for approval of an individual NPDES permit for discharge of water from the site (Appendix A). Specific treatment methodologies were outlined as well as discharge limits for chemicals of concern (COCs). Ecology stated that the specified treatment technologies of suspended solid removal followed by activated carbon treatment will qualify as an all known, available, and reasonable methods of prevention, control and treatment (AKART).

A short-term, pilot dewatering test was completed in two locations at the site to evaluate aquifer characteristics and to provide data to determine the efficiency of the AKART specified in Ecology's July 17, 2008 letter (solid removal followed by treatment using activated carbon). One test location was located in an area with suspected tidal influence and one test location was located in an area where tidal influence was not anticipated. Test areas are shown in Figure 2.

3.0 SCOPE OF WORK

The scope of our investigation included:

- Assisting contractor Stemen Environmental Inc. (Stemen) with set up of the test, in accordance with the Work Plan;
- Overseeing test pitting and pump testing;
- Collecting water level data from the dewatering well and closest monitoring wells;
- Collecting water samples in accordance with the Work Plan and submitting the samples to Test America in Tacoma, Washington;
- Preparing a report summarizing the findings.

Upon receipt of analytical results from Test America, additional pilot testing was performed at Test Area 2 to further evaluate the metals concentrations in effluent. Results from this testing is also summarized in this report.

4.0 FIELD INVESTIGATION

4.1 Test Area 1

4.1.1 Well Installation, Pump Testing, and Monitoring

On September 24, 2008, Stemen excavated a test pit approximately 14 ft by 11 ft by 13 ft and installed a temporary dewatering well. The temporary well, DWTest-1, was constructed of slotted15-inch diameter PVC drain pipe. Drain rock was installed around the well to approximately 2 ft bgs. A log of the test pit is provided in Appendix B. Following construction, water levels were noted. Groundwater was pumped to a storage tank until water was drawn down to approximately 12 ft bgs and a steady state pumping rate was achieved. The steady state pumping rate observed at this location was approximately 12 gallons per minute (gpm).

Water levels at MW-3 located approximately 100 feet from the temporary dewatering well were monitored before and during the test. No significant change in water level was observed at MW-3 during the test.

Upon completion of the test, the pump was turned off and water levels were collected from the temporary dewatering well. The transducer was not functioning during testing, therefore, all water level measurements were made by hand. Water level data collected during the test are provided in Appendix C.

4.1.2 Water Quality Testing

Water quality testing was performed to evaluate suspended solids removal followed by active carbon treatment. This treatment has been identified by Ecology as all known available and reasonable methods of prevention, control and treatment (AKART). In accordance with the September 10, 2008 Work Plan, water was pumped from DWTest-1, through a chitosan sock, to a storage tank, and through a carbon filter. A process flow diagram depicting the treatment train is shown in Figure 3. The short term pilot test was designed for a very large volume of flow. The actual field conditions yielded a very low flow rate, therefore, the volume of water pumped into the storage tank during the test was much less than anticipated (approximately 2,200 gallons). This volume of water did not rise high enough to flow out of the storage tank and through the carbon filter via gravity. In order to collect an effluent sample, water from the storage tank was actively pumped out of the storage tank so that it could flow through the carbon filter.

Influent samples (DW1Test-Influent) were collected prior to flowing through the chitosan sock, shown in Figure 3. Effluent samples (DW1Test-Effluent) were collected after the water passed through the carbon filter. Turbidity, pH, and Total Dissolved Solids (TDS) were monitored. Samples were stored at 4º C in a laboratory cooler and transmitted to Test America in Tacoma, Washington for the following analyses: Priority Pollutant Metals - NPDES by EPA 6000/7000 Series and PAHs and phthalates by EPA Low Level (LL) 8270. Results of the analyses are provided in Table 1.

4.2 Test Area 2

4.2.1 Well Installation and Monitoring

On September 25, 2008, Stemen excavated a test pit approximately 12 ft by 6 ft by 13 ft and installed a temporary dewatering well. The temporary well, DWTest-2, was constructed of slotted 15-inch diameter PVC drain pipe. Drain rock was installed around the well to approximately 1 ft below ground surface (bgs). A log of the test pit is provided in Appendix B.

Based on previous studies, Test Area 2 was assumed to be tidally influenced. Therefore, well construction occurred during low tide and pump testing was completed during high tide.

Prior to pumping, water levels were noted in the temporary dewatering well. Groundwater was pumped to a storage tank until water was drawn down to approximately 12 ft bgs and a steady state pumping rate was achieved. The steady state pumping rate observed at this location was approximately 20 gallons per minute (gpm). This pumping rate was observed within 2 hours after high tide.

Water levels at MW-4 located approximately 50 feet from the temporary dewatering well were monitored before and during the test. No significant change in water level was observed at MW-4 during the test.

Upon completion of the test, the pump was turned off and water levels were collected from the temporary dewatering well. Water level data collected during the test are provided in Appendix C.

4.2.2 Water Quality Testing

Water quality testing followed the same protocol as described in Section 4.1.2. Water was pumped from DWTest-2, through a chitosan sock, to a storage tank, and through a carbon filter (Figure 3). The actual field conditions yielded a very low flow rate, therefore, the volume of water pumped into the storage tank during the test was much less than anticipated (approximately 2,000 gallons). This volume of water did not rise high enough to flow out of the storage tank and through the carbon filter via gravity. In order to collect an effluent sample, water from the storage tank was actively pumped out of the storage tank so that it could flow through the carbon filter.

Influent samples (DWTest2-Influent) were collected prior to flowing through the chitosan sock, shown in Figure 3. Effluent samples (DWTest2-Effluent) were collected after the water passed through the carbon filter. Turbidity, pH, and Total Dissolved Solids (TDS) were monitored. Samples were stored at 4º C in a laboratory cooler and transmitted to Test America in Tacoma, Washington for the following analyses: Priority Pollutant Metals - NPDES by EPA 6000/7000 Series and PAHs and phthalates by EPA Low Level (LL) 8270. Results of the analyses are provided in Tables 1 and 2.

4.2.3 Test Area 2 Follow-On Testing

Follow-on testing was performed to further evaluate settlement time on metals concentrations at Test Location 2. Test Location 2 was selected because samples at this location contained the highest concentrations of metals.

From October 16 -18, 2008, water was pumped from DWTest-2 until the 21,000 gallon storage tank was approximately 3/4 full. Flow rates were approximately 20 gpm during high tides. During low tides, flow rates were intermittent, ranging from 0 to 10 gpm, with an average of 5 gpm. Intermittent flow was observed approximately 2 -1/2 hours after high tide.

Pumped water filled all three compartments of the storage tank prior to follow-on sampling. Three water samples were collected from all three compartments on October 18, 2008 prior to shutting of the pump. Samples were collected from the top of the water column with a disposable bailer. DW2-Comp1 was collected from the compartment that contained the discharge hose. DW2-Comp2 was collected from the center compartment. DW2-Comp3 was collected from the compartment furthest away from the discharge hose. Following sample collection the pump was shut off. Turbidity, pH, and Total Dissolved Solids (TDS) were monitored.

Samples were stored at 4º C in a laboratory cooler and transmitted to Analytical Resources, Inc. in Tukwila, Washington. Metals that exceeded Marine Chronic Surface Water Standards in previous testing and Total Suspended Solids (TSS) were analyzed.

On October 19, 2008, 24-hours after the pump was shut off, a water sample (DW2-Comp3A) was collected from the third compartment in the storage tank.

Results of the analyses are provided in Tables 1 and 2.

5.0 FINDINGS

5.1 Flow

Steady state flow rates measured at DWTest-1 and DWTest-2 ranged from approximately 12 to 20 gpm. Groundwater at DWTest-2 was confirmed to be tidally influenced. During low tide, the pumping rate ranged from 0 to 10 gpm. During high tide events, the pumping rate was approximately 20 gpm.

Water levels in monitoring wells within approximately 100 feet of DWTest-1 and 50 feet of DWTest-2 showed no significant change in elevation during the pumping tests.

Data from the pumping tests conducted at DWTest-1 and DWTest-2 were evaluated to assess hydraulic conductivity values for the shallow soils. Several methods were used in the analysis, yielding a multiple line of evidence approach. Three methods of data analysis consisted of:

- Calculating the total volume of water pumped relative to the estimated pore volume of the test pit;
- Estimating hydraulic conductivity using groundwater seepage/inflow rates from observed water level recovery, test pit dimensions, and Darcy's Law for porous media flow; and
- Using the Theis equation and best-fit (regression) straight line recovery data to estimate hydraulic conductivity.

Results of all analyses yielded hydraulic conductivity values between 2×10^{-3} and 7×10^{-3} cm/sec, which is typical for a silty sand formation as was observed in the test pits.

5.2 Water Quality

5.2.1 Organics

Influent concentrations of water from DWTest-1 contained five PAHs above Marine Human Health Water Quality Criteria. Carbon filtration was shown to be effective at removing PAHs from water as effluent concentrations contained non-detectable levels of these chemicals.

Influent concentrations of water from DWTest-2 contained no Semi-Volatile Organics above Marine Human Health Water Quality Criteria.

5.2.2 Metals

Elevated concentrations of metals were observed at DW-1 and DW-2 in both influent and effluent samples during the first, short term pilot test. Samples collected during this test

contained relatively high turbidity and may have been elevated due to excessive sediment in the water samples.

Follow-on testing with a larger volume of water showed significant reductions in metals concentrations. This larger volume of water is expected to be more representative of field conditions during construction. Water samples collected after sediment removal (chitosan sock and settlement) contained trace concentrations of arsenic, copper, nickel and selenium. All metals concentrations were below Marine Chronic Surface Water standards with the exception of copper.

6.0 LIMITATIONS

We have prepared this report for the exclusive use of Skillings Connolly and Port of Olympia as part of their evaluation of environmental conditions at the project area. Findings and conclusions in this report are based on pilot testing at two locations on the site. Given the variation in water levels and heterogeneity of soils across the site, conditions may be different at other locations of the site.

This assessment may reflect incomplete information provided by others. Other information on the Site or adjacent surrounding properties may exist. This assessment is based on the professional judgment and experience of Greylock Consulting LLC after review and consideration of available information.

This report was prepared for the exclusive use of Skillings Connolly and Port of Olympia. Greylock personnel performed this assessment in accordance with generally accepted standards of care that existed in the state of Washington at the time of this study. Our findings and conclusions have been prepared in accordance with generally accepted professional practices in the area at this time. We make no other warranty, either expressed or implied.

If you have any questions, please do not hesitate to contact us. We very much appreciate the opportunity to work with you.

Sincerely,

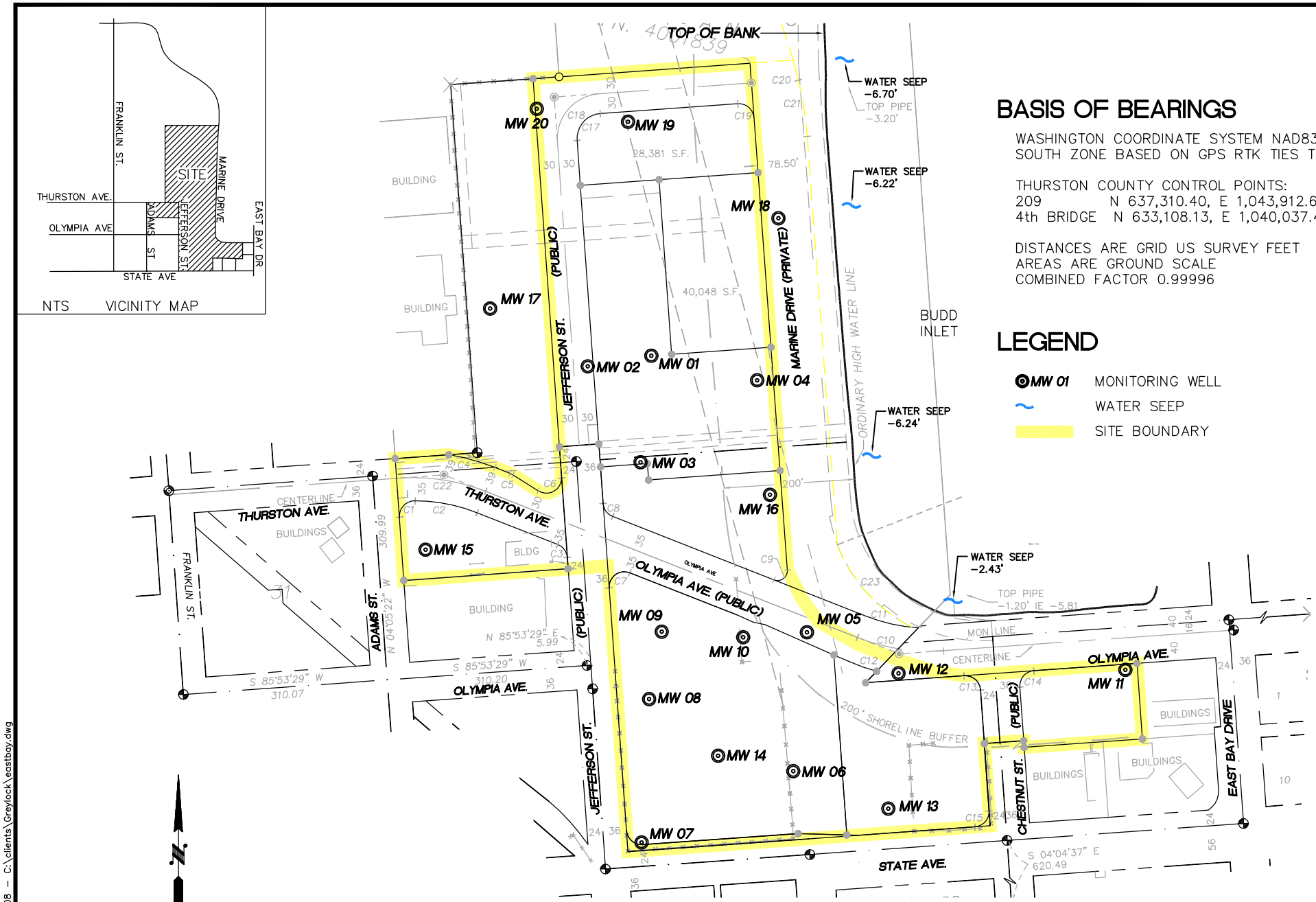
Suzanne Dudziak
Principal Hydrogeologist
Greylock Consulting LLC

7.0 REFERENCES

GeoEngineers Inc., 2007 a. *Remedial Investigation/Feasibility Study and Cleanup Action Plan, Potential City of Olympia City Hall, The Rants Group, Olympia, Washington.* April 24, 2007.

GeoEngineers Inc., 2007 b. *Draft Remedial Investigation/Feasibility Study and Conceptual Cleanup Action Plan Port of Olympia, Olympia, Washington.* December 20, 2007.

Greylock Consulting LLC, 2008. *Groundwater Flow During High and Low Tides, Port of Olympia East Bay Site, Olympia, Washington.* August 21, 2008.



NTS VICINITY MAP

BASIS OF BEARINGS

WASHINGTON COORDINATE SYSTEM NAD83/91,
SOUTH ZONE BASED ON GPS RTK TIES TO:

THURSTON COUNTY CONTROL POINTS:
209 N 637,310.40, E 1,043,912.62
4th BRIDGE N 633,108.13, E 1,040,037.40

DISTANCES ARE GRID US SURVEY FEET
AREAS ARE GROUND SCALE
COMBINED FACTOR 0.99996

LEGEND

- MW 01 — MONITORING WELL
- WATER SEEP
- SITE BOUNDARY

SCALE: 1"=200 FEET

0 100 200 400

P.O. Box 23254
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greylockllc@comcast.net

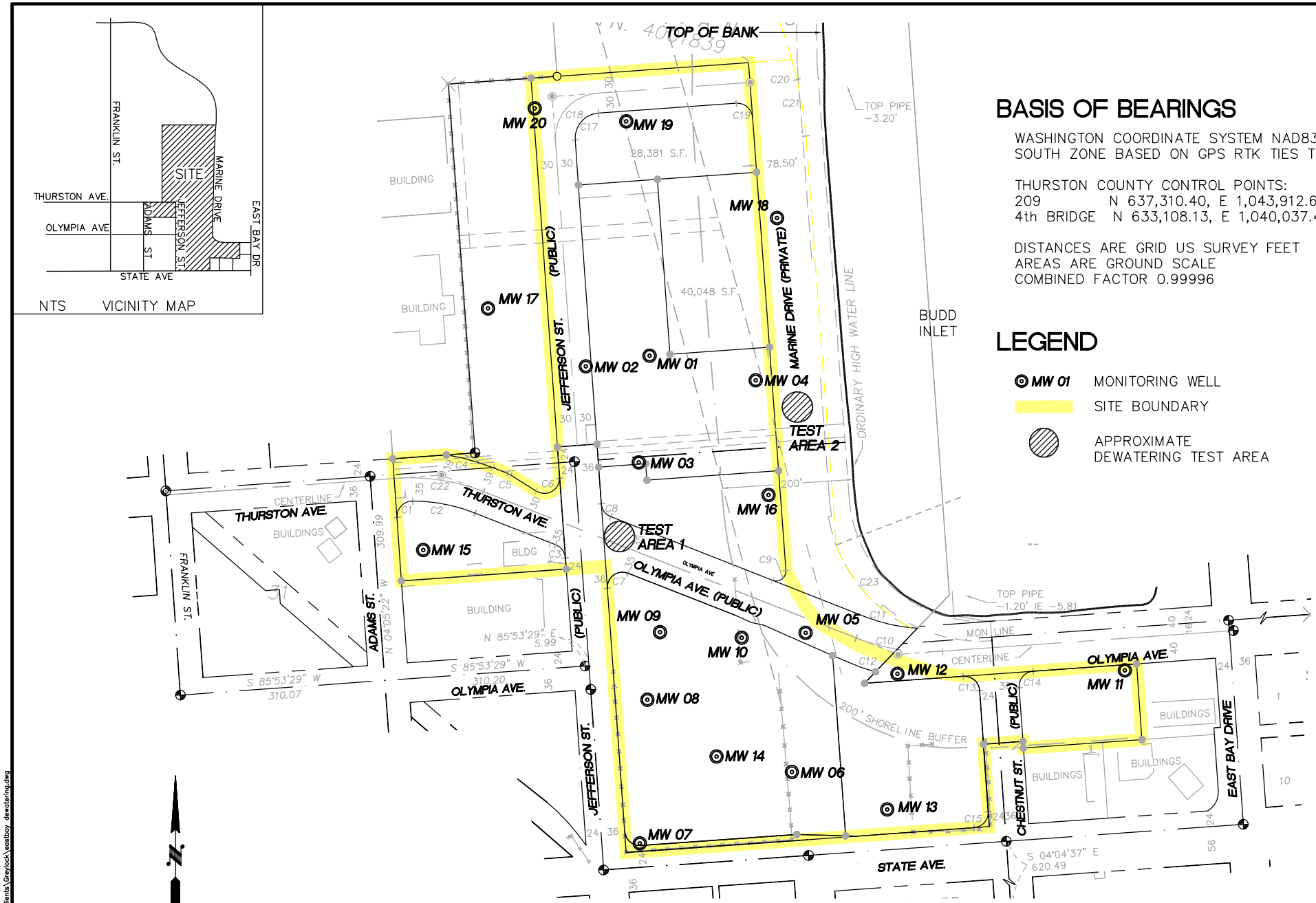
GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE: **FIGURE 1**
SITE PLAN

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS
DATE: 09/04/08
SHEET NO: 1

CPS September 04, 2008 – C:\clients\Greylock\eastbay.dwg



NTS VICINITY MAP

BASIS OF BEARINGS

WASHINGTON COORDINATE SYSTEM NAD83/91,
SOUTH ZONE BASED ON GPS RTK TIES TO:

THURSTON COUNTY CONTROL POINTS:
209 N 637,310.40, E 1,043,912.62
4th BRIDGE N 633,108.13, E 1,040,037.40

DISTANCES ARE GRID US SURVEY FEET
AREAS ARE GROUND SCALE
COMBINED FACTOR 0.99996

LEGEND

- MW 01 — MONITORING WELL
- SITE BOUNDARY
- APPROXIMATE DEWATERING TEST AREA

SCALE: 1"=200 FEET

0 100 200 400

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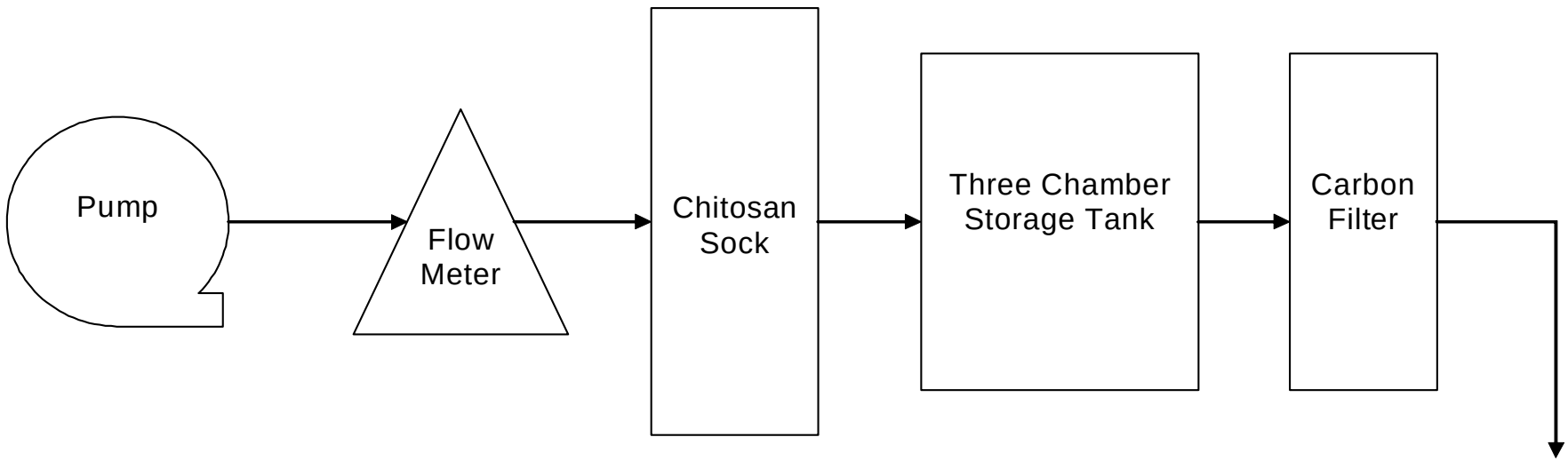
GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE: **FIGURE 2**
DEWATERING TEST LOCATIONS

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: CPS
DATE: 09/08/08
SHEET NO: 2

CPS September 08, 2008 - C:\clients\Greylock\eastbay dewatering.dwg



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GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

TITLE:
FIGURE 3
PILOT TEST TREATMENT TRAIN

East Bay Site, Port of Olympia
Modified from Skillings Connolly July, 2008

DRAWN BY: ***CPS***

DATE: ***10/31/08***

SHEET NO: ***3***

CPS October 31, 2008 - C:\clients\Greylock\eastbay dewatering.dwg

East Bay Pilot Dewatering Test Semi-Volatile Results, Olympia, Washington

Pilot Dewatering Test Location 1

Sample ID:		**DW1TestInfluent**	**DW1TestEffluent**
Date Sampled:		**9/23/2008**	**9/23/2008**
	Marine Human Health Water Quality Criteria		
SemiVolatiles in ug/L			
Bis (2-Ethylhexyl) Phthalate	5.9	1.4U	1.5U
Benzo (a) Pyrene	0.031	**0.22**	0.020U
Benzo (a) Anthracene	0.031	**0.20**	0.030U
Benzo (b) Fluoranthene	0.031	**0.20**	**0.040U**
Benzo (k) Fluoranthene	0.031	**0.10**	0.030U
Chrysene	0.031	**0.20**	0.020U
Dibenzo (a,h) Anthracene	0.031	0.029U	0.030U
Ideno (1,2,3-cd) Pyrene	0.031	**0.14**	0.030U
Field Measurements			
pH		6.8	7.2
Total Dissolved Solids in ppm		330	325
Turbidity in NTU		168	147

Bold = Exceeds one or more of the Screening Criteria
BoldU = Detection limit exceeds Screening Criteria
U = Undetected at reported detection limit

East Bay Pilot Dewatering Test Semi-Volatile Results, Olympia, Washington

Pilot Dewatering Test Location 2

Sample ID:		DW2TestInfluent	DW2TestEffluent
Date Sampled:		9/24/2008	9/24/2008
	Marine Human Health Water Quality Criteria		
SemiVolatiles in ug/L			
Bis (2-Ethylhexyl) Phthalate	5.9	1.4U	1.4U
Benzo (a) Pyrene	0.031	0.019U	0.019U
Benzo (a) Anthracene	0.031	0.028U	0.028U
Benzo (b) Fluoranthene	0.031	**0.038U**	**0.038U**
Benzo (k) Fluoranthene	0.031	0.028U	0.028U
Chrysene	0.031	0.019U	0.019U
Dibenzo (a,h) Anthracene	0.031	0.028U	0.028U
Ideno (1,2,3-cd) Pyrene	0.031	0.028U	0.028U
Field Measurements			
pH		6.7	7.3
Total Dissolved Solids in ppm		>2,000	>2,000
Turbidity in NTU		193	176

Bold = Exceeds one or more of the Screening Criteria
BoldU = Detection limit exceeds Screening Criteria
U = Undetected at reported detection limit

East Bay Pilot Dewatering Test Metals Results, Olympia, Washington

Pilot Dewatering Test Location 1

Sample ID:			**DW1TestInfluent**	**DW1TestEffluent**
Date Sampled:			**9/23/2008**	**9/23/2008**
	WA Surface Water Standards			
	Marine Chronic	Marine Acute		
Total Metals in ug/L				
Arsenic	36	69	2.6	**86**
Antimony	NR	NR	2U	4.7
Beryllium	NR	NR	5U	5U
Cadmium	9.3	42	2U	2U
Chromium (Total)	NR	NR	25U	25U
Copper	3.1	4.8	**20U**	**20U**
Lead	8.1	210	**15**	3
Nickel (1)	8.2	74	**20U**	**20U**
Mercury	0.025	1.8	**0.2U**	**0.2U**
Selenium	71	290	3.5	34
Silver	NR	1.9	**20U**	**20U**
Thallium	NR	NR	4U	4U
Zinc	81	90	40U	**270**
Field Measurements				
pH			6.8	7.2
Total Dissolved Solids in ppm			330	325
Turbidity in NTU			168	147

(1) WA Surface Water Standards based on Nickel Soluble Salts, not Total Nickel (CLARC 2008)

Bold = Exceeds one or more of the Screening Criteria
BoldU = Detection limit exceeds Screening Criteria
U = Undetected at reported detection limit
- = Not Analyzed
NR = Not Researched (CLARC, 2008)

East Bay Pilot Dewatering Test Metals Results, Olympia, Washington

Pilot Dewatering Test Location 2

Sample ID:			DW2TestInfluent	DW2TestEffluent	DW2-Comp1	DW2-Comp2	DW2-Comp3	DW-Comp3A
Date Sampled:			9/24/2008	9/24/2008	10/18/08	10/18/08	10/18/08	10/19/08
	WA Surface Water Standards							
	Marine Chronic	Marine Acute						
Total Metals in ug/L								
Arsenic	36	69	**45**	**95**	3	2U	2U	4
Antimony	NR	NR	2.9	10	-	-	-	-
Beryllium	NR	NR	5U	5U	-	-	-	-
Cadmium	9.3	42	2U	2U	1U	1U	1U	1U
Chromium (Total)	NR	NR	44	25U	-	-	-	-
Copper	3.1	4.8	**120**	**44**	**10**	**5**	**5**	**5**
Lead	8.1	210	**71**	**43**	5U	5U	5U	5U
Nickel (1)	8.2	74	48	20U	11	7	11	10
Mercury	0.025	1.8	**0.2U**	**0.2U**	0.02U	0.02U	0.02U	0.02U
Selenium	71	290	**100**	**80**	10U	10U	10U	13
Silver	NR	1.9	**20U**	**20U**	1U	1U	1U	1U
Thallium	NR	NR	4U	4U	-	-	-	-
Zinc	81	90	**160**	**350**	20U	20U	20U	20U
Total Suspended Solids in mg/L			-	-	38.6	13.9	12.5	8
Field Measurements								
pH			6.7	7.3	6.7	7.0	7.0	6.7
Total Dissolved Solids in ppm			>2,000	>2,000	>2,000	>2,000	>2000	>2000
Turbidity in NTU			193	176	29.3	17.1	10.4	7.3

(1) WA Surface Water Standards based on Nickel Soluble Salts, not Total Nickel (CLARC 2008)

Bold = Exceeds one or more of the Screening Criteria
BoldU = Detection limit exceeds Screening Criteria
U = Undetected at reported detection limit
- = Not analyzed
NR = Not Researched (CLARC, 2008)

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

CERTIFIED MAIL

July 17, 2008

Jeffery A. Lincoln, Director of Engineering
Port of Olympia
915 Washington St. NE
Olympia, WA 98501-6931

RE: East Bay Redevelopment
National Pollution Discharge Elimination System (NPDES) Permit Requirement

Dear Mr. Lincoln:

This is a follow up to our meeting on July 1, 2008. In this meeting, the Port of Olympia (the Port) requested the Washington State Department of Ecology (Ecology) provide the permit limits that would be set in the NPDES permit for the contaminated water generated during trenching/excavation.

Ecology reviewed the data received to date from the groundwater monitoring wells at the site. Based on this review, Table 1 was generated. This table compares the highest concentration of chemicals of concern (COC) with applicable marine surface water quality criteria.

Table 1: Showing highest concentration of chemicals of concern measured during groundwater monitoring in 2007 and applicable marine surface water quality criteria.

Chemicals of Concern	Highest Concentration Measured, µg/l	Surface Water Quality Criteria , µg/l
Arsenic	140	36[1]
Bis (2-Ethylhexyl) Phthalate	76	5.9[2]
Benzo (a) pyrene	0.025	0.031[2]
Benzo (a) Anthracene	0.029	0.031[2]
Benzo (b) Fluoranthene	0.038	0.031[2]
Benzo (k) Fluoranthene	0.029	0.031[2]
Chrysene	0.019	0.031[2]
Dibenzo (a,h) Anthracene	0.029	0.031[2]
Indeno (1,2,3-cd) Pyrene	0.029	0.031[2]

[1] Marine Chronic Water Quality Criteria.
[2] Marine Human Health Water Quality Criteria.

The surface water quality criteria will be the driving force to set NPDES permit limits. Based on the review of groundwater sampling data, suspended solid removal followed by activated carbon treatment will be required to meet the effluent limits. The suspended solid removal followed by activated carbon treatment system will qualify the treatment system as an all known, available, and reasonable methods of prevention, control and treatment (AKART) consistent with WAC 173-201A-020. The effluent from the system will meet the NPDES permit limits, if operated in accordance with an Ecology approved operation and maintenance plan. In addition to the treatment system, best management practices (BMPs) will be required to be a condition of the permit to prevent uncontrolled and unauthorized discharge of contaminated stormwater runoff from the site.

WAC 173-201A-400 (2) states "a discharger shall be required to fully apply AKART prior to being authorized a mixing zone." A mixing zone will allow the discharge to be diluted before meeting water quality criteria. For more information on mixing zone analysis, go to Appendix 6 of the Ecology's permit writer's manual, which is in Ecology's Web site: http://www.ecy.wa.gov/programs/wq/permits/index.html#wastewater_individual_permits) The Port should hire a consultant to review and provide advice on mixing zone analysis. Ecology will emphasize that with the concentration of COC in Table 1 and with proper operation of a solids removal system followed by activated carbon to treat the influent, the water quality criteria will be met at the end of the pipe without a need for a mixing zone.

Chlorinated dioxins have an affinity for particulates and readily partition to particles in air, water, and soil. Therefore, solid removal followed by activated carbon system should also remove any potential dioxin/furan from the water. In order to characterize the influent, take a groundwater sample of MW-16 at the site, test for dioxin/furan mixture with EPA's Method 1613, and submit the results with your permit application. MW-16 was chosen since it is located closest to the highest measured soil concentration for dioxin/furan mixture at the site. Ecology will evaluate this data and based on the dioxin/furan mixture data will decide if a permit limit is needed. The target marine human health water quality criteria is 0.014 parts per quadrillion (ppq) for tetrachlorodibenzo-p-Dioxin (2,3,7,8-TCDD).

Additional requirements for biomonitoring, spill control plan, influent/effluent chemical analysis, BMPs and treatment system operation and maintenance plan will also be in the NPDES permit. The permit will have a pH limit of 7 - 8.5 and monitoring of total suspended solids (TSS) will also be required.

I have attached a copy of NPDES permit applications EPA Forms 1 and 2E. Please complete these forms and submit them to Ecology. In addition, please prepare and submit an engineering design report in accordance with WAC 173-240-130 (a copy attached). Ecology will evaluate the permit application and engineering design report and provide an acceptance letter or a deficiency letter based on information in the engineering design report and application forms.

If you have any questions, please call me at 360-407-6256 or e-mail me at mkou461@ecy.wa.gov.

Sincerely,

Mohsen Kourehdar, P.E.
Technical Support Unit
Southwest Regional Office
Toxics Cleanup Program

MK/ksc:EastBayWQ NPDES Permit July 08

cc: Steve Teel, Ecology (with attachment)

Enclosed: EPA Form 1 and 2E
Requirement for Engineering Design report

GREYLOCK CONSULTING LLC

Water Resources & Environmental Services

LOG OF BOREHOLE

Project: East Bay	**Job #:** 0380	**Boring #:** DW Test-1
Location: Port of Olympia, Olympia, Washington	**Approximate Elevation:** Not Surveyed	
Subcontractor/Equipment: Stemen Environmental	**Drilling Method:** Backhoe	
Date: 9/23/2008	**Logged By:** S. Dudziak	

Depth (ft.)	Soil Description	Lithology	Color	Comments	Well Construction
0	Silty Gravelly Sand (GM)		Medium Brown	Dry	
	Silty Gravelly Sand (GM)		Medium Brown	Timber observed at 3 ft bgs	
5	Silty Gravelly Sand (GM)		Dark Brown	Significant wood observed, > 50% wood, large pieces Wet @ 4 ft bgs No odor or sheen	
	Silty Gravelly Sand (GM)		Grey/Brown	Wood approx. 30%; H2S odor	0-1.3', 15-inch diameter screen w/drain rock
10				> 50% wood	
	Silt (ML)		Grey	With shells and 40% wood	

GREYLOCK CONSULTING LLC

Water Resources & Environmental Services

LOG OF BOREHOLE

Project: East Bay	**Job #:** 0380	**Boring #:** DWTest-2
Location: Port of Olympia, Olympia, Washington	**Approximate Elevation:** Not Surveyed	
Subcontractor/Equipment: Stemen Environmental	**Drilling Method:** Backhoe	
Date: 9/24/2008	**Logged By:** S. Dudziak	

Depth (ft.)	Soil Description	Lithology	Color	Comments	Well Construction
0	Silty Gravelly Sand (GM)		Medium Brown	2 in cobbles	
5	Gravel (GP)		Medium Brown	Wet, metal angle iron @ 6 ft bgs	0-13', 15-inch diameter screen w/drain rock
	Silt (ML)		Grey	Some wood	
10	Silty Gravelly Sand (GM)		Grey	30 to 40% wood	

Port of Olympia, East Bay Site
Pilot Dewatering Test - Location DWTest-1

Project:	East Bay	Well:	15 inch diameter
Date:	9/23/2008		Installed with base at 13 ft bgs; drain rock in bottom 1/2 ft
Pumping Well:	DWTest-1		Slotted along entire length
Water Level MP:	N end of casing		Top of casing was approximately at ground surface
			Trench Dimensions: 14 ft x 11 ft x 13 ft; backfilled with drain rock around well
			Sustainable Flow Rate: <12 gpm

Clock Time Hour:Min:Sec	Elapsed Time in Hrs:Min:Sec	Depth to Water in Ft	Drawdown below initial Initial WL in Ft	Pumping Rate gpm	Comments
After Construction: No Pumping					
11:15:00	0:00	6.80	NA	0	After construction
11:32:00	0:17:00	6.42	NA	0	
11:43:00	0:28:00	6.16	NA	0	
11:55:00	0:40:00	5.93	NA	0	
12:05:00	0:50:00	5.68	NA	0	
12:16:00	1:01:00	5.60	NA	0	
12:25:00	1:10:00	5.54	NA	0	
12:32:00	1:17:00	5.45	NA	0	
12:32:52	1:17:52	5.45	NA	0	
12:47:00	1:32:00	5.31	NA	0	
Start pumping @ 18 gpm					
12:48:00	0:00:00	5.30	0.00	18	Start pumping @ 18 gpm
12:48:56	0:00:56	5.32	0.02	18	
12:49:31	0:01:31	5.33	0.03	18	
12:50:30	0:02:30	5.39	0.09	18	
12:51:40	0:03:40	5.48	0.18	18	
12:52:50	0:04:50	5.52	0.22	18	
12:53:50	0:05:50	5.58	0.28	18	
12:54:50	0:06:50	5.60	0.30	18	

12:56:50	0:08:50	5.68	0.38	18	
12:59:50	0:11:50	5.84	0.54	18	
13:01:00	0:13:00	5.82	0.52	0	Stopped pumping/mechanical issue
13:10:00		5.66	0.36	<18	Start pumping (kink in hose)
13:11:00		5.65	0.35	<18	Kink in discharge hose
13:13:00		5.66	0.36	<18	Kink in discharge hose
13:15:00		5.65	0.35	<18	Kink in discharge hose
Start pumping @ 18 gpm					
13:17:00	0:00:00	5.63	0.00	18	Fixed kink in discharge hose
13:19:00	0:02:00	5.71	0.08	18	
13:21:00	0:04:00	5.81	0.18	18	
13:23:00	0:06:00	5.93	0.30	18	
13:25:00	0:08:00	6.05	0.42	18	
13:27:00	0:10:00	6.15	0.52	18	
13:29:00	0:12:00	6.29	0.66	18	
13:35:00	0:18:00	6.67	1.04	18	
13:40:00	0:23:00	6.94	1.31	18	
13:45:00	0:28:00	7.27	1.64	18	
13:52:00	0:35:00	7.70	2.07	18	
14:00:00	0:43:00	8.28	2.65	18	
14:07:00	0:50:00	8.75	3.12	18	
14:15:00	0:58:00	9.45	3.82	18	
14:28:00	1:11:00	10.36	4.73	18	
14:42:00	1:25:00	11.40	5.77	18	Collected influent sample @ 1445
14:51:00	1:34:00	12.30	6.67	18	
14:56:00	1:39:00	12.30	6.67	12.5	Pumping Air; checked flow rate: 12.5 gpm
Start pumping @ 3.5 gpm					
15:06:00		11.76	0.00	3.5	Changed to smaller pump - 3.5 gpm
15:08:00		11.50	-0.26	3.5	
15:15:00		11.05	-0.71	3.5	Not able to keep water levels down; switched back to 12 gpm
Start pumping @ 12 gpm					
15:16:00		11.35	0.00	12	Changed to larger pump
15:20:00		11.90	0.55	12	
15:27:00		12.30	0.95	12	Pumping air
15:36:00		12.31	0.96	12	Pumping air

Shut off Test: Recovery Measurements

15:44:03	0:00	12.30	0.00	0	Stopped pumping @ 15:44:03
15:44:10	0:00:07	12.22	-0.08	0	
15:44:15	0:00:12	12.21	-0.09	0	
15:44:22	0:00:19	12.20	-0.10	0	
15:44:29	0:00:26	12.18	-0.12	0	
15:44:35	0:00:32	12.15	-0.15	0	
15:44:38	0:00:35	12.15	-0.15	0	
15:44:42	0:00:39	12.13	-0.17	0	
15:44:46	0:00:43	12.10	-0.20	0	
15:44:53	0:00:50	12.09	-0.21	0	
15:45:00	0:00:57	12.07	-0.23	0	
15:45:06	0:01:03	12.04	-0.26	0	
15:45:12	0:01:09	12.02	-0.28	0	
15:45:16	0:01:13	12.01	-0.29	0	
15:45:23	0:01:20	11.98	-0.32	0	
15:45:27	0:01:24	11.97	-0.33	0	
15:45:34	0:01:31	11.95	-0.35	0	
15:45:38	0:01:35	11.94	-0.36	0	
15:45:42	0:01:39	11.92	-0.38	0	
15:45:46	0:01:43	11.91	-0.39	0	
15:45:52	0:01:49	11.89	-0.41	0	
15:46:06	0:02:03	11.86	-0.44	0	
15:46:09	0:02:06	11.83	-0.47	0	
15:46:20	0:02:17	11.82	-0.48	0	
15:46:24	0:02:21	11.81	-0.49	0	
15:46:56	0:02:53	11.73	-0.57	0	
15:47:07	0:03:04	11.70	-0.60	0	
15:47:17	0:03:14	11.68	-0.62	0	
15:47:25	0:03:22	11.66	-0.64	0	
15:47:30	0:03:27	11.65	-0.65	0	
15:47:42	0:03:39	11.63	-0.67	0	
15:47:52	0:03:49	11.61	-0.69	0	
15:48:36	0:04:33	11.50	-0.80	0	
15:49:03	0:05:00	11.45	-0.85	0	
15:49:30	0:05:27	11.40	-0.90	0	

15:49:50	0:05:47	11.36	-0.94	0
15:50:18	0:06:15	11.30	-1.00	0
15:50:50	0:06:47	11.25	-1.05	0
15:51:50	0:07:47	11.15	-1.15	0
15:52:50	0:08:47	11.01	-1.29	0
15:53:50	0:09:47	10.92	-1.38	0
15:54:50	0:10:47	10.85	-1.45	0
15:55:50	0:11:47	10.78	-1.52	0
15:56:50	0:12:47	10.70	-1.60	0
15:57:50	0:13:47	10.62	-1.68	0
15:58:50	0:14:47	10.55	-1.75	0
15:59:50	0:15:47	10.50	-1.80	0
16:00:50	0:16:47	10.42	-1.88	0
16:01:50	0:17:47	10.35	-1.95	0
16:03:00	0:18:57	10.27	-2.03	0

Measurements at Monitoring Well MW-3

9/23/2008

Time	Depth to Water	Comments
910	5.06	prior to test
1002	5.05	prior to test
1114	5.06	prior to test
1227	5.04	prior to test
1303	5.04	test in progress
1431	5.03	test in progress
1511	5.03	test in progress
1615	5.04	test completed

Port of Olympia, East Bay Site
Pilot Dewatering Test - Location DWTest-2

Project:	East Bay	Well:	15 inch diameter
Date:	9/24/2008		Installed with base at 13 ft bgs; drain rock in bottom 1/2 ft
Pumping Well:	DWTest-2		Slotted along entire length
Water Level MP:	N end of casing (appx. 1 ft above ground)		Top of casing was approximately at 1 ft above ground surface
Well constructed at 8:30 AM			Trench Dimensions: 12 ft x 6 ft x 13 ft; backfilled with drain rock around well
High Tide of +14 ft MLLW @ 15:55 pm			Sustainable Flow Rate: approx. 20 gpm

(Note that TOC is 1 ft above ground surface. All measurements are from TOC)

Clock Time Hour:Min:Sec	Elapsed Time in Hrs:Min:Sec	Depth to Water in Ft from TOC	Drawdown below initial WL in Ft from TOC	Pumping Rate gpm	Comments
After Construction: No Pumping (rising tide)					
14:51:00	0:00	9.03	0.00	0	After construction
15:17:00	0:26:00	8.71	-0.32	0	
15:26:00	0:35:00	8.14	-0.89	0	
15:34:00	0:43:00	7.60	-1.43	0	
15:39:00					Installed 2 pumps
15:42:00	0:51:00	7.21	-1.82	0	
15:44:00	0:53:00	7.18	-1.85	0	
15:46:00	0:55:00	7.12	-1.91	0	
Start pumping @ 30 gpm					
15:46:00	0:00:00	7.12	0.00	30	Start pumping @ 30 gpm
15:47:00	0:01:00	7.35	0.23	30	
15:48:00	0:02:00	7.61	0.49	30	
15:49:00	0:03:00	7.85	0.73	30	
15:51:00	0:05:00	8.25	1.13	30	
15:52:00	0:06:00	8.80	1.68	30	
15:53:00	0:07:00	9.18	2.06	30	
15:54:40	0:08:40	9.82	2.70	30	

15:55:50	0:09:50	10.32	3.20	30	(approximate time of high tide)
15:58:00	0:12:00	11.60	4.48	30	pumping air
15:59:00	0:13:00	11.60	4.48	25 to 30	pumping air
16:00:00	0:14:00	11.60	4.48	25 to 30	pumping air
16:03:00	0:17:00	11.34	4.22	25 to 30	pumping air
16:08:00	0:22:00	11.75	4.63	20 to 25	pumping air
16:10:00	0:24:00	11.78	4.66	20	
16:11:00	0:25:00	11.61	4.49	0	Turn off. Switch to smaller pump

Start pumping @ 20 gpm

16:12:00	0:00:00		0.00	20	Turn on smaller pump; 20 gpm
16:13:00	0:01:00	11.55	11.55	20	
16:14:00	0:02:00	11.55	11.55	20	
16:15:00	0:03:00	11.60	11.60	20	
16:16:00	0:04:00	11.60	11.60	20	
16:17:00	0:05:00	11.62	11.62	20	
16:25:00	0:13:00	11.76	11.76	20	
16:32:00	0:20:00	12.25	12.25	20	Collected sample @ 16:43
16:58:00	0:46:00	12.60	12.60	20	
17:07:00	0:55:00	12.65	12.65	20	

Shut off Test: Recovery Measurements

17:12:53	0:00	12.50	0.00	0	Stopped pumping @ 17:12:53
17:13:01	0:00:08	12.48	-0.02	0	
17:13:06	0:00:13	12.46	-0.04	0	
17:13:10	0:00:17	12.44	-0.06	0	
17:13:15	0:00:22	12.43	-0.07	0	
17:13:20	0:00:27	12.42	-0.08	0	
17:13:32	0:00:39	12.39	-0.11	0	
17:13:50	0:00:57	12.35	-0.15	0	
17:13:57	0:01:04	12.34	-0.16	0	
17:14:03	0:01:10	12.32	-0.18	0	
17:14:08	0:01:15	12.31	-0.19	0	
17:14:16	0:01:23	12.28	-0.22	0	
17:14:20	0:01:27	12.27	-0.23	0	
17:14:42	0:01:49	12.24	-0.26	0	

17:15:00	0:02:07	12.20	-0.30	0
17:15:14	0:02:21	12.18	-0.32	0
17:15:23	0:02:30	12.17	-0.33	0
17:15:36	0:02:43	12.14	-0.36	0
17:16:36	0:03:43	12.08	-0.42	0
17:17:36	0:04:43	12.00	-0.50	0
17:18:36	0:05:43	11.91	-0.59	0
17:19:36	0:06:43	11.85	-0.65	0
17:20:36	0:07:43	11.78	-0.72	0
17:21:36	0:08:43	11.72	-0.78	0
17:23:36	0:10:43	11.61	-0.89	0
17:25:36	0:12:43	11.50	-1.00	0
17:27:36	0:14:43	11.40	-1.10	0
17:29:36	0:16:43	11.32	-1.18	0
17:31:36	0:18:43	11.24	-1.26	0
17:57:50	0:44:57	10.52	-1.98	0

Measurements at Monitoring Well MW-4

09/24/08

Time	Depth to Water	Comments
1435	5.77	prior to test
1533	5.76	prior to test
1545	5.75	prior to test
1556	5.76	test in progress
1622	5.76	test in progress
1701	5.75	test in progress
1800	5.75	test complete

APPENDIX E

FIELD NOTES AND LOGS ASSOCIATED WITH MONITORING WELL INSTALLATION, DEVELOPMENT, AND DECOMMISSIONING COMPLETED SUBSEQUENT TO THE REMEDIAL INVESTIGATION WORK PLAN

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: PHASE 2 RI · DRILLING Site Location: PORT OF OLY - EAST BAY
Requested By / Date: TDB 6/4/09 Work ~~Deadline~~ SCHEDULED: 6/10 - 6/16/09

SERVICES REQUESTED — **COMPLETED**

Services Requested	Completed
(1) ADVANCE & SAMPLE 14 BORINGS PER SAP (CONTINUOUS EVERY 2') TABLE 1 (AS REVISED)	☒ YES ☐ NO
(2) ~~AS REVISED~~ COMPLETE HASP PAPERWORK	☒ YES ☐ NO
(3) INSTALL MW21S → MW25S PER TABLE 2	☒ YES ☐ NO
(4) DEVELOP MW21S → MW25S UNTIL LOW TURBIDITY	☒ YES ☐ NO
(5) DECOMMISSION MW05	☒ YES ☐ NO
	☐ YES ☐ NO
TPH-G/BTEX BY 5035	☒ YES ☐ NO
SCREENING = VISUAL, ODOR, SHEEN, PID	☒ YES ☐ NO
HOLD ALL CONTAMINATED SAMPLES FOR POSSIBLE ANALYSIS	☒ YES ☐ NO
~~QC - TPH-G/BTEX TRIP BLANK ONLY~~ NOT FOR ENCORE SAMPLER	☐ YES ☒ NO
NOTE ANY MOVEMENTS TO SURVEY LOCATIONS	☒ YES ☐ NO
TAKE REPRESENTATIVE PHOTOS	☒ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS — **COMPLETED**

Instruction	Completed	Instruction	Completed
☒ Review Docs: GEOE SAP/QAPP; PTC HASP	☒ YES ☐ NO	☒ Health & Safety Meeting	☒ YES ☐ NO
☒ Agency NOI (ESN) / Utility Locate (UDS) / ~~Concrete Coring~~ (JTL) NOT → DON'T BY STORMWATER	☒ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access:	☐ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☒ Coordinate Sub / Equip: ESN	☒ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: PID, VAN	☒ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: TEEL, SNARSKI	☒ YES ☐ NO	☒ Non-Haz ~~TBD~~ PECOR → GROUND; CUTTINGS → STORAGE; DEVELOPMENT → TBD	☒ YES ☐ NO
☒ Calibrate Equipment: PID.	☒ YES ☐ NO	☐ Background	☐ YES ☐ NO

REVISIONS INCLUDE MOVED ~~23S~~, MW23S & 24S AND DIFFERENT TARGET RLS
COORD RLS & EDD WITH LS

SAMPLING REQUIREMENTS

☒ Field Testing: SHEEN, PID
☒ Lab Testing: NWTPH-G, BTEX & NWTPH-Dx, PAHs, 3 metals, PCBs Laboratory: DAL
☒ Lab Testing: Dioxins / Furans 8290 Laboratory: PACE
☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☐ Survey Equip / GPS ☒ Vehicle
☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)
☒ Drilling Equip (PID, references, knife, baggies, tape)
☒ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)
☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)
☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe
☐ Water Quality Meter ☐ Field Test Kits
☒ Sample Kit / Cooler / COC / Ice: 90 4-oz jars (3 per location) & Encores (3 per location) + handle → 5035 method
☒ IDW: ☒ Drums ESN ☐ 5-gal buckets
☒ Other: walking wheel
☐ Other:

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 06/10/09	Site Location: Port of Oly - East Bay	Site Arrival Time: See Below	Site Departure Time: See Below

WEATHER	Clear Sun 6/10	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70 6/10	70-85	85 Up
WIND	Calm	Med. 6/10	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Troy Bussey	PTC	6/10, 6/12
Karl Roberts	↓	6/10
Melody Foor	↓	6/10, 6/12
Dave Hardner	ESN	6/10
Noel Brat	↓	6/12
Brian Bay	↓	6/12

NOTES ON WORK COMPLETED

6/10/09 on-site @ 0800 : Conducted H&S tailgate mtg → see form
~~Set up on A35~~ DP26 ; DM side-by-side borings unless otherwise noted
Took photo ; All borings in surveyed location unless otherwise noted

Setup on DP35 → moved 2' NE from surveyed location ; took picture
Setup on DP31 → moved 2' SE " " " ; took photo
Setup on DP28 → took picture
Setup on DP29 → ~~moved~~ moved 4' NW ; took picture
Setup on DP42 → took picture
Setup on DP39 →
Setup on DP41 → took picture
Setup on DP37 → took picture
Packed samples for delivery

Note: for future - PAHs detected in shallow intervals may be carryover from asphalt

Off-site @ 1515 All locations had side-by-side DP, then adjacent HSA for MW
6/12/09 on-site @ 0700 → did ~~[illegible]~~ dust monitoring setup
Conducted H&S tailgate meeting → see form
Setup on MW21S → moved 4' NE from surveyed location ; took picture
Setup on MW23S → moved 15' SE of original location & ~10' NE from relocated position ; took photo
Setup on MW24S → no movement from surveyed position (of relocated location ½ way between MW05 & MW10)
Difficult time advancing HSA for MW24S due to cobbles (~~[illegible]~~?) → took photo
Refusal two times @ ~4' ; moved off MW temporarily
Setup on MW25S → ~~moved [illegible] subsurface power~~
Setup on MW22S → moved ~10' NE due to subsurface power ; took photo
Back to MW24S for 3rd attempt → eventually got in completed
Retrieved ~~[illegible]~~ dust monitor @ ~1430 ; prepped for shipment
Collected ~~[illegible]~~ grab soil sample from IA stockpile #1 (Zone N/A) @ 1530 SP-~~1~~ Zone NA-061209
↳ soil in stockpile generated from above ground soil under 2 loading docks
Stockpile vol. estimated by Fred SAs ~ 300 CY ; Dimensions ≈ 38' x 50' x 8' H
↳ Collected sample from west side ; ~0.5-1' below surface
waist height ; ½ way down side
Off-site @ 1630

Trapezoid ≤ 300 CY shape rough estimate

SIGNATURE: Troy Bussey DATE: 6/12/09

Completed all work (except well development & MW05 decommissioning) as planned if not noted in notes

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 6/16/09 Site Location: Port of NY – Grass Bay Site Arrival Time: 0715 Site Departure Time: 1545

WEATHER	Clear Sun	X Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	X 70-85	85 Up
WIND	Calm	X Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Troy Bussey	PTC	
Marty Havin	ESN	
Brian	↓	

NOTES ON WORK COMPLETED

Arrived on-site @ 0715

Conducted H&S tailgate mtg → see form

Developed in order: MW21S, MW23S, MW24S, MW22S, MW25S

Made notes re: water levels, volume removed & turbidity on forms → see form

Brian from ESN arrived @ 0945

Decommissioned MW05 by filling w/ bentonite

ESN off-site @ 1330

SIGNATURE: Troy Bussey

DATE: 6/16/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW21S
Project/Site Name: EAST BAY
Field Professional: JB
Start Date/Time: 6/12/09 0740
Stop Date/Time: 825
Drilling Co.: ESN
Lisc. Driller: NOEL KNAPP
Drilling Method: DP/HSA
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	90		20YRS → 0800	0.5	1.5	0	Y
				/ /							
				/ /			0810	2.5	4	0	Y
				/ /							
	4	7		/ /	100		0820	4.5	6	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO VISUAL, ODOR, OR SHEEN DETECTED								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	9"		ASPHALT
9"	18"		BROWN TO GREY SANDY FINE TO COARSE GRAVEL WITH SILT, LOOSE TO MED DENSE, DRY
18"	2'		BROWN WOOD DEBRIS
2'	2.5'	CL	DK GRAY SILTY CLAY, HIGH PLASTICITY, MED STIFF MOIST
2.5	7		GRAY SILTY FINE TO MED SAND, WITH LEAN CLAY, AND STICKS, MOIST TO WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

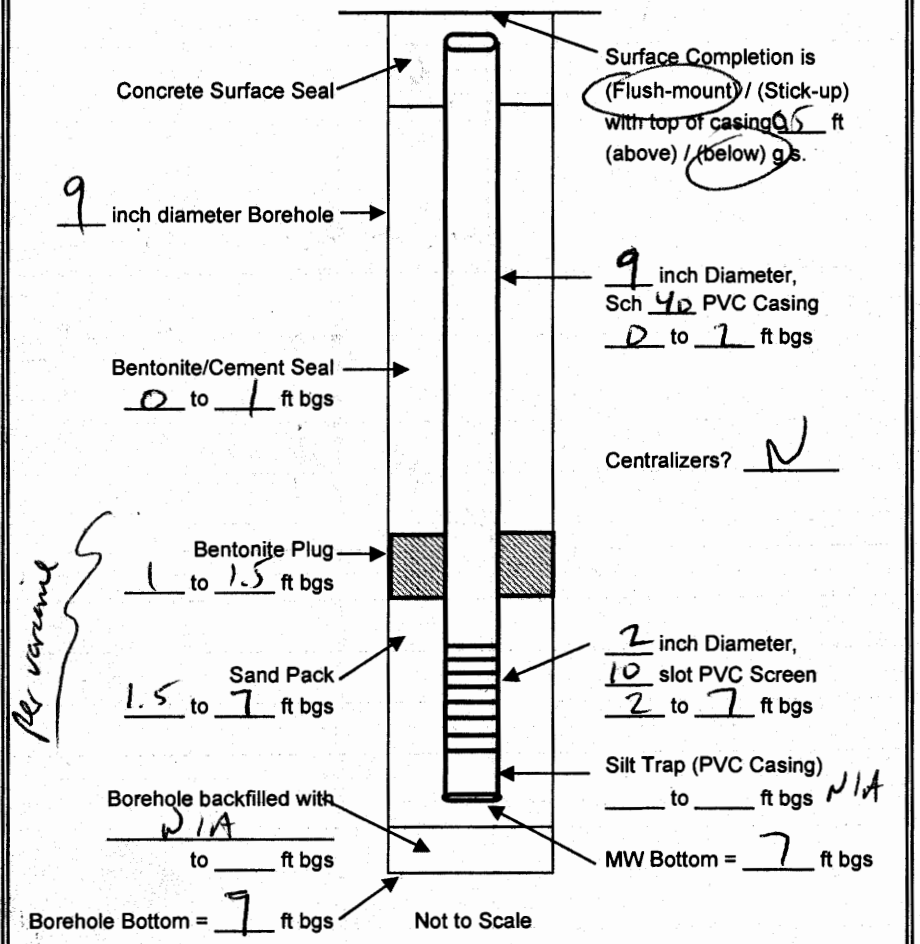
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW21S Installation Start Date/Time 06/12/09 0025 Installation Stop Date/Time 6/12 0915

CONSTRUCTION DETAILS



MATERIALS USED

- 4 Sacks of 10/20 SILICA Sand
- ____ Sacks of ____ Cement
- 1 Sacks of Bentonite Pellets
- ____ Sacks of Powdered Bentonite
- ____ Sacks of Grout
- 5 Feet of 2 -inch dia PVC Casing
- 5 Feet of 2 -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BAF 399
- [ ] Top of Casing Ref Pt. = N SIDE

WELL DEVELOPMENT

	Following Well Construction		Following Well Development (immediately)
Depth To Water (ft below TOC)	4.15	6/16 0730	5.01
Total Well Depth (ft below TOC)	6.64	" "	6.64

Development Start Date/Time 6/16/09 0730 Development Stop Date/Time 06/16 0840

Development Method Overpumped ~~2840~~ Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 50 gal

Additional Remarks SIGNIFICANT REDUCTION IN TURBIDITY; TURBIDITY IS ELEVATED DUE TO AND HAS STABILIZED

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE03445

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction
☐ Decommission 347705

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Consulting Firm Pioneer Technologies Corp

Unique Ecology Well IDTag No. BAF 399

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Engineer ☐ Trainee
Name (Print Last, First Name) Knopf, Noel
Driller/Engineer /Trainee Signature
Driller or Trainee License No. 2872

If trainee, licensed driller's Signature and License Number:

Property Owner Port of Olympia

Site Address Jefferson Street

City Olympia County Thurston

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____
Long Deg ____ Min ____ Sec ____

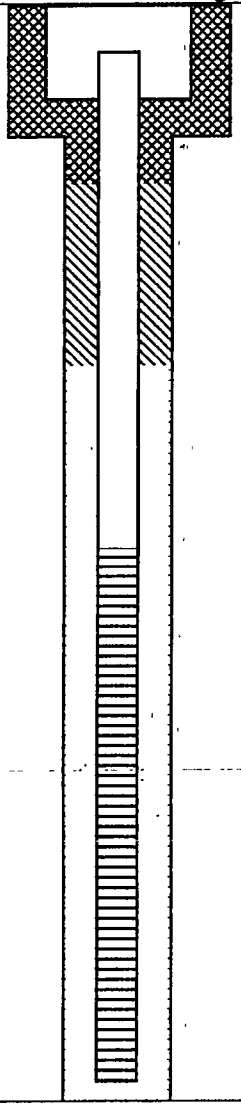
Tax Parcel No. 66130000100

Cased or Uncased Diameter 9" Static Level 2'

Work/Decommission Start Date 6-12-09

Work/Decommission Completed Date 6-12-09

Construction Design



Well Data

MONUMENT TYPE: 8" flush mount

CONCRETE SURFACE SEAL: 0'-1'

ANNULAR SPACE:

BACKFILL: 1'-1.5'
TYPE: 3/4" bentonite chips

PVC BLANK: 0'-2'

SCREEN: 2'-7'
SLOT SIZE: 0.010"
TYPE: 2" sch 40 PVC

SAND PACK: 1.5'-7'
MATERIAL: 10/20 silica

DRILLING METHOD: H.S.A.

WELL DEPTH:

BORING DIAMETER: 9"

Formation Description

0'-7' dark coarse sand

RECEIVED
JUL 06 2009
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

SCALE 1"= ____ PAGE 1 OF 5

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID MW225
Project/Site Name
Field Professional
Start Date/Time 6/12/09 1420
Stop Date/Time 6/12/09 1420
Drilling Co.
Lisc. Driller
Drilling Method
Drill Rig
Drill Bit

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	50		20 MS → 1425	0.5	2	0	Y
				/ /							
				/ /			1430	2	4	0	Y
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
			NO ~~ODOR~~ ODOR				VISUAL OR SHEEN DETECTION				

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	4"		GRASS; TOPSOIL
4"	4		BROWN TO GRAY SANDY FINE TO COARSE GRAVEL, WITH SILT, MOIST TO WET LOOSE TO MEDIUM

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

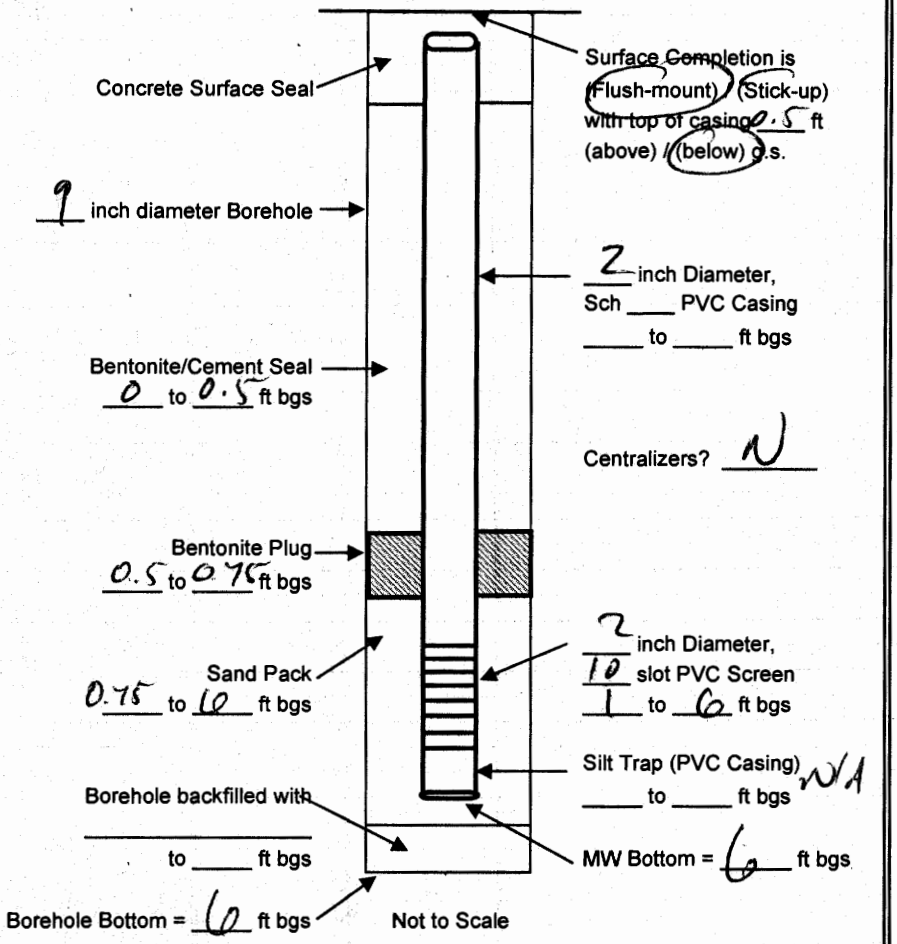
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~1'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW22S Installation Start Date/Time 6/12/09 1430 Installation Stop Date/Time 1500

CONSTRUCTION DETAILS



MATERIALS USED

- 4 Sacks of 10/20 Sand
- ___ Sacks of ___ Cement
- 4 Sacks of Bentonite Pellets
- ___ Sacks of Powdered Bentonite
- ___ Sacks of Grout
- 5 Feet of 2 -inch dia PVC Casing
- 5 Feet of 2 -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [X] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [X] Agency Well Tag No. BBK 332
- [ ] Top of Casing Ref Pt. = ___

WELL DEVELOPMENT

	Following Well Construction		Following Well Development (Immediately)	
Depth To Water (ft below TOC)	6/16	0.61	6/16	5.43
Total Well Depth (ft below TOC)	6/16	5.78	6/16	5.80

Development Start Date/Time 1100 6/16 Development Stop Date/Time 6/16 1240

Development Method OVER PUMPING Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 50

Additional Remarks TURBIDITY IMPROVED SIGNIFICANTLY; RELATIVELY LOW TURBIDITY @ END

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE03445

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction 347800

☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson Street

Consulting Firm Pioneer Technologies Corp

City Olympia County Thurston

Unique Ecology Well IDTag No. BBK 332

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Knopf, Noel

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2872

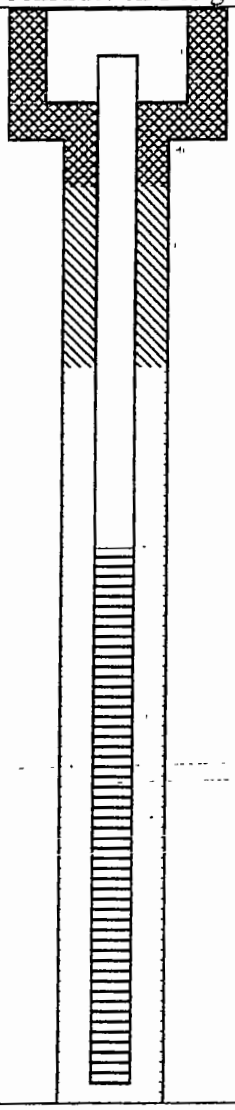
Tax Parcel No. 66130000100

Cased or Uncased Diameter 9" Static Level 2'

Work/Decommission Start Date 6-12-09

Work/Decommission Completed Date 6-12-09

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	MONUMENT TYPE: 8" flush mount CONCRETE SURFACE SEAL: 0'-0.6" ANNULAR SPACE: _____ BACKFILL: 0.6"-0.9" TYPE: 3/8" bentonite chips PVC BLANK: 0'-1' SCREEN: 1'-6' SLOT SIZE: 0.010" TYPE: 2" sch 40 PVC SAND PACK: 0.9"-6' MATERIAL: 10/20 silica DRILLING METHOD: H.S.A WELL DEPTH: 6' BORING DIAMETER: 9"	0'-6' dark coarse sand

SCALE: 1"= ____ PAGE 5 OF 5

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW 235
Project/Site Name:
Field Professional:
Start Date/Time: 0940
Stop Date/Time: 1620

Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	60		0950	1.5	3	Ø	Y
				/ /							
				/ /							
				/ /							
	4	8		/ /	33		1010	5	6	0.1	Y (circled)
				/ /							
				/ /							
				/ /							
	8	12		/ /	50		1005	9	10.5	0	Y (circled)
				/ /							
				/ /	33						
	12	14		/ /	~~33~~ ~~22~~						
				/ /							
				/ /							
				/ /							
			NO	VISUAL, ODOR, OR SHEEN DETECTION							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2"		Asphalt
2"	1.5		Gray to brown sandy fine to coarse gravel, with silt, loose, dry
1.5	6	CH	Gray to chocolate brown silty clay, soft to medium stiff, moist
6	9		Tan to orange brown wood chunks and sawdust sized wood, wet, (w/ <1" layer of gray clay soft wet)
9	12.5		Dk brown silty fine to medium sand mixed with sawdust sized wood, loose, wet (some in clay)
~~12~~ 12.5	14		Tan to orange wood chunks with ~~some~~ [illegible] gray clay, soft, wet

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ 6 ?

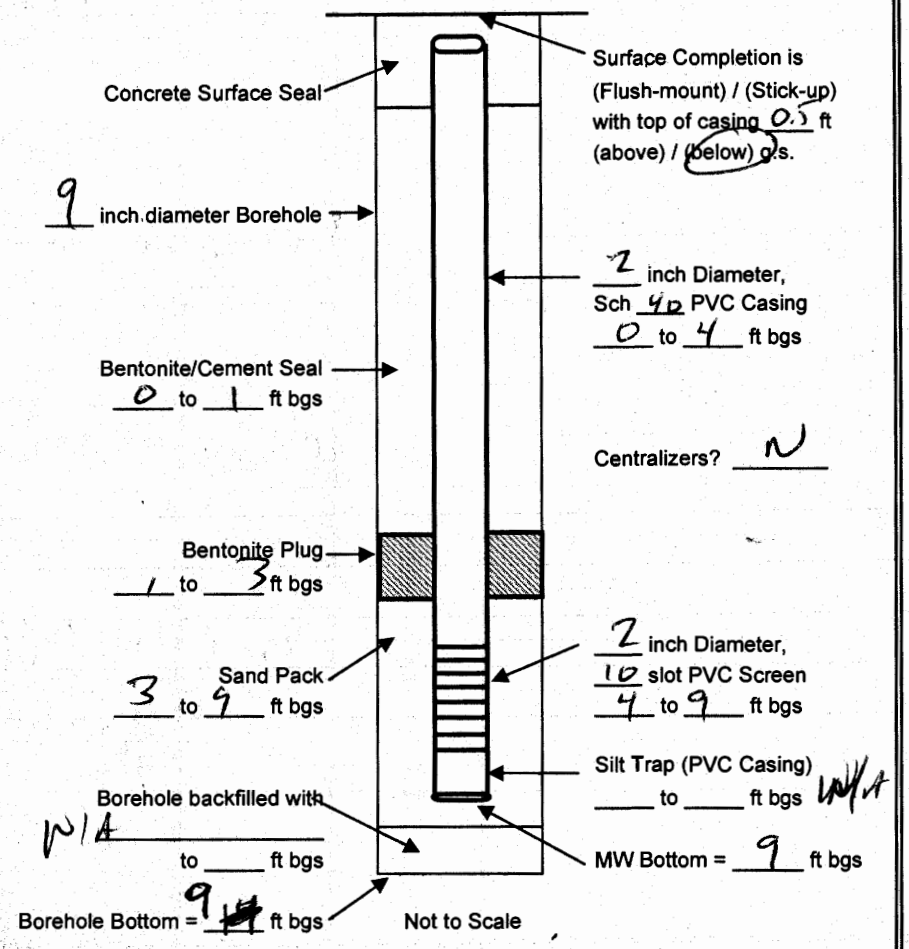
Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):
DIDN'T COLLECT AS MANY INTERVALS AS ORIGINALLY PLANNED DUE TO LARGE AMOUNT OF COARSE WOOD DEBRIS AND POOR RECOVERY

Page ___ of ___

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW23S Installation Start Date/Time 6/12 1020 Installation Stop Date/Time 1120

CONSTRUCTION DETAILS



MATERIALS USED

5	Sacks of	10/20	Sand
	Sacks of		Cement
1	Sacks of Bentonite Pellets		
	Sacks of Powdered Bentonite		
	Sacks of Grout		
5	Feet of	2	-inch dia PVC Casing
5	Feet of	2	-inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BAE400
- [x] Top of Casing Ref Pt. = N SIDE

WELL DEVELOPMENT

	Following Well Construction 6/16/09	Following Well Development Immediately
Depth To Water (ft below TOC)	(6/12 -4.5' below TOC) 4.10	7.25
Total Well Depth (ft below TOC)	6/16 8.51	8.51

Development Start Date/Time 0850 6/16/09 Development Stop Date/Time 6/16 1020

Development Method Submersible Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 44

Additional Remarks MW Purged Dry; Turbidity Decreased Slow Recovery, But Still Some Turbidity Remained

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE03445

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*
☒ Construction 347797
☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*
☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson Street

Consulting Firm Pioneer Technologies Corp

City Olympia County Thurston

Unique Ecology Well IDTag No. BAF 400

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

Long Deg _____ Min _____ Sec _____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Knopf, Noel

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2872

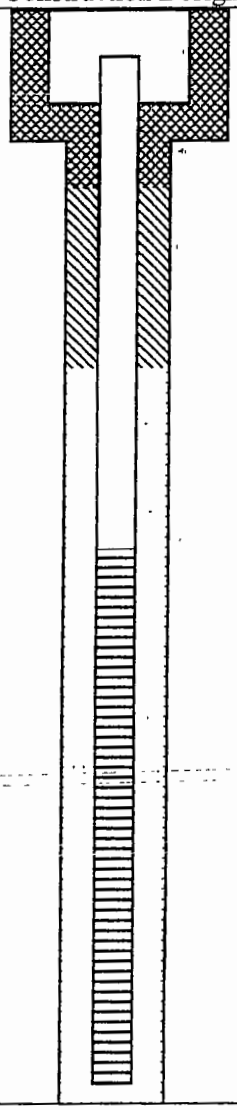
Tax Parcel No. 66130000100

Cased or Uncased Diameter 9" Static Level 2'

Work/Decommission Start Date 6-12-09

Work/Decommission Completed Date 6-12-09

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	MONUMENT TYPE: 8" flush mount CONCRETE SURFACE SEAL: 0'-1' ANNULAR SPACE: _____ BACKFILL: 1'-3' TYPE: 3/8" bentonite chips PVC BLANK: 0'-4' SCREEN: 4'-9' SLOT SIZE: 0.010" TYPE: 2" sch 40 PVC SAND PACK: 3'-9' MATERIAL: 10/20 silica DRILLING METHOD: H.S.A WELL DEPTH: 9' BORING DIAMETER: 9"	0'-9' dark coarse sand

SCALE: 1"= ____ PAGE 2 OF 5

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION

Boring/MW ID: MW24S
Project/Site Name:
Field Professional:
Start Date/Time: 6/12/09 1130
Stop Date/Time: 1215
Drilling Co.:
Lisc. Driller:
Drilling Method:
Drill Rig:
Drill Bit:

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	70		1140	1	2.5	0	(Y)
				/ /							
				/ /			1150	3	4.5	0	(Y)
				/ /							
	4	8		/ /	60		1200	6.5	8	0	(Y)
				/ /							
				/ /			1210	9	10	0.4	(Y)
				/ /							
	8	10		/ /	75						
				/ /							
				/ /							
				/ /							
				/ /							
				/ /							
				/ /			→ DIFFICULT TO TELL IF DECOMPOSING WOOD				
		SLIGHT	SHEEN	? ODOR?			POSSIBLE BLACK STAINING IN 6.5-8				
			NO OTHER USUAL ODOR, OR SHEEN DETECTION								

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	~~6~~ 6.5		GRAY TO BROWN SANDY FINE TO COARSE GRAVEL, MEDIUM DENSE, DRY TO WET
6.5	8		~~WET~~ BLACK LAYER OF SANDY DECOMPOSING WOOD FROM 6.5-8
~~8~~	~~10~~ 9		SAME AS EARLIER, WET
9	10	CL	DK BROWN TO BLACK SILTY LEAN CLAY, W/ WOOD DEBRIS, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~4.5'

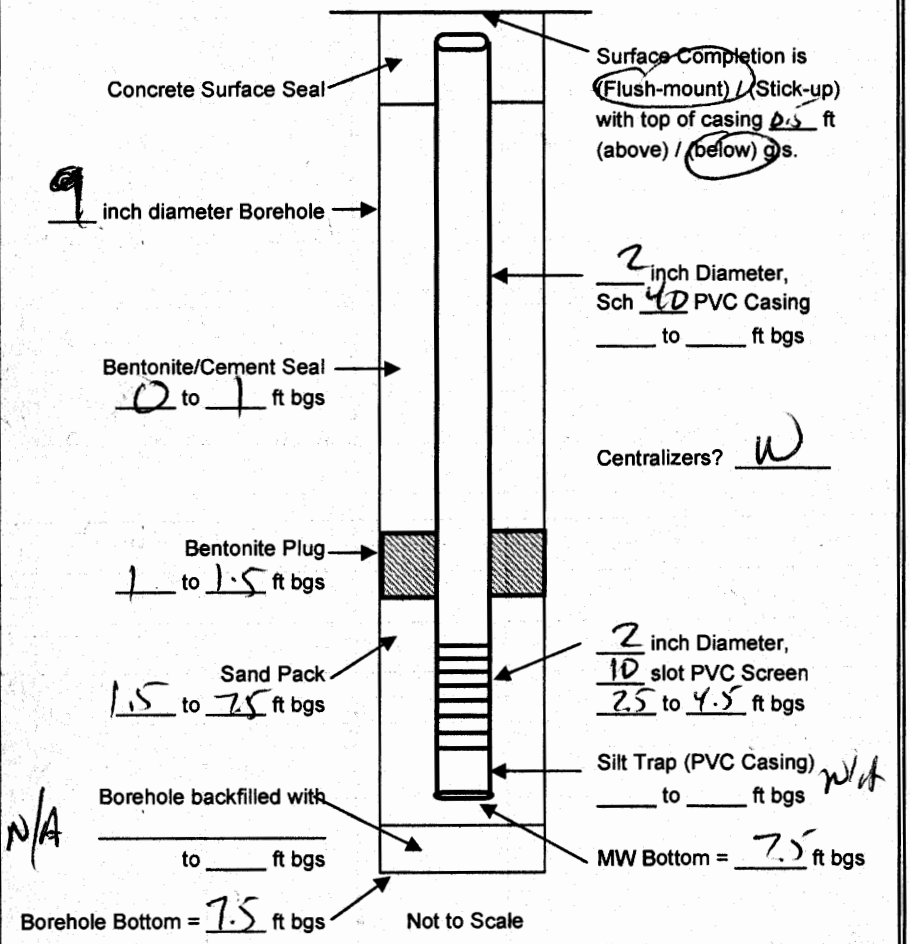
Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW 24S Installation Start Date/Time 6/16/09 1215 Installation Stop Date/Time 1440 → temporary stop due to retrieval

1440 – 1500

CONSTRUCTION DETAILS



MATERIALS USED

4	Sacks of	10/20	Sand
	Sacks of		Cement
1	Sacks of Bentonite Pellets		
	Sacks of Powdered Bentonite		
	Sacks of Grout		
5	Feet of	2	-inch dia PVC Casing
5	Feet of	2	-inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BAF 249
- [x] Top of Casing Ref Pt. = N Side

WELL DEVELOPMENT

	Following Well Construction		Following Well Development
Depth To Water (ft below TOC)	6/16	3.69	3.75
Total Well Depth (ft below TOC)	6/16	7.20	7.25

Development Start Date/Time 1030 Development Stop Date/Time 1055

Development Method OVERPUMPING Development Water Discharged to BAKER TANK

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 40

Additional Remarks
SLIGHT SHEEN ON INITIAL WATER PURGED ; TURBIDITY IMPROVED SIGNIFICANTLY SO THAT WATER IS SUFFICIENTLY CLEAR

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE03445

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction 347798

☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson Street

Consulting Firm Pioneer Technologies Corp

City Olympia County Thurston

Unique Ecology Well IDTag No. BAF 249

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards Materials used and the information reported above are true to my best knowledge and belief

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Knopf, Noel

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2872

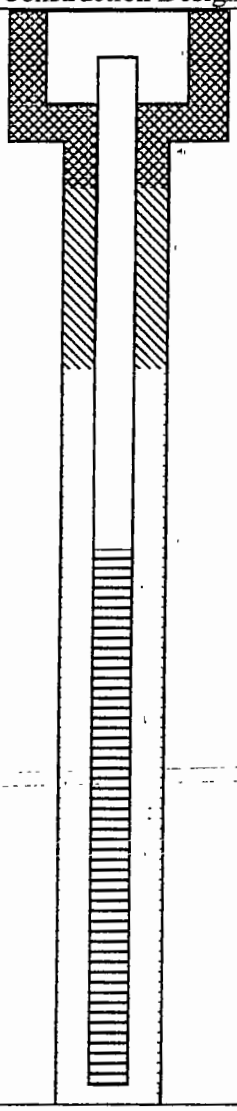
Tax Parcel No. 66130000100

Cased or Uncased Diameter 9" Static Level 2'

Work/Decommission Start Date 6-12-09

Work/Decommission Completed Date 6-12-09

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
	MONUMENT TYPE: 8" flush mount CONCRETE SURFACE SEAL: 0'-1' ANNULAR SPACE: BACKFILL: 1'-1.5' TYPE: 3/8" bentonite chips PVC BLANK: 0'-2.5' SCREEN: 2.5'-7.5' SLOT SIZE: 0.010" TYPE: 2" sch 40 PVC SAND PACK: 1.5'-7.5' MATERIAL: 10/20 silica DRILLING METHOD: H.S.A. WELL DEPTH: 7.5' BORING DIAMETER: 9"	0'-7.5' dark coarse sand

SCALE 1"= ____ PAGE 3 OF 5

MW

PIONEER TECHNOLOGIES CORPORATION (PTC)
BORING LOG FORM

GENERAL INFORMATION			
Boring/MW ID	MW25S	Drilling Co.	
Project/Site Name		Lisc. Driller	
Field Professional		Drilling Method	
Start Date/Time	1245	Drill Rig	
Stop Date/Time	1330	Drill Bit	

LOCATION SKETCH

North Arrow

SAMPLE COLLECTION

Time	Sample Depth (ft) From	Sample Depth (ft) To	Sampling Method	SPT Blows per 6 in.	% Recov.	Contacts or GW?	Localized Soil/Rock Description	Containerized From	Containerized To	PID (ppm)	Sent to Lab?
	0	4		/ /	60		1300	1	2.5	0	Y
				/ /							
				/ /			2 Jars → 1310	3.5	5	0.1	Y
				/ /			Primary composed				
				/ /			→ 1320	6.5	7.5	0.8	Y
	4	8		/ /	50		w/ 3" stained zone @ ~7'				
				/ /			+ some soil on either side 1330	10.5	12	0.1	Y
				/ /				2nd Grab →		0.0	
				/ /			1340	12.5	14	0.2	Y
	8	12		/ /	75						
				/ /							
	12	14		/ /	100						
				/ /							
	VISUAL, SLIGHT PETROLEUM ODOR & SLIGHT SHEEN w/ 7.5' MATERIAL & ON 2nd Grab 10.5-12										
	AND NO OTHER VISUAL, ODOR OR SHEEN EVIDENCE										
				/ /							

GENERALIZED DESCRIPTION OF SOIL/ROCK ENCOUNTERED IN BORING

Depth of Boring From	Depth of Boring To	USCS/ Rock Ty	Generalized Soil or Rock Description
0	2.5		GRAY TO LT BROWN SANDY FINE TO COARSE GRAVEL, LITTLE SILT, MED DENSE, DRY
2.5	10		DARK GRAY CLAYEY GRAVEL WITH SAND, WOOD CHUNKS, THIN 3" LAYER
			BLACK STAINED SANDY CLAY @ ~7', MED DENSE, MOIST
10	14		DARK BROWN GRAVELLY FINE TO MED SAND, MED DENSE, WET

Typical soil desc: USCS Color, sand grain size, SECONDARY modifier, PRIMARY grain size, tertiary constituents, (stiffness/density), (moisture), detail, [geologic interpretation]
Typical rock desc: Rock Type Color, grain description, ROCK TYPE, (strength), (state of weathering), (moisture), detail and bedding, [geologic formation]

OTHER RELEVANT INFORMATION

Casing Info (e.g., type, diameter, depths, casing reduction):

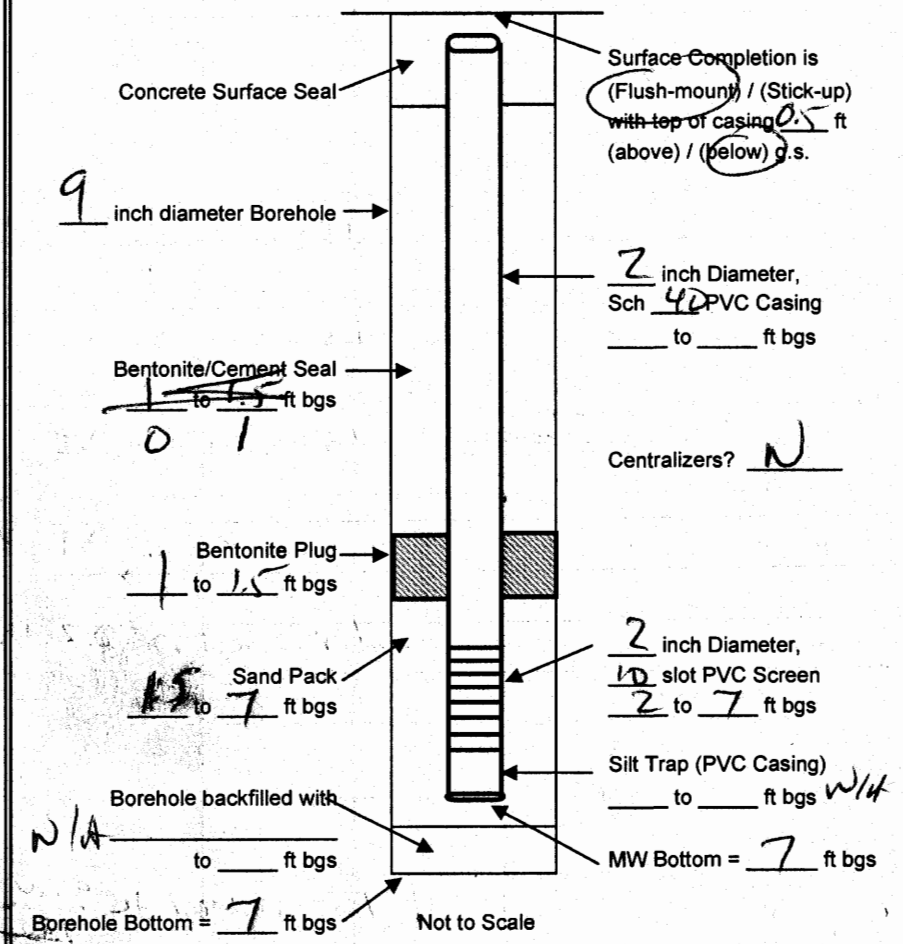
Groundwater Encountered (e.g., time, depth, quantity, casing position):
GW @ ~3.5'

Misc. (e.g., drilling rate, drill cuttings, rig decon, etc.):

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW25S Installation Start Date/Time 6/12 1330 Installation Stop Date/Time _____

CONSTRUCTION DETAILS



MATERIALS USED

4	Sacks of 10/20	Sand
____	Sacks of ____	Cement
1	Sacks of Bentonite Pellets	
____	Sacks of Powdered Bentonite	
____	Sacks of Grout	
____	Feet of ____	-inch dia PVC Casing
____	Feet of ____	-inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- [x] Well Cap
- [ ] Locking Steel Cover (Stick-up)
- [ ] Bollards (Stick-up)
- [ ] Lock
- [x] Agency Well Tag No. BBK331
- [x] Top of Casing Ref Pt. = N S Line

WELL DEVELOPMENT

	Following Well Construction	Following Well Development (2 Hours)
Depth To Water (ft below TOC)	6/16 0.78	6/16 0.80
Total Well Depth (ft below TOC)	6/16 6.24	6/16 6.24

Development Start Date/Time 6/16 1245 Development Stop Date/Time 6/16 1330

Development Method OVERPUMPING Development Water Discharged to BAKER TANKS

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed 5

Additional Remarks MW Pumped Dry @ ~5 gallons

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE03445

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction 347799
☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Consulting Firm Pioneer Technologies Corp

Unique Ecology Well IDTag No. BBK331

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Engineer ☐ Trainee
Name (Print Last, First Name) Knopf, Noel
Driller/Engineer /Trainee Signature
Driller or Trainee License No. 2872

If trainee, licensed driller's Signature and License Number:

Type of Well *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson Street

City Olympia County Thurston

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

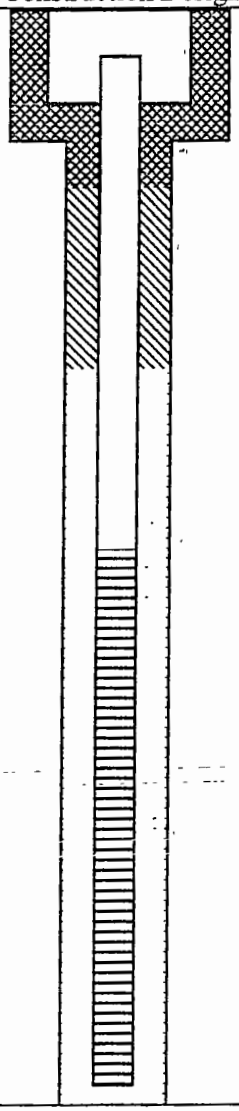
Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____
Long Deg ____ Min ____ Sec ____

Tax Parcel No. 66130000100

Cased or Uncased Diameter 9" Static Level 2'

Work/Decommission Start Date 6-12-09

Work/Decommission Completed Date 6-12-09

Construction Design	Well Data	Formation Description
	MONUMENT TYPE: 8" flush mount CONCRETE SURFACE SEAL: 0'-1' ANNULAR SPACE: BACKFILL: 1'-15' TYPE: 3/8" bentonite chips PVC BLANK: 0'-2' SCREEN: 2'-7' SLOT SIZE: 0.010" TYPE: 2" sch 40 PVC SAND PACK: 1.5'-7' MATERIAL: 10/20 silica DRILLING METHOD: H.S.A. WELL DEPTH: 7' BORING DIAMETER: 9"	0'-7' dark coarse sand

SCALE: 1"= ____ PAGE 4 OF 5

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE06343

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☐ Construction 344233

☒ Decommission

MW05
Decommissioning

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number: R65632

Consulting Firm Pioneer Technologies

Unique Ecology Well IDTag No. ALA 228

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) [redacted], Haun, MARTIN

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2827

If trainee, licensed driller's Signature and License Number:

Property Owner Port of Olympia

Site Address 315 Jefferson Street

City Olympia County Thurston

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

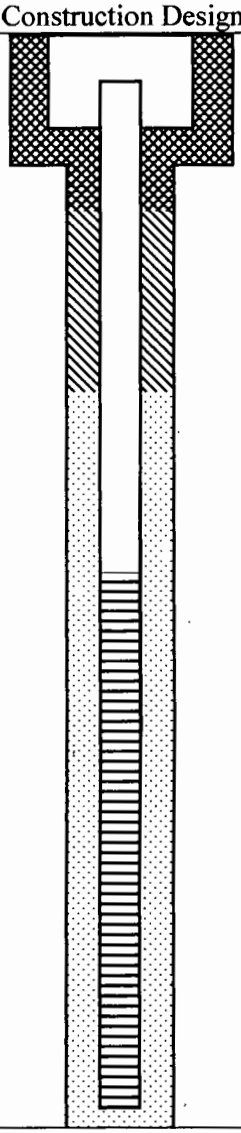
Tax Parcel No. 66130000100

Cased or Uncased Diameter ____ Static Level —

Work/Decommission Start Date 06/16/2009

Work/Decommission Completed Date 6/16/2009

Construction Design



Well Data

MONUMENT TYPE: 8" FLUSH MOUNT

PVC BLANK: ____

SCREEN: ____

WELL DEPTH: 12'

Formation Description

FORMATION NOT OBSERVED – WELL WAS DECOMMISSIONED

REMOVED MONUMENT: (YES) NO

☒ WELL WAS CHIPPED/GROUTED IN PLACE

☐ ALL CASING WAS REMOVED AND BACKFILLED BOTTOM UP

RECEIVED
JUL 02 2009
Washington State Department of Ecology

SCALE: 1"= ____ PAGE 1 OF 1

ECY 050-12 (Rev. 7/06)

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RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. AE 06992

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*
- ☐ Construction
- ☒ Decommission

MW02
Decommissioning

Type of Well *("x in box)*
- ☒ Resource Protection
- ☐ Geotech Soil Boring

ORIGINAL INSTALLATION Notice of Intent Number: L65628

Consulting Firm

Unique Ecology Well IDTag No. AGT115

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Harnden, Don

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2914

If trainee, licensed driller's Signature and License Number:

Property Owner Port of Olympia

Site Address State & Jefferson

City Olympia County Thruston

Location NE1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

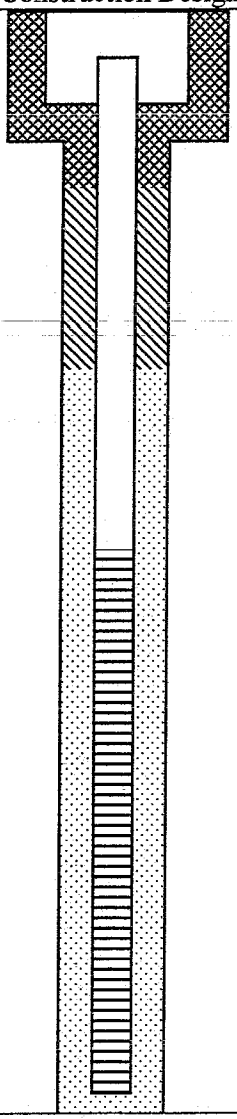
Tax Parcel No. 661340000100

Cased or Uncased Diameter 3/4" Static Level 4'

Work/Decommission Start Date 9/4/09

Work/Decommission Completed Date 9/4/09

Construction Design



Well Data

MONUMENT TYPE: 8" Flush

REMOVED MONUMENT: YES/NO

PVC BLANK: 3/4, Sched 40

SCREEN: 3/4 PVC pack

WELL DEPTH: 11'

Formation Description

FORMATION NOT OBSERVED – WELL WAS DECOMMISSIONED

REMOVED MONUMENT: YES / NO

~~☒~~ WELL WAS CHIPPED/GROUTED IN PLACE / PVC Casing Perforated

☐ ALL CASING WAS REMOVED AND BACKFILLED BOTTOM UP

SCALE: 1"= N/A PAGE 1 OF 1

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Olympia East Bay MW Repair/Replace Site Location: East Bay

Requested By / Date: TDB 9/14/09 Work ~~Deadline:~~ Scheduled

SERVICES REQUESTED — **COMPLETED**

1. ESN TO INSTALL NEW MONITORING WELL MW02R — ☒ YES ☐ NO
2. ~~BRING~~ ESN TO EXTEND THE PVC CASING ON MW12 SO THAT ~~MW12~~ MW12 — ☒ YES ☐ NO
   IS AT THE SIDEWALK GRADE — ☒ YES ☐ NO
   ↳ IF SPC DAMAGES MW12 WHILE UNCOVERING OR ESN CAN'T REPAIR MW12, — ☐ YES ☐ NO
   THEN DECOMMISSION MW12 AND INSTALL MW12R — ☐ YES ☐ NO
3. MW02R (AND MW12R IF NECESSARY) SHOULD BE 2-INCH DIAMETER PVC THAT — ☒ YES ☐ NO
   ARE SCREENED FROM 2.5-7.5 ft bgs (SCREEN DEEPER IF SWL > 5 ft bgs) — ☒ YES ☐ NO
4. ESN TO DEVELOP MW02R (AND MW12R IF INSTALLED) BY OVERPUMPING — ☒ YES ☐ NO
5. COMPLETE MW INSTALLATION AND WELL DEVELOPMENT FORM — ☒ YES ☐ NO
6. HAVE ESN INSTALL MONUMENT COVER PLATES ON MW01 AND MW08 — ☒ YES ☐ NO
7. GET HANDFUL OF EXTRA SCREENS FROM ESN — ☒ YES ☐ NO
   ☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS

	COMPLETED		COMPLETED
☐ Review Docs:	☐ YES ☐ NO	☒ Health & Safety Meeting (DOCUMENT)	☒ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☒ Call PM from Site TROY BUSSEY	☒ YES ☐ NO
☒ ~~OK~~ N/A Coordinate Access:	☐ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☒ Coordinate Sub / Equip: ESN	☒ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☐ Purchase / Rent Equip:	☐ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: PORT / ECOLOGY	☒ YES ☐ NO	☒ Non-Haz TO IA STOCKPILE (BARREL TANK)	☒ YES ☐ NO
☐ Calibrate Equipment:	☐ YES ☐ NO	☐ Background	☐ YES ☐ NO

- STAN PALMER IS SUPPOSED TO HAVE UNCOVERED MW12 PRIOR TO WORK
- WILL NOT BE LOGGING GEOLOGY OR COLLECTING SOIL SAMPLES

SAMPLING REQUIREMENTS

☐ Field Testing: _____

☐ Lab Testing: NONE Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

☐ Lab Testing: _____ Laboratory: _____

FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☐ Vehicle	☒ Water Level Indicator / Interface Probe
☐ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)	☐ Water Quality Meter _____ ☐ Field Test Kits _____
☐ Drilling Equip (PID, references, knife, baggies, tape)	☐ Sample Kit / Cooler / COC / Ice _____
☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)	☐ IDW: ☐ Drums _____ ☐ 5-gal buckets _____
☐ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB)	☐ Other: _____
☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)	☐ Other: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 9/16/09 Site Location: East Bay Port of Oly Site Arrival Time: 8:00 Site Departure Time: 3:00

WEATHER	(Clear Sun)	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	(70-85)	85 Up
WIND	(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
ESN (2 Employees)		
Kara Roberts/Pioneer	Pioneer	
SPC	Stan Palmer Construction	
Paul Krippaehne	Port Contractor	
Kevin Dragon	Port of Olympia	
Ken Gardner	City of Olympia	

NOTES ON WORK COMPLETED

MW02R located approximately 7 feet away from back of sidewalk. Casing/Monument placed flush with ground level. After well installation water was present at 4 feet. Well was developed with approximately 25 gallons pumped and placed in Baker Tank. Soil was moved to zone II stockpile. While drilling, driller reported a sheen with a diesel smell from the water. Well was screened from 2-12 feet. The original 2.5-7.5 feet did not produce any water so driller went lower. Twice heavy wooded debri was encountered around 6 and again around 10 feet. Driller was able to get through it.

MW12 was raised to finish grade and sealed only with ½ cement so it can be adjusted later during construction.

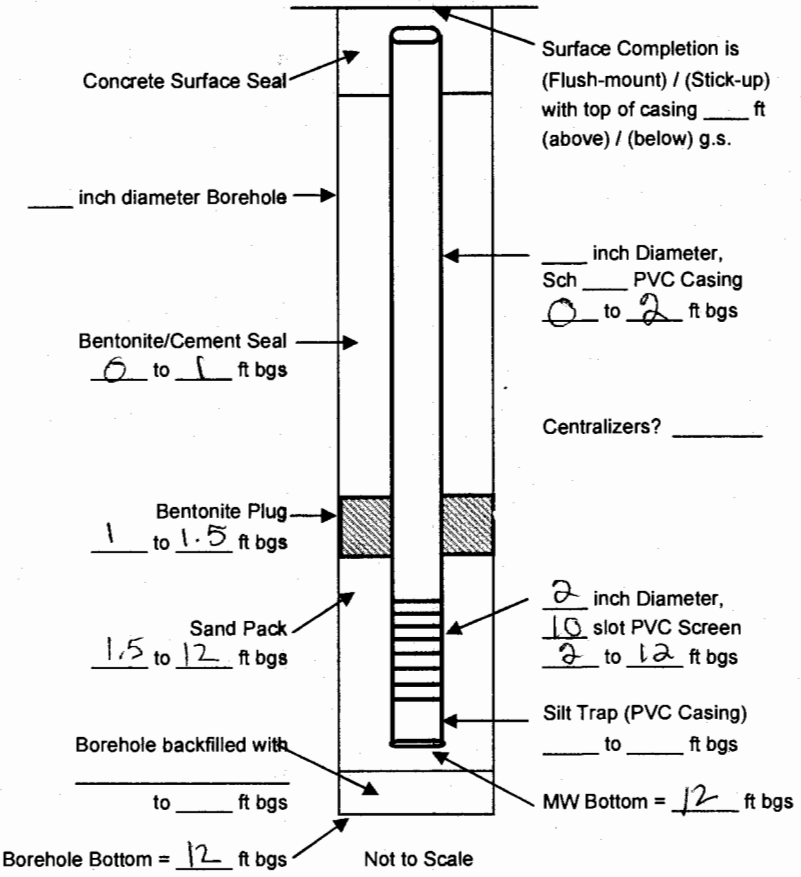
All other work was performed as planned.

SIGNATURE: Kara Roberts DATE: 9/16/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
MW INSTALLATION FORM

MW ID MW02R Installation Start Date/Time 8:00 Installation Stop Date/Time _____

CONSTRUCTION DETAILS



MATERIALS USED

____ Sacks of _____ Sand
____ Sacks of _____ Cement
____ Sacks of Bentonite Pellets
____ Sacks of Powdered Bentonite
____ Sacks of Grout
____ Feet of _____ -inch dia PVC Casing
____ Feet of _____ -inch dia PVC Screen

WELL PROTECTION AND IDENTIFICATION

- ☐ Well Cap
- ☐ Locking Steel Cover (Stick-up)
- ☐ Bollards (Stick-up)
- ☐ Lock
- ☐ Agency Well Tag No. BBK 346
- ☐ Top of Casing Ref Pt. = _____

WELL DEVELOPMENT

	Following Well Construction	Following Well Development
Depth To Water (ft below TOC)	Water @ 4'	
Total Well Depth (ft below TOC)	12'	

Development Start Date/Time 11:03 Development Stop Date/Time 11:20 25gallons
Development Method _____ Development Water Discharged to Baker Tanks

Elapsed Time (min)	pH	Flowrate (gpm)	Sp. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (oC)	Comments on TSS/Color

Total Gallons Removed _____

Additional Remarks Definate Sheen in Water w/diesel smell per driller * BBK 346

Soil moved to a Zone 1 stockpile

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. RE03445

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction 351340

☐ Decommission

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson Street

Consulting Firm Pioneer Technologies Corp

City Olympia County Thurston

Unique Ecology Well IDTag No. BBK346

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Knopf, Noel

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2872

Tax Parcel No. 66130000100

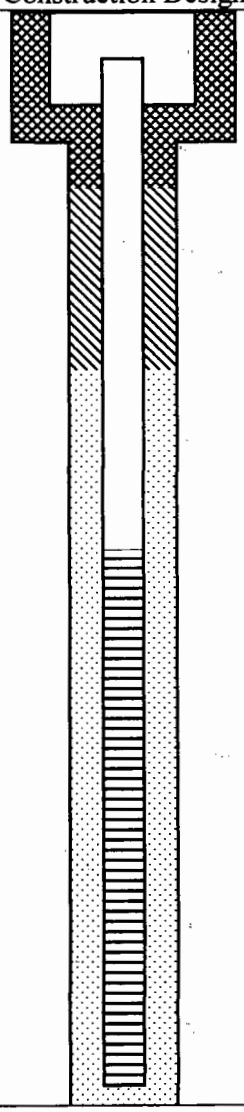
Cased or Uncased Diameter 9" Static Level 4'

Work/Decommission Start Date 9-15-09

Work/Decommission Completed Date 9-15-09

If trainee, licensed driller's Signature and License Number:

Construction Design



Well Data

MONUMENT TYPE: 8" flush mount

CONCRETE SURFACE SEAL: 0'-1'

ANNULAR SPACE:

BACKFILL: 1'-1.5'

TYPE: 3/8" bentonite

PVC BLANK: 0'-2'

SCREEN: 2'-12'

SLOT SIZE: 0.010"

TYPE: 2" sch 40 PVC

SAND PACK: 1.5'-12'

MATERIAL: 10/20 silica

DRILLING METHOD: H.S.A.

WELL DEPTH: 12'

BORING DIAMETER: 9"

Formation Description

0'-12' silty sand w/ wood

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SEP 21 2009

Washington State Department of Ecology

SCALE: 1"= ____ PAGE 1 OF 1

ECY 050-12 (Rev. 7/06)

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APPENDIX F

MONITORING WELL SURVEY INFORMATION

MW	NORTHING	EASTING	ELEVATION	NOTES
MW 01	634457.11	1043040.11	10.78	
MW 02	634440.63	1042943.15	10.41	Decommissioned
MW 02R	634461.86	1042882.94	10.15	New MW since previous survey
MW 03	634295.13	1043023.36	11.05	
MW 04	634419.51	1043200.36	11.70	
MW 05	634037.09	1043275.89	11.69	Decommissioned
MW 06	633826.45	1043255.05	10.26	
MW 07	633717.49	1043024.85	11.01	New vertical elevation since surface seal changed
MW 08	633935.71	1043036.36	11.32	
MW 09	634038.01	1043055.48	10.78	
MW 10	634029.59	1043179.17	11.39	
MW 11	633980.2	1043759.35	11.07	New vertical elevation since surface seal changed
MW 12	633975.01	1043414.98	11.74	
MW 13	633769.58	1043399.45	9.91	
MW 14	633849.83	1043141.11	10.74	
MW 15	634162.51	1042696.92	9.86	
MW 16	634245.79	1043219.78	11.40	
MW 17	634528.37	1042794.98	10.28	
MW 18	634665.34	1043232.67	12.21	
MW 19	634811.76	1043004.41	9.38	
MW 20	634831.43	1042865.83	10.06	
MW 21S	634811.83	1043023	9.81	New MW since previous survey
MW 22S	633854.84	1043255.63	10.48	New MW since previous survey
MW 23S	634227.24	1043131.67	10.72	New MW since previous survey
MW 24S	633999.13	1043241.52	11.49	New MW since previous survey
MW 25S	633830.57	1043032.27	10.95	New MW since previous survey

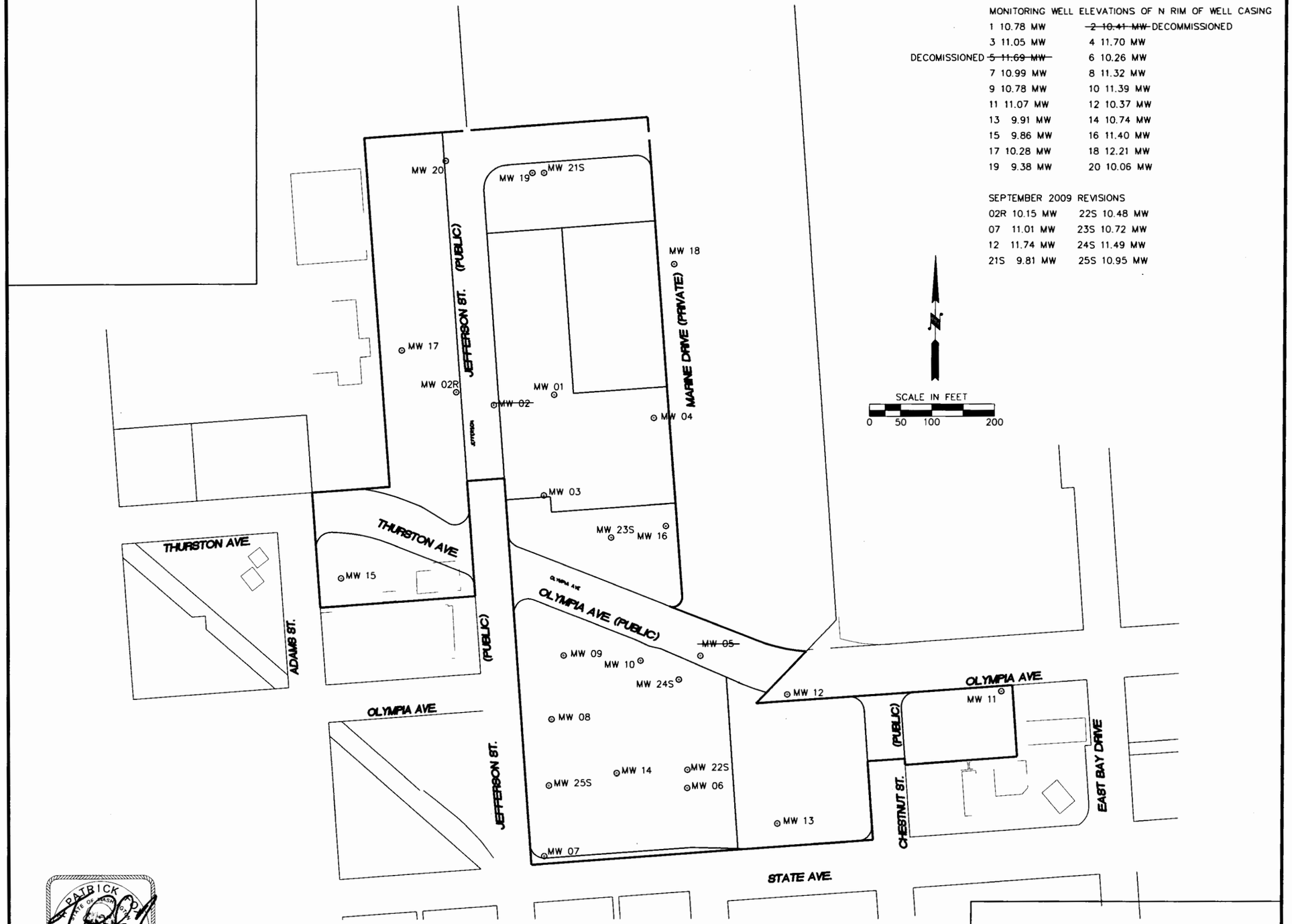
Survey date = 09/30/09

MONITORING WELL ELEVATIONS OF N RIM OF WELL CASING

1	10.78 MW	~~2 10.41 MW~~	DECOMMISSIONED
3	11.05 MW	4	11.70 MW
DECOMISSIONED ~~5 11.69 MW~~		6	10.26 MW
7	10.99 MW	8	11.32 MW
9	10.78 MW	10	11.39 MW
11	11.07 MW	12	10.37 MW
13	9.91 MW	14	10.74 MW
15	9.86 MW	16	11.40 MW
17	10.28 MW	18	12.21 MW
19	9.38 MW	20	10.06 MW

SEPTEMBER 2009 REVISIONS

02R	10.15 MW	22S	10.48 MW
07	11.01 MW	23S	10.72 MW
12	11.74 MW	24S	11.49 MW
21S	9.81 MW	25S	10.95 MW



SCALE IN FEET
0 50 100 200

PATRICK D. [illegible]
STATE OF WASHINGTON
27192
REGISTERED
PROFESSIONAL LAND SURVEYOR

9/30/09

07156

SKILLINGS CONNOLLY

5016 Lacey Boulevard SE, Lacey, Washington 98503
(360) 491-3399 (800) 454-7545 Fax (360) 491-3857

APPENDIX G

FIELD NOTES FOR JUNE 2009 THROUGH DECEMBER 2009 GROUNDWATER MONITORING EVENTS

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Oly East Bay GWM Site Location: East Bay

Requested By / Date: TDB 6/19/09 Work ~~Deadline~~ Scheduled: June 30 - July 2

SERVICES REQUESTED — **COMPLETED**

Conduct GWM Event per GeoEngineers RIWP SAP/QAPP (e.g., Table 3) + 4 seeps per Sec 5.4.7	☒ YES ☐ NO
Locate and mark 4 seep locations with Joanne/Greylock → low tide	☒ YES ☐ NO
Conduct H&S Tailgate meetings ; complete paperwork	☒ YES ☐ NO
Survey elevation of 5 new MWs - Later	☐ YES ☒ NO
NO QC samples other than VOC/MNA-G Trip Blank	☒ YES ☐ NO
DO dissolved metals (in addition to total metals) for 4 locations in SAP +	☒ YES ☐ NO
MW w/ elevated turbidity + sentinel MWs	☐ YES ☐ NO
Record measured for LNAPL in every MW	☒ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS

	COMPLETED		COMPLETED
☐ Review Docs:	☐ YES ☐ NO	☒ Health & Safety Meeting	☒ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: ~~Mailed~~ MW17 ~~MW~~ LOTT	☒ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☐ Coordinate Sub / Equip:	☐ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: peristaltic pump, tubing, WL meter, flow through cell, YSI 556	☒ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: Interface probe Port / Ecy	☒ YES ☐ NO	☒ Non-Haz TD Baker Tank	☒ YES ☐ NO
☒ Calibrate Equipment: WL meter	☒ YES ☐ NO	☐ Background	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: NWTPH-G, VOCs, NWTPH-Dx, PAHs, RCRA 8 metals + Cu/Ni, PCBs Laboratory: Dragon

☒ Lab Testing: D/F by 1613 Laboratory: Pace

☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☒ Survey Equip / GPS (Later) ☒ Vehicle (Kim)	☒ Water Level Indicator / Interface Probe
☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)	☒ Water Quality Meter ☐ Field Test Kits
☐ Drilling Equip (PID, references, knife, baggies, tape)	☒ Sample Kit / Cooler / COC / Ice
☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)	☒ IDW: ☐ Drums ☒ 5-gal buckets
☒ GWM (peristaltic pump, tubing, gen., compres., bailers, rope/string, PDB)	☒ Other: PVC pipe for seeps, FILTERS, TIDE TABLE, TOOLS
☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)	☐ Other:

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 06/30/09 ~ Site Location: Port of Oly East Bay Site Arrival Time: See Below Site Departure Time: See Below

	Clear Sun	Overcast	Drizzle	Rain	Snow
WEATHER	6/30 7/1				
	To 32	32-50	50-70	70-85	85 Up
TEMPERATURE				6/30 7/1	
	Calm	Med.	Strong	Severe	
WIND	7/1	6/30			

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Troy Bussey	PTC	6/30 - 7/2
Jeremy Roberts	↓	6/30
Melody Eeden	↓	7/1 - 7/2

NOTES ON WORK COMPLETED

6/30 ON-SITE @ 0845; HELD H&S TAILGATE
DIDN'T HAVE ANY TRIP BLANKS FOR VOC/TPH-G → SO COLLECTED
FIELD BLANK @ 0900 WITH TAP WATER

COULD NOT COLLECT SAMPLE FROM MW12 → VERY LITTLE WATER & LITTLE WATER
THAT IS PRESENT IS NOT REPRESENTATIVE OF GW
↳ TIDE WAS RELATIVELY LOW → TRY AGAIN WHEN TIDE IS HIGH

COLLECTED SAMPLES FROM MW07, MW25S, MW08, MW14, MW22S, MW13, MW09
OFFSITE @ 1700 → DELIVERED SAMPLES TO LAB

7/1 ON-SITE @ 0700; HELD H&S TAILGATE
LOOKED FOR MW17 BUT COULDN'T FIND IT → LIKELY COVERED W/ CONSTRUCTION TEMP FACILITIES/EQUIP
JOANNE & SUZANNE LOCATED 4 SEEP LOCATIONS
COLLECTED ~~SAMPLES FROM~~ WATER QUALITY MEASUREMENTS FROM SEEP 3 & SEEP 1
↳ TDS, SC & SALINITY INDICATE BANK STORAGE OF MARINE WATER & NOT GW
ALSO COLLECTED WQ MEASUREMENTS FROM MOXLIE CREEK OUTFALL & SWANTOWN BOATWORKS
TALKED TO JOANNE & LOTT PM RE: MW17
FIELD FILTER W/ 0.45 μm filter Samples from 063009 (i.e., MW13)
FOR DISSOLVED METAL SAMPLES AFTER 063009, just collected unpreserved
Sample that Dale will filter in lab
All OF 063009 Samples had Salinity < 1 ppt + MW20
COLLECTED SAMPLES FROM MW20, MW21S, MW01, MW02, MW03, MW23S, MW16,
MW04, MW11, AND MW18
OFFSITE @ 1715 → TOOK SAMPLES TO LAB

EB-1 7:00 - 2:45 on monte water truck

7/2/09 ONSITE @ 0700 → LOTT moved cones & other equipment → searched for 30 minutes but couldn't find MW17 → appears based on Senforte plug in vicinity of MW17 mapped location, appears that MW17 was decomissioned → DISCUSSED w/ JOANNE & CHAS [illegible]

SIGNATURE: [signature] DATE: 07/02/09

SAMPLED MW15 & MW24S; MEASURED WATER QUALITY @ SEEP 4 & SEEP 2
MADE 2ND ATTEMPT TO SAMPLE MW12 AT HIGHER TIDE → NOT ENOUGH WATER TO SAMPLE
OFF-SITE @ 1400

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± [illegible] mV

SITE NAME: Port of Oly - East Bay **FIELD TECHNICIAN(S):** TB / KR **DATE:** 6/30/09

WELL INFO: Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	DTW: Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	PURGING: Pump Type	Intake Depth (ft)	Stabilization: Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	~~Turb (NTU)~~ TDS (g/L)	D.O. (mg/L)	Temp (°C)	ORP (mV)	SAMPLE COLLECTION: Time	Field Kit Results / General Comments	PURGE WATER: Vol (gal)	Disposal / Storage Comments
MW 12	11' ~~ft~~		MISSING SCREWS; STRANGE SMELLY SLUDGE INSIDE MONUMENT	0930	—	9.73	—	PERI STALTIC	Bottom of slough									NOT		Pumps dry in <0.1 gal.; very turbid; smells like sewer sludge; NOT SAMPLED		
MW 07	10.5		Good	1030	—	5.15	—		8.5'	4	0.8	7.3							1115		1.5	Baker tank
										7	0.2	5.59	6.8	0.26	0.17	0.65	15.9	-37.4				
										15		6.05	6.8	0.26	0.17	0.88	17.9	-62.1				
										19		6.15	6.8	0.26	0.17	0.57	15.6	-63.9				
										23		6.20	6.5	0.26	0.17	0.63	15.4	-60				
MW 25S	6.5		Good	~~1130~~ 1120	—	0.81	—		4.5	3	.4	3.35	6.4	0.42	0.27	1.44	21.5	-49.2	1130		2	
										10		3.82	5.9	0.37	0.24	2.24	21.5	13.0				
										14		3.81	5.86	0.33	0.22	3.39	21.7	3.3				
										17		3.82	5.87	0.34	0.[illegible]	3.73	21.7	4.0				
MW 08	11.9		Good	1200	—	2.73	—		10	3	.4	4.3	6.7	3.6	2.34	3.17	16.22	-53.1	~~1230~~ 1230		1.5	
										7	.4	4.31	6.57	3.58	2.32	2.08	16.13	-52.6				
										11	.4	4.37	6.61	3.45	2.24	1.43	15.94	-53				
MW 14	9.3		Good	1330	—	2.00	—		7	1	.5	6.89	5.87	0.66	0.43	4.46	16.16	10.4	1400	Slight petroleum odor but no sheen	2.5	
										8		7.43	5.83	0.67	0.44	1.04	15.96	12.9				
										12		7.48	5.79	0.63	.42	0.47	15.36	18.7				
										16		7.61	5.43	0.62	0.46	0.38	15.36	19.7				
MW 22S	6.0		Good	1410	—	0.77	—		4	6	[illegible]	1.09	6.03	0.25	0.16	0.54	15.28	24.8	1430		2	
										9		1.36	5.75	0.22	0.14	0.43	15.32	32.3				
										12		1.36	5.7	0.20	0.13	0.39	15.3	32.3				

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft — Turb ± 10%
pH ± 0.1 — DO ± 0.3 mg/L
SC, Temp ± 3% — ORP ± 10 mV

SITE NAME: PORT OF OAK EAST BAY **FIELD TECHNICIAN(S):** TB/KR/MF **DATE:** 063009-070109

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS g/L (~~Turb (NTU)~~)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 13	9.9		Good	1450	—	4.22	—	peristaltic	7.5	1	.2	6	6.93	2.62	1.69	2.33	19.74	-45.2	1515	pumped dry @ 1/2 gallon, Collecting a filtered sample	1	BAKER TANK
										7	↓	8.26	6.60	2.40	1.57	1.87	18.44	-25.2				
										10		9	6.61	5.05	3.25	2.20	18.33	-43.8	1520	→ FILTERED		
MW 12 MW 09	8.2		Good	1610	—	2.73	—		6.5	3	0.4	2.87	6.0	0.82	0.53	3.1	17.1	31	1630		1	
										8	↓	2.95	5.3	0.83	0.54	0.8	16.9	44				
										11		2.97	5.3	0.83	0.54	0.7	16.8	48				
MW 20	9.2		SURFACE SEAL BROKEN DURING CONSTRUCTION	7/1 0720	—	5.12	—		7.5	3	0.3	5.22	7.6	1.33	0.86	1.2	17.2	-108	7/1/09 0800		1	
										12	↓	5.14	7.6	1.33	0.86	1.6	17.6	-112				
										15		5.22	7.6	1.33	0.87	1.3	17.2	-115				
MW 19	8.7		~~Good~~	~~1015~~	~~—~~	~~3.59~~	~~—~~		~~7~~ 7	4	0.3	3.62	6.7	1.77	1.15	4.9	18.24	6.4	~~1040~~	SAL 2 0.89	0.8	
										10	↓	3.56	6.4	1.76	1.14	5.0	19.49	80		~~Drawdown too~~ [illegible] to SAMPLE		
MW 21 S	6.9		Good	1045	—	4.20	—		6	3	0.5	4.31	6.7	1.66	1.08	1.7	18.60	-47.7	1115	0.86 = sal	1	
										8	↓	4.32	6.5	1.69	1.10	1.6	18.60	-40.2				
										10		4.33	6.5	1.71	1.11	1.6	18.6	-40.3		extra filtered		
MW 01	8.8		SURFACE MONUMENT DESTROYED; SURFACE SEAL DAMAGED; MONUMENT STATION FILLED W/ DIRT	1120	—	4.18	—	↓		2	0.7	[illegible]	7.5	0.41	0.27	0.62	17.64	-49.7	1140	~~[illegible]~~ sal = 0.19	1.5	↓
										5	↓		7.0	0.40	0.26	0.31	17.65	-36.5				
										7			6.8	0.40	0.25	0.24	17.71	-33.4				

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft; pH ± 0.1; SC, Temp ± 3%; Turb ± 10%; DO ± 0.3 mg/L; ORP ± 10 mV

SITE NAME: Port of Oly East Bay **FIELD TECHNICIAN(S):** TB/MF **DATE:** 07/01/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 02	10.15		Good	1200 / ~~1208~~ / 1215	—	3.49	—	Peristaltic	7	3	0.5	< 0.08 small	7.0	0.17	0.11	1.5	15.11	-7.1	1215	Filtered sample SAL=0.08	1.5	Baker tank
										5	↓		6.6	0.17	0.11	1.26	14.95	14.6				
										9			6.1	0.169	0.11	0.53	14.53	36.6				
MW D3	11.5		Surface seal cracked	~~1215~~ / 1220	—	4.58	—		9.5	6	0.6	< 0.0 small / 4.38	7.5	11.4	7.38	0.30	15.33	-74	1246	Filtered sample Sal=6.5 ↑ higher than other MWs	1.5	
										10	↓		7.6	11.4	7.4	0.37	15.27	76.4				
										12			7.6	11.4	7.39	0.32	15.22	78.4				
MW 23S	8.7		Good	~~1240~~ / 1250	—	4.11	—		7	2	0.4	[illegible]	6.8	1.10	0.71	3.63	16.03	-29.5	1340	Smells like sewage/? salt water? Sal=0.55	1.5	
										5	↓	4.40	6.6	1.08	0.71	4.45	15.95	-21.9				
										7		4.44	6.4	1.08	0.70	3.67	15.87	19.0				
MW 16	15.3		Good	1350	—	~~5.24~~ 5.21	—		13	5	0.6	5.70	6.9	2.03	1.33	3.61	16.67	-14.0	1430	Filtered extra. DIF sample SAL=1.1 Turbid sample	2	
										7	↓	5.84	6.9	2.06	1.34	2.47	17.13	-15.7				
										10		6.10	6.6	2.09	1.36	2.20	17.35	-17.5				
MW 04	14.7		Good	1440	—	5.49	—		13	3	0.4	< 0.8 small	6.96	13.14	8.54	0.53	18.03	-107.6	1500	Filtered extra. PCB sample smells like sea water Sal=7.53 Turbid sample	1	
										5	↓		7.01	12.85	8.32	0.48	17.04	-119.4				
										7			7.02	12.73	8.27	0.43	16.96	-126				
MW 11	9.4		Missing seal; cracked surface seal	1545	—	3.42	—	↓	8	3	0.4	3.52	7.55	0.25	0.162	3.18	20.28	-19.2	1600	Sal = 20.2 collected filtered extra	1	↓
										5	↓	3.56	7.19	0.25	0.160	3.49	20.23	-9.5				
										7		3.59	7.06	0.25	0.160	3.42	20.13	-6.4				

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft — Turb ± 10%
pH ± 0.1 — DO ± 0.3 mg/L
SC, Temp ± 3% — ORP ± 10 mV

SITE NAME: Port of [illegible] Bay **FIELD TECHNICIAN(S):** TB / MF **DATE:** 07/01/09 – 07/02/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 10	11.8		Good	1600	–	~~8.88~~ 8.88	–	Peristaltic	11	2	0.6	9.40	7.19	24.84	16.12	9.00	13.48	45.6	1630	Collected filtered Grant	~~1~~ 2	Baker Tank
										5	↓	9.42	7.18	24.83	16.14	8.86	13.37	49.0		Sal = 15.16		
										7		9.45	7.22	24.82	16.13	8.86	13.35	51.3				
MW 15	7.8		Good	07/02 0715	–	3.82	–	↓	7	2	0.6	[illegible]	7.04	2.153	1.39	6.16	20.14	-72.0	0745		2	↓
										4	↓	too	7.17	2.108	1.37	3.02	20.28	-90.5				
										6		small	7.22	2.099	1.38	2.23	20.32	-96.3				
MW 24S	7.45		Good	0830	–	3.72	–	↓	5	2	0.6	3.72	9.44	0.276	0.179	1.86	18.84	-31.4	0845	Sal = 0.13	1.5	↓
										4	↓	3.74	9.07	0.276	0.180	1.72	18.83	-8.1		Collected extra for filtered PCB + D/F		
										6		3.72	8.73	0.281	0.182	1.73	18.83	6.5				
MW 12	11.5		Missing screws	~~13~~ ~~12~~ 1315	–	10.5	–	↓		Pumped dry @ < 0.1 gallons. Not enough water in mw to sample. Smelled like sea water / manure												↓
~~MW 12~~								↓														↓
								↓														↓

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

LOW TIDE OF +0.5 @ 0830 on 7/1
LOW TIDE OF -0.4 @ 0920 on 7/2

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: PORT OF OLY - EAST BAY **FIELD TECHNICIAN(S):** TB/MF **DATE:** 7/1/09 - 7/2/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization					TDS (S/L)							
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
SEEP 4			NORTHERN END	7/2 0900	← COULDN'T COLLECT ON 7/1 BECAUSE NOT ENOUGH FLOW COULD BE COLLECTED W/O MIXING WITH SURFACE			OBTAINED WATER					8.5	39.03	25.37	3.93	16.75	52.9		Sal = 24.92		
SEEP 3				7/1 0900									8.0	36.2	23.5	5.8	16.3	29.4		Sal = 22.9		
SEEP 2				7/2 0915									8.5	36.5	23.7	5.2	16.6	49.3		Sal = 23.1		
SEEP 1			SOUTHERN END, BY MOXLIE CREEK CULVERT	7/1 0920									7.9	31.7	20.6	6.0	16.6	42.2		Sal = 19.8	IN ALL CASES, • BANK ABOVE SEEPAGE POINT WAS NOT SAMPLED W/ GW • ALL SEEPAGE POINTS APPEARED LOWERED, RATHER THAN "WATER" OF GW DISCHARGE • SEEPAGE POINTS WERE JUST ABOVE SW LEVEL	
AT MOXLIE CREEK CULVERT, WHERE MOXLIE CREEK FLOWS INTO BUDD INLET				7/1 0930									9.0	1.0	0.6	9.9	11.3	-7.1		Sal = 0.5		
BUDD INLET SURFACE WATER AT END OF SWANTOWN BOATWORKS DOCK				7/1 0940									7.2	42.7	27.8	10.0	17.1	69.4		Sal = 27.5		

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: PORT OF OAK EAST BAY GWM Site Location: EAST BAY

Requested By / Date: TDB 9/1/09 Work ~~Deadline~~ Scheduled: 9/18, 9/21, 9/22

SERVICES REQUESTED

	COMPLETED
(1) CONDUCT H&S TAILGATE MEETING & COMPLETE PAPERWORK	☒ YES ☐ NO
(2) FIND & LOCATE ALL MWS BEFOREHAND (e.g., MW17)	☒ YES ☐ NO
(3) CONDUCT GWM EVENT PER GEOENGINEERS RMP SAP/QAPP (e.g., TABLE 3)	☒ YES ☐ NO
• IF SPL DEWATERING, THEN DO ADJACENT MWS WHEN SPL NOT PUMPING	☒ YES ☐ NO
• MEASURE & RECORD FOR LNAPL IN EVERY MW BEING SAMPLED	☒ YES ☐ NO
• MEASURE & RECORD SALINITY IN EVERY MW BEING SAMPLED	☒ YES ☐ NO
• HAVE LAB DO DISSOLVED ~~METALS~~ ARSENIC (IN ADDITION TO TOTAL METALS) FOR ALL MWS BEING SAMPLED	☒ YES ☐ NO
• NO QC SAMPLES OTHER THAN VOC/TPH-G TRIP BLANKS	☒ YES ☐ NO
	☐ YES ☐ NO
(4) MEASURE WATER LEVELS IN 4 STEPS @ LOW TIDE (9/18 1200, 9/21 1410, 9/22 1500)	☐ YES ☒ NO
tide not low enough - could only sample 1 of 3	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS

	COMPLETED		COMPLETED
☐ Review Docs:	☐ YES ☐ NO	☒ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access:	☐ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☐ Coordinate Sub / Equip:	☐ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: YSI 556 + flowthrough cell (Interface probe)	☒ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: Port/EZ4	☒ YES ☐ NO	☒ Non-Haz To Baker Tank	☒ YES ☐ NO
☒ Calibrate Equipment: WQ meter	☒ YES ☐ NO	☐ Background	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

PCBs in all MWs per Jamie 9/9/09

☒ Lab Testing: NWTPH-Gx, VOCs, NWTPH-Dx, PAHs (split), RCRA 8 metals + Cu/Ni, PCBs Laboratory: DAL

☒ Lab Testing: D/F + PAHs (SPLIT) Laboratory: PACE

☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Vehicle KAIZA

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (~~SS~~ bowls, spoon/shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB) Re-install

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe Rental

☒ Water Quality Meter Rental ☐ Field Test Kits

☒ Sample Kit / Cooler / COC / Ice

☒ IDW: ☐ Drums ☒ 5-gal buckets

☒ Other: PVC pipe for seeps, TOOLS

☒ Other: PICK AX, EZ for finding MW17 N/A

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: Sept 18, 2009 Site Location: East Bay Port of Oly Site Arrival Time: 900 Site Departure Time :

Sept 21 2009
WEATHER 22, 2009
TEMPERATURE 23, 2009
WIND

(Clear Sun)	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	(70-85)	85 Up
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Tray Bussey	Pioneer	
Kara Roberts	Pioneer	
SE		
Kevin Dragon		
Paul K.		
Melody Feden	Pioneer	

9/18

NOTES ON WORK COMPLETED

- V with SPC and dewatering is not taking place today. Reference points have changed for MW7 & MW12.
- Sampled wells closest to dewatering wells today.
- Sampled wells MW15, MW16, MW04, MW235, MW24S, MW11 nothing unusual was noted.

9/21

- not able to collect water quality readings from seeps 2 and 4 because tide wasn't low enough
- sampled wells MW12, MW13, MW22S, MW14, MW25S, MW07, MW08, and MW09 as written in the plan
- MW09 was shifted so could not use LNAPL & static probes

9/22 - sampled MW20, MW21S, MW02R, MW01, and MW03,
- MW19 was dry after getting VOAs & metal ~~Ben~~ samples waited an hour and still no water - well looked shifted could've been damaged during construction

9/23 came back to sample MW18 and was successful at getting 4 large ambers for PAHs and PCBs - did not collect water quality parameters or wait for stabilization before collecting - there was High tide during collection

SIGNATURE: Melody Feden DATE: 9/23/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft; pH ± 0.1; SC, Temp ± 3%; Turb ± 10%; DO ± 0.3 mg/L; ORP ± 10 mV

SITE NAME: MW15 **FIELD TECHNICIAN(S):** Kara Roberts **DATE:** 09/18/09

Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	g/L TDS Turb (~~NTU~~)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Sample Time	ppt salinity / Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW15			good	1000	—	3.87	—	Peristaltic pump	2ft from Btm of well	2	.5	3.96	6.61	2.21	1.39	2.44	22.64	-99.1	1000	1.09	2 to Baker Tank	To Baker Tank
										7	.5	3.96	6.69	2.14	1.39	2.37	22.62	-99.7		1.09		
										9	.5	3.98	6.72	2.13	1.38	2.34	22.66	-98.		1.09		
										11	.5	3.98	6.69	2.13	1.38	2.33	22.69	-97.6		6.75		
MW04			good	1015	—	6.29	—	↓	↓	5	.5	[illegible]	6.63	11.71	7.61	6.16	17.86	-134.1	1030	6.64; PVC to small to measure continuous SWL	1	↓
										7	.5		6.65	11.31	7.39	6.73	17.33	-139		6.66		
										9	.5		6.67	11.23	7.33	6.86	17.29	-142		6.47		
										11	.5		6.68	11.38	7.42	6.95	17.32	-146.2		6.56		
										12	.5		6.69	11.50	7.50	7.03	17.34	-147		6.62		
MW16			good	1230	—	5.51	—			3	.9	6.37	6.37	2.54	1.62	0.87	16.89	-173	1245	1.32	4	
										6	.9	6.45	6.34	2.55	1.70	0.53	17.12	-186.9		1.32		
										9	.9	6.59	6.22	2.55	1.66	0.40	17.14	-194.9		1.33		
										12	.9	6.68	6.20	2.55	1.66	0.33	16.99	-200.7		1.32		
MW23S			good	1315	—	4.62	—			2	.7	5.05	6.11	1.82	1.18	0.92	18.70	-192.6	1330	0.93	2	
										5	.7	5.1	6.06	1.79	1.16	0.52	18.42	-195.5		0.91		
										~~8~~ 7	.7	5.12	5.99	1.79	1.16	0.42	18.27	-201.9		0.91		
										9	.7	5.14	6.01	1.79	1.16	0.38	18.27	-201.6		0.91		
MW24S			good	1415	—	4.49	—			3	.6	4.5	8.24	0.35	0.23	0.99	19.74	-207.5	1430	0.17	2	
										6	.6	4.51	8.49	0.36	0.23	0.88	19.66	-215.7		0.17		
										8	.6	4.5	8.53	0.36	0.24	0.84	19.68	-213.3		0.17		
MW11			Good, except cracked surface seal	1515	—	3.17	—	↓	↓	2	0.5	Couldn't fit probe down mw	7.48	0.22	0.14	2.04	20.72	-143	1530	0.10	1	↓
										5	"		7.47	0.22	0.14	1.80	20.4	-140		0.10		
										7			7.21	0.22	0.14	1.68	20.3	-140		0.10		
										9			7.10	0.22	0.14	1.67	20.2	-139		0.10		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Melody Feden **DATE:** 9/21/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										PPT Stability		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	~~TDS~~ Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW12			good	0850	-	8.84	-	peristaltic pump	2ft from bottom of well	2	0.5	well	6.41	27.78	18.10	6.9	18.52	55.5		too small to measure SWL	2.5	Baker tank
										5	0.5	diam	6.59	28.10	18.27	6.61	18.52	63.1	0915			
										7	0.5	too	6.65	28.27	18.36	6.95	18.57	66.8				
												small										
MW13			good	0945	-	4.11	-			2	0.7		7.06	1.5	0.99	3.07	18.15	-126		0.81	0.5	
										8	<0.1		6.65	4.17	2.7	5.7	17.4	-75	1000	2.23		
																				too small to measure SWL		
MW 22S			good	1145	-	0.7	-			2	0.6	1.54	7.35	0.312	0.195	2.81	16.24	-14.7		0.14	2	
										4		1.55	6.66	0.577	0.372	2.50	15.53	-26.9		0.27		
										6		1.56	6.55	0.433	0.277	2.47	15.50	-26.9	1200	0.20		
										8		1.58	6.38	0.257	0.172	2.43	15.51	-20.2		0.13		
MW 14			good	1215	-	2.21	-			2	0.4	PVC	6.31	0.502	0.326	1.89	19.17	-55.5		0.24	2	
										4		too	6.23	0.526	0.343	1.21	18.44	-56.4		0.26		
										6		small	6.18	0.582	0.380	0.91	17.81	-60.7		0.30		
										8			6.19	0.613	0.399	0.84	17.43	-65.1	1230			
MW 25			good	1245	-	0.89	-			3	0.9	3.72	6.75	0.301	0.194	0.53	18.78	-84.7		0.14	2	
										5		4.44	6.57	0.291	0.189	3.22	19.08	-77.6		0.14		
										7		4.45	6.53	0.270	0.176	5.21	19.34	-64.9	1300	0.13		
										9		4.45	6.49	0.268	0.174	6.16	14.45	-59.0				
MW 07			damaged seal	1420	-	5.16	~~1.80~~ -			2	0.75	PVC	7.76	0.422	0.271	2.76	17.36	-84.1		0.20	2.5	
										4		too	7.46	0.373	0.241	2.51	17.09	-89.8		0.18		
										6		small	7.34	0.355	0.231	2.43	17.00	-92.2	1430			

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft — Turb ± 10%
pH ± 0.1 — DO ± 0.3 mg/L
SC, Temp ± 3% — ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Melody Feden / Kara Roberts **DATE:** 09/21/09 - 9/22

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS (g/L) Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Salinity (ppt) Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 08			Good	1445	—	4.48	—	peristaltic	~2' ft above MW bottom	5	0.3	MW Diameter too Small	7.01	3.83	2.50	7.16	20.4	-90.7	1515	2.05	3	To Baker tank
										8	↓		6.87	3.94	2.56	6.19	17.5	-82.9		2.05		
										11	0.8		6.65	3.82	2.48	4.46	16.0	-81.6		2.02		
										13	↓		6.60	3.83	2.49	4.28	15.8	-81.5		2.04		
MW 09			shifted could not fit LNAPL or static probe	1530						2	0.8	MW diam too Small	7.26	1.016	0.660	2.81	18.39	-67.4	9/21	0.50	2	
										4			6.76	0.970	0.630	0.75	18.11	-68.2		0.48		
										6			6.50	0.945	0.614	0.47	18.00	-69.9		0.49		
										8	↓		6.38	0.938	0.610	0.53	17.97	-70.9	1545	0.46		
MW 21S			good	0750	—	4.31	—			8	0.5	4.40	6.59	1.740	1.131	6.54	17.39	-55.4	9/22	0.89	1.5	
										10		4.40	6.55	1.744	1.134	6.11	17.55	-55.5	↓	0.89		
										12	↓	4.41	6.52	1.755	1.141	5.98	17.70	-56.1	0800	0.89		
MW 20			damaged broken Cement	0845	—	5.05	—			4	0.6	5.30	7.10	1.243	0.808	0.79	18.56	-101.8		0.62	2	
										7		5.30	7.11	1.248	0.811	0.70	18.56	-106.8		0.63		
										9	↓	5.30	7.12	1.252	0.812	0.63	18.53	-112.4	0900	0.65		
MW 02R			good	0930	—	4.08	—			2	0.8	4.49	7.23	0.450	0.292	1.15	17.34	-83.6		0.21 Sheen (light) on dump water	3.5	
										4		4.48	7.02	0.419	0.272	0.76	17.34	-88.1		0.20		
										6		4.48	6.89	0.381	0.249	0.58	17.32	-83.5	1000	0.19		
										8	↓	4.48	6.85	.368	0.238	0.53	17.27	-84.5		0.17		
MW 01			good	1040		4.83	[illegible]	↓		3	.9		6.62	1.25	0.81	3.26	18.18	58.3		0.62 NAPL was noted but not a measurable amount, well to small to measure continuous SWL	2	↓
										5			6.50	1.23	0.80	1.55	18.20	59.3		0.62		
										7			6.39	1.20	0.78	0.82	18.03	57.7	1100	0.62		
										9	↓		6.36	1.18	0.77	0.64	18.01	57.4		0.59		

no sheen on purge water

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft — Turb ± 10%
pH ± 0.1 — DO ± 0.3 mg/L
SC, Temp ± 3% — ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Melody Feden / Karen Roberts **DATE:** 09/22/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										SAL		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW03			good		—	5.11	—	Peristaltic	2ft above Btm	4	.5		7.59	7.58	3.09	1.10	17.48	-131.9	2.59	TC small to measure	2	baker tanks
										6			7.58	3.18	3.18	0.89	17.43	-129	2.65	constant SWL		
										8			7.57	4.96	3.22	0.84	17.39	-127.9	1200	2.68		
										10			7.54	5.00	3.26	0.71	17.40	-127.7		2.71		
										12			7.56	5.03	3.27	0.67	17.36	-128		2.73		
MW18			good - may have been shifted		—	10.71	—			5	0.3	11.78	7.35	28.49	18.52	8.68	17.52	54.2		17.62	1	
										7		11.75	7.31	28.53	18.54	8.66	17.77	57.0		17.64		
										9		11.75	7.30	28.37	18.46	8.69	17.88	58.0		17.62		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: Port of Olympia **FIELD TECHNICIAN(S):** Melody Feden **DATE:** 9/21/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS ~~Turb~~ (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Salinity (PPT) Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
Seep 1			Southern end	~~1345~~ 1345									6.3	39.0	25.4	6.8	16.7	~~+40~~		25.0		
Seep 2				tide too high																		
Seep 3				1400									7.2	41.1	26.7	2.8	16.9	+100		26.9		
Seep 4			northern end	tide too high																		
End of dock		Swantown		~~1355~~ 1355									6.9	41.8	27.2	6.3	16.6	+111		26.9		

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 10/20 Site Location: East Bay Site Arrival Time: 9:30 Site Departure Time :

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Feden	PTC	

NOTES ON WORK COMPLETED

Sampled MW02R

depth to water 5.85 at 0 min
depth to water 6.03 at 10 min
depth to water 5.87 after sample

Sheen on purge water
water smells [redacted] MJ

well condition good
dumped 2.5 gallons

pumped for 10 min before begin to take sample

SIGNATURE: _____ DATE: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: PORT OF OLY EAST BAY GWM Site Location: EAST BAY

Requested By / Date: TTB 11/5/09 Work ~~Deadline~~ SCHEDULE: 11/18 - 11/20

SERVICES REQUESTED	COMPLETED
(1) CONDUCT H&S TAILGATE & COMPLETE PARTICIPATION	☒ YES ☐ NO
(2) LOCATE MWS BEFOREHAND TO ADDRESS ANY ACCESS ISSUES	☒ YES ☐ NO
(3) CONDUCT GWM EVENT FOR ALL MWS EXCEPT MW02, MW05, MW06, MW10, MW17, MW19	☒ YES ☐ NO
IF SPL DEWATERING, THEN DO ADJACENT MWS WHEN SPL NOT PUMPING	☒ YES ☐ NO
· MEASURE & RECORD FOR LNAPL IN EVERY MW BEING SAMPLED	☒ YES ☐ NO
~~DISSOLVE~~ SPLIT SAMPLES FOR ALL PAH Samples	☒ YES ☐ NO
· NO QC SAMPLES	☒ YES ☐ NO
· MEASURE & RECORD SALINITY IN EVERY MW BEING SAMPLED	☒ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED
☐ Review Docs:	☐ YES ☐ NO		☒ Health & Safety Meeting	☒ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO		☒ Call PM from Site TROY 970-4956	☒ YES ☐ NO
☐ Coordinate Access:	☐ YES ☐ NO		☐ Draw Site Map	☐ YES ☐ NO
☐ Coordinate Sub / Equip:	☐ YES ☐ NO		☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: YSI 556 + FlowThru Cell + Interface Probe	☒ YES ☐ NO		☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: PAT / ECY	☒ YES ☐ NO		☒ Non-Haz TO BAKER TANK	☒ YES ☐ NO
☒ Calibrate Equipment: WL meter	☒ YES ☐ NO		☐ Background	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: PAHs (RL = 0.01 µg/L), 4 METALS (As, Pb, Cu, Ni) (RL = 1 µg/L) - TOTAL & DISSOLVED Laboratory: ANATEK - 1 amber, 2 plastics (w/ preservative)

☒ Lab Testing: SPLIT PAH SAMPLES (RL = 0.04 µg/L) Laboratory: PACE - 2 amber

☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Vehicle (Rental)

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string, PDB) (Peristaltic)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe

☒ Water Quality Meter (Rental) ☐ Field Test Kits

☒ Sample Kit / Cooler / COC / Ice · PACE · ANATEK

☒ IDW: ☐ Drums ☒ 5-gal buckets

☒ Other: TOOLS

☐ Other:

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 11/18/09 Site Location: East Bay Port of Oly Site Arrival Time: 8:15 Site Departure Time :

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Kevin Gallager	PTC	
Kara Roberts	PTC	

NOTES ON WORK COMPLETED

MW20 was flooded, removed water in casing
MW01 hole in well ~~cap~~ collar, bandaids covering hole, could not remove well ~~collar~~ to test water, well possibly compromised? see Picture
MW04 cap of well not on, surface water leaked into well, See picture, purged longer than other wells, cap found and put on after testing
Clearwater pumping ne of tanks all week
Did not have LNAPL equipment.

SIGNATURE: Kara Roberts DATE: 11/18/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: Nov 20, 2009 Site Location: East Bay Port of Oly Site Arrival Time: 8:00 Site Departure Time :

WEATHER
TEMPERATURE
WIND

Clear Sun	(Overcast)	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Kara Roberts	PTC	
Melody Feden	PTC	

NOTES ON WORK COMPLETED

- Returned to MW01 and was able to remove well cap.
- Tested Wednesday + Thursday's wells for LNAPL, none found.
- MW22s well completely full of water, picture taken, out in wetland area so no suprise
- Could not test MW04 LNAPL, well was covered by stockpile, to return next monday to test
- MW09 casing bent, could not test LNAPL

SIGNATURE: _____ DATE: _____

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | ~~Turb ± 10%~~
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Kevin Gallagher **DATE:** Nov 18, 2009

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										Salinity		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS / ~~Turb~~ (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW20			Well flooded, casing water removed - broken cement surrounding casing	830	✓	3.92	✓	Peristaltic	1ft from Btm of well	3	0.5	3.9	7.36	1.067	.695	17.6	13.4	137.1				
										7.5	0.5	3.9	7.29	1.07	069	15.6	13.5	-141.6		6.54		
										10	0.5	3.9	7.25	1.07	0.69	1.23	13.68	-145.8	830	0.54	2	To Baker Tank
										12	0.5	3.91	7.25	1.07	0.70	1.19	13.7	-147.1				
MW02R			good	~~0930~~ 950	✓	2.93	✓		2ft	4	.25											
										5.5	.75	4.25	7.3	0.39	0.25	5.15	12.18	-92.8				
										7	.75	4.25	7.26	.378	.246	41.9	12.33	99.7	1000		3	
										9	.5	3.12	7.12	0.37	0.24	4.61	12.02	-100.3		0.18		
										12	.5	3.12	6.99	0.36	0.24	4.49	11.96	-99.7		0.17		
MW18			- Broken Cement around casing, appears to be at an angle	1030	✓	7.45	✓		2ft	2	.5	7.86	6.47	16.88	11.00	9.46	13.31	64.0		10.04		
										5	.5	7.85	6.61	17.42	11.33	9.36	13.55	71.2		10.34		
										9	.5	8.2	6.7	17.77	11.56	95.4	13.62	76.6	1045	10.57	3	
											.5											
					✓ checked on 11/23																	
MW04			- well cap not on, surface water reached well - Too small for continuous surf	1200	✓ Buried under 5 inches of rock	4.32	—		2ft	3	.4		7.2	3.73	2.41	3.10	14.08	-92.5		2.03		
										5	.4		6.75	4.23	2.76	2.79	14.34	-108.8		2.35		
										7	.4		6.48	4.88	3.19	2.62	14.50	-121.2	1215	2.70	2	
										9	.4		6.39	5.44	3.54	2.45	14.60	-126.0		3.00		
MW16			good	1245	✓	4.36	✓		2ft	4	.5	4.88	6.72	4.17	2.75	78.9	11.22	-137.7		2.27		
										6.5	.5	4.96	6.7	4.32	2.79	75.4	11.86	-142.1				
										8.5	.5	5.00	6.66	4.29	2.79	74.5	12.09	-145.0	1300	2.81	1	
										10			6.64	4.18	2.74	74.2	12.11	-146.4		2.25		
MW23S			Well Casing at an angle	1315	✓	3.28	✓		2ft	4	.75	3.65	6.55	1.238	.805	15.3	12.4	127.1		.62		
										6	.75	3.61	6.55	1.243	.807	1.98	12.4	123.9		.62		
										8.5	.75	3.61	6.51	1.249	.812	2.52	12.36	120.2	1330	.63	2.5	
										10	.75	3.61	6.47	1.25	0.814	2.37	12.31	-119.7		0.63		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Kevin Gallager **DATE:** Nov 18, 2009

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS ~~Turb (NTU)~~	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Salinity Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
* MW03			Too small to do continuous SWL cracks around casings in cement	1400	✓ —	3.13	✓ —	Peristaltic	2.5 ft from Btm of well	3	.4		6.26	1.225	.8	42.0	12.01	-39.1	1415	.63	1.5	To Baker Tanks
										5.5	.4		6.23	1.31	0.85	5.06	12.16	-40.3		.66		
										8	.4		6.21	1.32	.86	5.08	12.19	39.3		.67		
										10	.4		6.19	1.33	0.86	47.5	12.25	-38.4		.67		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft — Turb ± 10%
pH ± 0.1 — DO ± 0.3 mg/L
SC, Temp ± 3% — ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Kevin Gallagher, melody feders **DATE:** 11/19/09

WELL INFO: Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	DTW: Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	PURGING: Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	SAMPLE COLLECTION: Time	Field Kit Results / General Comments	PURGE WATER: Vol (gal)	Disposal / Storage Comments
MW08	~~22~~	2ft from bottom	cap off water to top of well	0747	→	2.72	—	Peristaltic	2 ft from bottom	1:30	.6	2.72	4.26	1.23	0.826	3.62	12.21	-58.1	0830	~~[illegible]~~ PVC ~~water~~ too small ~~[illegible]~~ for SWL ~~water level with top~~	5	.045 Back to tanks
										5	↓	[crossed out]	4.54	1.506	0.98	2.52	13.14	-75.5				.84
										8			4.6	1.541	1.004	20.3	13.17	-83.1				.79
										10			4.58	1.588	1.03	1.74	13.24	-87.2				.8
										12			4.68	1.596	1.038	1.46	13.26	-89.1				.81
MW 09		1ft from bottom	concrete TP casing no cap casing bent PVC SWL	0910	tube bent	—	—		1 ft from bottom	3	.5		5.37	0.804	0.522	1.74	12.93	-66.2	0915		1.5	0.40
										6	↓		5.27	.805	.523	1.68	13.05	-77.8				0.40
										8			5.05	.807	.524	1.65	13.02	-82.1				0.4
MW 35S	7ft	—	well blocked couldn't fit tube very well (rocks?) or probe	0930	tube blocked	~~[illegible]~~ 0.80	—		1.5 feet from new bottom	2:30	.5		4.38	.321	.218	2.77	8.21	-160	~~[illegible]~~ 1015		2.5	.21
										5:30	↓		3.78	.600	.365	7.01	8.55	-62.3				.26
										7			3.97	.515	.200	5.32	9.7	-105.7				.15
										9.30			4.57	.236	.153	5.45	9.87	-130.4				.11
										11.30			4.4	.225	.146	5.10	9.85	-15.6				.11
										13			4.27	.222	.144	5.66	9.84	10.9				.11
MW 07			to small for SWL	1045	→	4.05	—		1 ft from bottom	2	.4		3.64	.358	.233	1.61	12.32	-34.9	1100		2	.17
										4	↓		3.74	.356	.233	1.06	12.3	-49.5				.17
										7			3.73	.353	.229	.93	12.35	-14.9				.17
										9			3.76	.348	~~.346~~	.41	12.57	-7				.17
															.226							
MW ~~245~~ 10			too small for SWL	1200	—	3.70	—		2ft from bottom	2.30	.6		6.75	.901	.586	1.41	14.23	-81.4	1215		2	.45
										5	↓		7.4	.896	.583	.89	14.53	-95.6				.44
										8.30			6.83	.896	.582	2.02	14.65	-102				.44
										10.30			6.4	.898	.584	3.4	14.66	-100.2				.44
										12			6.00	.901	.586	4.46	14.6	-97.2				.45
MW 24S					→	3.71	—		1.5ft from bottom	2:30	.4	3.74	3.51	.481	.312	7.52	11.67	-12.9	1300		1.5	.23
										4.30		3.74	3.67	.454	[illegible]	2.44	11.78	-62.6				.22
										6.30		3.74	4.25	.262	.464	1.08	11.93	-126.9				.19
										10		3.75	4.24	.397	.258	.87	11.47	-132				.19

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Melody Feden

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Kevin Gallagher **DATE:** 11/19/09

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										Sal		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 14			NO SWL too small	1315	—	2.64	—	Peristaltic	1 Ft from bottom	3	.35		4.37	.456	.297	11.36	11.56	-71.1	1345	0.22	1	Back-tanks
										5			4.42	.479	.312	8.07	11.76	-74.4		.23		
										7			4.54	.509	.332	7.89	12.08	-75.6		.23		
										9			5.20	.547	.356	8.29	12.36	-78.4		.27		
										10:38			6.36	.566	.369	9.56	12.60	-80.0		.28		
MW 12			NO SWL too small	1400	—	8.92	—		2 Ft from bottom	5	.6		5.50	21.71	14.16	8.58	13.15	56.1	1400	13.14	2	
										7			5.46	21.86	14.21	8.37	13.22	62.9		13.17		
										8:30			5.38	21.85	14.19	8.31	13.25	64.2		13.17		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:	
SWL < 0.33 ft	~~Turb ± 10%~~
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: East Bay Portofoly **FIELD TECHNICIAN(S):** Melody Feden / Kara Roberts **DATE:** Nov. 20, 2009

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										salinity		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS ~~Turb~~ (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW01			Cracks in concrete around well, well cap has hole with Bandaids	900	—	2.08	—	Peristaltic	2ft from Btm of well	4	.6		4.01	.628	.407	2.26	9.21	76.0	0915	.3	2.5	To Baker Tank
										6.5	.6	Too small to meas.	3.98	.558	.362	2.11	9.21	76.3		.27		
										9	.6		3.99	.540	.351	1.86	9.21	76.5		.26		
										11.5			3.99	.533	.346	1.75	9.21	77.2		.26		
MW2S			Water in well @ surface level picture taken	945	—	approx .02	—		2ft	4	.7	1.08	3.76	0.35	.237	11.36	9.3	75.6	1000	.19	2.5	
										6	.7	1.38	4.03	0.47	0.304	2.95	9.8	0.4		.22		
										8	.7	1.52	4.56	0.34	0.206	2.92	9.76	-22.9		0.14		
										11	.7	1.31	4.64	0.26	0.165	2.82	9.68	-22.7		0.12		
MW3			Cement around casing cracked	1015	—	3.29	—		2ft	2	.5		4.13	.496	.323	1.63	11.74	-2.9	1030	.24	1	
										4	.5	Too small to meas.	4.29	.534	.347	2.98	11.62	-31.4		.26		
										6	.5		4.25	.508	.330	5.57	11.45	-34.1		.25		
										9	.5		4.19	.501	.326	8.17	11.38	-35.5		.24		
										11	.5		4.20	.521	.339	9.13	11.46	-37.4		.25		
MW11			Broken cement around casing	1230	—	2.40	—		2ft	2	.5		3.37	.261	.170	2.56	11.08	-18.1	1245	.12	1	
										5	.5	Too small to meas	3.55	.268	.174	2.28	11.12	-31.1		.13		
										7	.5		3.62	.271	.176	2.13	11.12	-38.0		.13		
MW15			Casing full of water	1315	—	2.09	—			3	.8		5.18	2.059	1.342	1.22	13.73	-50.6	1330	1.06	2.5	
										5		Too small to meas.	5.39	2.109	1.373	0.76	13.93	-64.3		1.09		
										6 ~~30~~			5.16	2.145	1.394	0.83	13.96	-75.2		1.10		

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Olympia East Bay GWM Site Location: East Bay

Requested By / Date: TDB 12/11/09 Work Scheduled: 12/14/09 – 12/16/09

SERVICES REQUESTED	COMPLETED
1) Conduct H&S tailgate meeting & complete form	☑ YES ☐ NO
2) Uncover any MWs that SPC has covered with soil or equipment	☑ YES ☐ NO
3) Conduct GWM event for 20 normally sampled MWs (all MWs except MW02, MW05, MW06, MW10, MW17, MW19)	☑ YES ☐ NO
* If MW21S is still covered by large pond, don't need to sample	☑ YES ☐ NO
* If SPC is dewatering, then sample MW(s) located adjacent to dewatering pump when SPC not pumping	☑ YES ☐ NO
* Measure and record LNAPL thickness in every MW being sampled	☑ YES ☐ NO
* Measure and record salinity in every MW being sampled	☑ YES ☐ NO
* Split PAH samples for all MWs being sampled	☑ YES ☐ NO
* Only field QC samples are to return 1 trip blank per cooler for TPH-G & VOC analysis if trip blanks provided	☑ YES ☐ NO
4) Return interface probe and water quality meter / flow through cell to GW Essentials	☑ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs:	☐ YES ☐ NO	☒ Health & Safety Meeting	☑ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☒ Call PM from Site	☑ YES ☐ NO
☐ Coordinate Access:	☐ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☐ Coordinate Sub / Equip:	☐ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: WQ meter & inter. probe	☒ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: Port & Ecology	☒ YES ☐ NO	☒ Non-Haz To Baker Tank	☑ YES ☐ NO
☒ Calibrate Equipment: WQ meter	☐ YES ☐ NO	☐ Background	☐ YES ☐ NO

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: TPH-G (NWTPH-G), TPH-D & -HO (NWTPH-Dx), VOCs (8260), PAHs (8270), PCBs (8082), total RCRA 8 metals & Cu & Ni (6000/7000), dissolved As, Pb, Cu, & Ni (6000/7000) Laboratory: Anatek - Moscow

☒ Lab Testing: Split PAHs (8270). Dioxins/furans (8290) **on MW16 & MW24S only.** Laboratory: PACE - Minneapolis

☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Vehicle

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string,PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe

☒ Water Quality Meter rental ☐ Field Test Kits

☒ Sample Kit / Cooler / COC / Ice Anatek & PACE

☒ IDW: ☐ Drums ☒ 5-gal buckets

☒ Other: Tools

☐ Other:

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: Dec. 15, 2009 Site Location: Port of Oly, East Bay Site Arrival Time: 8:15 Site Departure Time :

WEATHER

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	~~32-50~~	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

TEMPERATURE

WIND

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Kara Roberts	PTC	8:15
Melody Feden	PTC	8:15

NOTES ON WORK COMPLETED

Calibrated YSI, ph was not working correctly. Called groundwater essentials but employee expert was not in. Decided to do 1 point ph calibration with 7 solution (yellow). Caliboration was checked against hose water and was approx. 7

MW04 water went down well from casing. Cap bumped off when cleaning MW01 had Ice up to the lid - had to chip it away to open it water out
MW03 had ice, not up to the cap though.
Wrong bottles used for TPH-Dx. They should have had preservative in them but ones w/out were used. Called the lab and it was OK because TPHDx has a holding period of 7 days. MW03 did not get collected for PAH + PCBs because we ran out of bottles w/out preservative. We will return to collect the samples

w/o/t preservative

SIGNATURE: Kara Roberts DATE: 12/15/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: Dec 16, 2009 Site Location: Port of Oly, East Bay Site Arrival Time: 8:30 Site Departure Time: 4:00

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Feden	PTC	8:30 4:00
Kara Roberts	PTC	8:30 4:00

NOTES ON WORK COMPLETED

resampled MW03 for PAHS and PCBS

MW09 pipe is wonky bent, can't measure NAPL or Water level, Cement filled to top of well + cap can't go on.

MW23 in wetlandish area, was able to get to well. Took cap off and well water was 3 inches below top of well. In a matter of minutes well water rose to fill casing. We cleaned the water and began pumping well.

SIGNATURE: Kara Roberts DATE: 12/16/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: Dec 17 2009 Site Location: Port of Oly, East Bay Site Arrival Time: 8:45 Site Departure Time: 3:15

WEATHER	Clear Sun	(Overcast)	Drizzle	Rain	Snow
TEMPERATURE	To 32	(32-50)	50-70	70-85	85 Up
WIND	(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Fedon	PTC	8:45 3:15
Kara Roberts	PTC	8:45 3:15

NOTES ON WORK COMPLETED

Talked w/ Clearwater on dewatering. Tuesday the pumps were turned off. Wednesday they ran from 12-6:00 pulling from just north of the baker Tanks.

MW12 was dropped an inch by SPC. ~~cement had been chipped off with casing pounded in wet~~ well was shifted and bent about a foot to two feet down. Casing was pounded down with the metal wrinkled.

SIGNATURE: Kara Roberts DATE: 12/17/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: Dec. 18, 2009 Site Location: Port of Oly, East Bay Site Arrival Time: 8:25 Site Departure Time: 1100

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE	
Melody Feden	PTC	8:25	1100
Kara Roberts	PTC	8:25	1100

NOTES ON WORK COMPLETED

Last wells completed as requested

No dewatering yesterday (17th) or today. Draining of a bit of surface water next to the trailers on Jefferson but not much in trench. And wells tested not near that area

Well 13 covered w/ water, not able to test

SIGNATURE: Kara Roberts DATE: 12/18/09

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft — Turb ± 10%
pH ± 0.1 — DO ± 0.3 mg/L
SC, Temp ± 3% — ORP ± 10 mV

SITE NAME: Port of Olympia East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Melody Feden **DATE:** Dec. 15, 2009

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS ~~Turb~~ (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW02R			good	815	—	3.73	—	Peristaltic	1ft from Btm	3	0.6	4.09	7.27	.392	.254	1.56	10.38	-35.7	830	Salinity 0.19; 0.18; Slight sheen	2.5	To Baker Tank
										6		4.11	7.44	.380	.247	1.44	10.48	-58.0				
										11		4.11	7.50	.338	.219	1.17	10.58	-75.9				
										13		4.11	7.28	.331	.215	1.18	10.58	-78.6				
MW20	1		Cement Broken around well + missing cap off next to well	1015	-	4.73				4	0.4	4.90	7.36	.759	.494	3.70	11.62	7.7	1030		1.5	
										6		4.87	7.39	.785	.512	4.06	11.63	-5.2				
										8		4.87	7.41	.815	.531	4.05	11.68	-20.3				
										10		4.80	7.41	.825	.536	4.75	11.54	-38.8				
												4.80	7.40	.849	.552	4.57	11.45	-33.6				
MW04			~~Filled with~~ Too small to measure SWL	1115	-	5.42				3	0.6		12.59	3.333	2.209	3.89	11.57	-32.1	1130	1.95; 2.61; 3.01	1.5	
										5			12.45	4.593	3.037	3.06	12.17	-62.7				
										7			10.24	5.372	3.535	2.50	12.34	-78.9				
										10			9.75	6.007	3.921	2.21	12.51	-93.3		3.36; 3.58; 3.89		
										12			11.00	4.183	4.193	2.17	12.58	-102.5				
										15			9.27	6.954	4.532	1.75	12.60	-115.5				
MW01			Too small to measure SWL	1415	-	4.09				2	0.5		7.85	.601	.388	3.42	8.31	31.8	1430	.29; .27; .27	1.5	
										4			7.90	.561	.364	3.14	8.29	33.0				
										6			7.92	.550	.357	3.03	8.29	33.2				
MW03			Too small to measure SWL		-	4.07				3	0.8		8.04	.669	.471	1.72	10.41	-10.5	1530	.32; .32; .32		
										5			7.82	.659	.458	1.57	10.42	-111.6				
										7			7.74	.656	.456	1.36	10.44	-115.7				
								↓	↓														↓

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: Port of Olympia East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Melody Feelen **DATE:** 12/16/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW03			Broken Cement around casing	900	—	4.12	—	Peristaltic	1ft from Btm	3 6	.8	To small to measure	8.27 8.27	.62 .62	.40 .40	1.28	10.43	-111.6	930	.30 .32	2.5	To Baker Tank
MW09			See field notes Bad Condition	1000	Pipe is Bent Can't measure				1ft from Btm	3 6 8 10 12	.8	Pipe Bent Can't measure	10.79 10.95 11.22 11.7 11.64	.71 .72 .72 .73 .74	.46 .47 .47 .47 .48	1.94 1.12 1.00 .95 .88	10.65 10.92 11.04 11.24 11.29	-30.7 -40.1 -45.2 -49 -54	1030	.35 .36 .35 .36 .37	5	
MW08			good, Broken Cement around Casing	11	—	3.12	.		1ft from Btm	3 6 8 10	.5	To Small to measure	12.42 12.98 13.01 13.2	1.70 1.88 1.83 1.74	1.11 1.22 1.18 1.13	2.21 1.88 1.68 1.59	11.74 12.36 12.36 12.25	-50.7 -66.3 -72.3 -73.5	1115	.88 .96 .71 .89	4	
MW25S			good	1115	—	<1	—		1ft from Btm	3 6 8	.4	2.89 3.91 3.94	8.04 8.09 8.11	.19 .19 .19	.13 .12 .12	2.77 1.46 1.04	6.37 6.04 5.95	-11.7 -19.5 -25.5	1200	.09 .09 .09	2.5	
MW22S			good	1345	—	0	—		1ft from Btm	5 8 10 14	.4	<1 <1	9.12 8.67 8.52 8.86	.16 .16 .10 .17	.11 .11 .07 .11	1.69 1.69 2.02 1.65	6.58 6.4 6.37 6.21	-11 -106 -139 -123	1400	.09 .08 .05 .08	5	
MW04			good	1445	—	1.53	—			12 7 9 11	.7	To Small to measure	10.24 10.88 10.80 10.81	.55 .57 .56 .56	.36 .37 .36 .36	1.47 .86 .88 1.34	11.29 11.55 11.62 11.68	-44 -56 -59.7 -61.6	1500	.28 .28 .27 .27	2.5	

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: Port of Olympia East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Melody Feden **DATE:** 12/17/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	TDS ~~Turb~~ (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Salinity Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW18			Appears shifted, at an angle cracked broken casing	0900	—	5.50	—	Peristaltic	1ft from bottom	3	0.6	5.75	8.55	20.81	13.50	9.82	10.87	147.3	915	12.96	3.5	To Baker Tanks
										5		5.79	8.58	20.64	12.35	9.50	10.85	147.9		12.33		
										7		5.79	8.59	20.36	13.22	9.40	10.83	148.0		12.12		
										10		5.82	8.60	19.57	12.72	9.41	10.77	147.9		11.58		
										12	↓	5.86	8.59	18.12	11.73	9.43	10.71	147.5		10.58		
MW18			good	0930	—	4.50				5	0.7	4.89	11.08	4.908	3.194	4.10	11.66	-88.7	1630	2.66	2.5	
										7		4.97	10.67	4.965	3.227	3.68	11.94	-110.7		2.68		
										9		5.05	10.29	4.939	3.221	3.58	11.96	-129.5		2.67		
										12		5.14	10.09	4.955	3.222	3.55	11.97	-145.3		2.68		
										14	↓	5.14	9.82	4.966	3.228	3.67	11.88	-151.7		2.68		
MW23S			good, casing possibly shifted?	1030	—	4.05	—			3	0.5	3.96	8.30	2.465	1.603	5.20	8.84	-120.5	1100	1.28	2	
										5		3.98	8.28	2.488	1.618	4.91	8.83	-115.7		1.29		
										7	↓	4.00	8.36	2.501	1.626	4.87	8.82	-112.2		1.30		
MW2			too small for SWL	1130	—	7.04				3	0.6		8.81	25.45	16.54	8.35	9.99	65.2	1200	15.68	2	
										5			8.80	26.79	17.04	8.91	10.03	71.7		16.07		
										7	↓		8.91	26.37	17.14	8.89	10.05	74.8		16.13		
MW24S				1230	—	3.65				3	0.5	3.69	7.69	.449	.291	7.55	8.31	50.6	1300	.022	3	
										5		3.69	7.52	.431	.280	4.39	8.27	46.5		0.21		
										7		3.70	7.53	.415	.270	2.64	8.27	35.4		0.20		
										9		3.70	7.59	.403	.262	1.91	8.29	22.9		.19		
										11		3.70	7.63	.394	.256	1.57	8.29	6.1		.19		
										13	↓	3.70	7.68	.386	.250	1.20	8.26	-16.9		.19		
								↓	↓	16		3.70	7.72	.383	.249	1.01	8.27	-31.0		.18		↓

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

528-8071

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: Port of Olympia East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Melody Feden **DATE:** 12/17/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										Salinity		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	~~Turb~~ (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW11			Broken Cement Around Casing too small for SWL	1415	-	9.60		Peristaltic	1ft from bottom	4	0.6		8.25	.223	.150	5.69	7.87	-27.3	1430	0.6		To Baker Tank
										6			8.22	.228	.143	1.56	7.89	-37.5		.12		
										8			8.24	.226	.151	1.03	7.90	-43.8		.11		
										10			8.27	.227	.151	0.81	7.92	-49.2		.11		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV,

SITE NAME: Port of Olympia East Bay **FIELD TECHNICIAN(S):** Kara Roberts / Melody Feden **DATE:** 12/18/09

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	~~TDS~~ ~~Turb (NTU)~~	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW07			Casing distrupted, being supported poorly by metal stakes Cement around casing broken, pvc pipe @ an angle	0830	—	7.0 ~~7.5~~	—	Peristaltic	4ft from Btm	2	.6		7.9	.260	.17	3.9	10.8	0	900	salinity .13	2.5	To Baker Tank
										4		Too small to measure	8.25	.260	.17	3.3	11.1	~~248~~		.12		
										6			8.7	.266	.17	2.9	11.3	395		.12		
										8			9.3	.266	.17	2.8	11.3	485		.12		
										10			9.8	.266	.17	2.7	11.4	554		.12		
MW15			too small for SWL	0932	—	2.56	—			2	.6	~~Dry~~	9.26	1.58	1.03	1.64	9.72	343	1000	.81	3	
										4		Too small to measure	9.5	1.6	1.0	1.55	9.72	383		.82		
										6			9.7	1.7	1.1	1.17	9.73	505		.85		
										8			9.89	1.71	1.11	.99	9.75	58		.87		
										10			9.89	1.73	1.13	.86	9.76	649		.88		

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Olympia East Bay GWM Site Location: East Bay

Requested By / Date: TDB 03/05/09 Work Scheduled: 03/15/10 – 03/18/10

SERVICES REQUESTED	COMPLETED
1) Conduct H&S tailgate meeting & complete form	☒ YES ☐ NO
2) Uncover any MWs that SPC has covered with soil or equipment. Re-berm MW13 and MW21S as necessary.	☒ YES ☐ NO
3) Conduct GWM event for 20 normally sampled MWs (all MWs except MW02, MW05, MW06, MW10, MW17, MW19)	☒ YES ☐ NO
* Measure and record LNAPL thickness in every MW being sampled	☒ YES ☐ NO
* Measure and record salinity and turbidity in every MW being sampled	☒ YES ☐ NO
* Field QC samples: 1 trip blank per day (TPH-G/BTEX only), 1 field blank, 1 equipment rinsate blank	☒ YES ☐ NO
* Collect extra TPH-D/HO/PAH sample containers for possible follow-on analysis	☒ YES ☐ NO
4) Measure water levels synoptically to the extent practical	☒ YES ☐ NO
5) Return interface probe, water quality meter / flow through cell, and turbidity meter to GW Essentials	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs:	☐ YES ☐ NO	☒ Health & Safety Meeting	☒ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☐ Coordinate Access:	☐ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☐ Coordinate Sub / Equip:	☐ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: see below	☒ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: Port & Ecology	☒ YES ☐ NO	☒ Non-Haz To Baker Tank	☒ YES ☐ NO
☒ Calibrate Equipment: WQ meter	☒ YES ☐ NO	☐ Background	☐ YES ☐ NO

Rent van. Rent 1) Solinist interface Meter 122, 2) YSI Model 556 water quality meter with flow through cell, and 3) LaMotte Turbidity meter 2020e from Groundwater Essentials

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: TPH-G (NWTPH-G); BTEX (8260 or 8021); total As, Cr, Cu, Pb, Ni (6000/7000); dissolved As, Cr, Cu, Pb, Ni (6000/7000); TPH-D & -HO (NWTPH-Dx with silica gel prep); PAHs (8270 with 0.01 ug/L RL) Laboratory: Anatek - Moscow

☒ Lab Testing: Ex Mact Field jars for filtration & analysis of PAHs or TPH-D/HO (with silica gel prep) Laboratory: Anatek – Moscow

☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☐ Camera ☐ Survey Equip / GPS ☒ Vehicle	☒ Water Level Indicator / Interface Probe
☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)	☒ Water Quality Meter rental ☐ Field Test Kits
☐ Drilling Equip (PID, references, knife, baggies, tape)	☒ Sample Kit / Cooler / COC / Ice Anatek
☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)	☒ IDW: ☐ Drums ☒ 5-gal buckets
☒ GWM (pump, tubing, gen., compres., bailers, rope/string,PDB)	☒ Other: Tools
☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)	☐ Other:

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 3/15/10 Site Location: East Bay Port of Oly Site Arrival Time: 9:30 Site Departure Time :

WEATHER

Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE				
To 32	32-50	50-70	70-85	85 Up
WIND				
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Feden	PTC	9:30
Kara Roberts	PTC	9:30

NOTES ON WORK COMPLETED

- Clearwater essentials not on site (pump + treat contractors) but talked with Fred Sas of SPC (general contractors) about using baker tanks for groundwater disposal. Asked about groundwater pumping. Only 1 pump currently set up directly north of baker tanks. Only turns on after heavy rains. Set up on a float system and hasn't been on since last thursday or longer.

- used MW16 hose on MW15 because couldn't get for dewatering van close enough

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 3/17/10 Site Location: East Bay Site Arrival Time: 8:30 Site Departure Time: 2:30

WEATHER
TEMPERATURE
WIND

(Clear Sun)	Overcast	Drizzle	Rain	Snow
To 32	(32-50)	50-70	70-85	85 Up
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Melody Fedin	PTC	
Trov Bussey	PTC	

NOTES ON WORK COMPLETED

Synoptic SWL measurement - near low tide

Well #	depth to GW	Time
MW10	4.38	1251
MW24S	3.87	1257
MW12	9.72	1302
MW11	3.34	1310
MW13	4.10	1317
MW22S	0.50	1323
MW06 - flooded in southern pond		
MW14	1.64	1328
MW07	5.12	1334
MW25S	0.67	1337

SIGNATURE: Melody Fedin DATE: 3/17/10

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date:_______ Site Location: _______ Site Arrival Time: _______ Site Departure Time: _______

WEATHER	Clear Sun	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	70-85	85 Up
WIND		Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

NOTES ON WORK COMPLETED

3/17/10 SYNOPTIC SWL MEASUREMENTS – NEAR LOW TIDE

MW23S	4.59	1250
MW16	5.60	1253
MW04	6.14	1256
MW18	DRY @ 11.6'	1300
MW21S	4.21	1304
MW19	→ UNDER PONDED WATER	
MW20	4.70	1310
MW02R	4.13	1315
MW01	4.27	1318
MW03	4.82	1322
MW15	3.08	1329
MW08	3.02	1336
MW09	~~FLUSH~~ CASING BENT	

GEOE WELL LOGS ARE INCORRECT RE: MW DIAM.

MW01 – MW04 = 3/4"
MW05 – MW15 = 1"
MW16, MW18, MW20 = 2"
and likely MW17, MW19

~ 50 CY OF SP26 LEFT AS GREEN FOLLOWING RESIGN TO RED/GREEN ON 3/15

SIGNATURE: Melody Fin

DATE: 3/17/10

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: Port of Olympia East Bay FIELD TECHNICIAN(S): Melody Feden / Kara Roberts DATE: 3/15/10

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 22S			good filled w/ water	10	–	4.49	0	Peristaltic Pump	11.1 above bottom	3	.6	.96	6.25	417	17.8	5.65	9.20	66.5	10	0.09 0.08	2.5	Baker tanks
										12		.96	6.52	190	7.05	3.54	9.20	34.2				
										15		1.02	6.59	180	6.69	3.56	9.20	29.7				
MW 13			good	11	–	4.04	0			2	0.5		6.54	873	60.2	4.96	10.15	45.3	11	.43 too small for SWL	.5	
										5			6.59	1531	48.9	5.75	10.50	23.3		.81		
										7	0.2		6.82	1599	29.5	8.49	10.89	-7.9		.78		
										10			6.98	1458	20.7	9.19	11.09	-16.7		.72		
										12			7.03	1325	16.4	9.69	11.31	-22.9		.66		
										14			7.06	1229		9.96	11.48	-25.9		.61		
MW 11			cracked casing	~~1250~~ 1200	–	3.21	0			3	.5		6.89	209	64.5	4.64	10.47	43.7	12	.10 too small for SWL	2	
										5			6.90	215	19.2	3.91	10.36	28.9		.10		
										7			6.94	218	10.98	3.67	10.37	14.0		.10		
										9			6.97	219	8.04	3.56	10.41	4.8		.10		
										11			6.98	220	6.12	3.49	10.37	1.2		.11		
MW 09			Cracked casing bent pipe	1300	couldn't measure P.pe	bent				2	.4		6.99	639	14.0	8.58	10.6	1.8	13:00	.32 bent pipe so no SWL	1	
										6			6.82	720	4.10	7.15	9.80	-5.7		.35		
										8			6.81	724	1.68	7.08	9.79	-6.2		.36		
															-.31							
MW 21S			good	1400	–	4.14	0			3	.5		6.76	1522	~~3.02~~	3.03	10.46	-39.1	14:00	.08 .08 .08 forgot to do continuous SWL	2	
										5			6.75	1545	-.82	3.36	10.83	-51.8				
										7		4.24	6.74	1543	0.07	3.37	10.79	-53.8				
MW 01			good filled w/ water	1500	–	3.80	0			3	.4		6.88	190	29.3	3.07	9.97	84.9	15:00	.09 too small for SWL	2	
										5			6.85	186	8.54	2.73	9.80	88.0		.09		
										7			6.85	183	5.37	2.41	9.66	89.3		.09		
										8			6.86	182		2.25	9.54	90.2		.09		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** ~~Kurt Roberts~~ Mallory Feden Troy Bussey **DATE:** 3/16/20

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	SAI Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 12			Shitty casing	0800	—	7.47	0	Peristaltic	If from bottom	4	0.6		7.05	21539	434	943	9.09	313.6	0830	12.9 too small for SWL	2	baker tanks
										7			7.05	21556	167	9.25	9.07	314.7		12.92		
										9			7.01	21542	0.64	9.19	9.09	315.6		12.91		
MW 08			good filled w/ water	0845	—	3.01	0			4	0.4		6.69	931	14.9	3.94	8.73	54.3	0930	0.45 too small for SWL	1.5	
										6			6.61	868	136	3.92	8.82	45.4		0.43		
										8			6.60	877	9.91	3.87	8.90	36.2		0.43		
													6.60	885		3.83	8.95	30.1		0.44		
MW 05S			good filled w/ water	0930	—	1.01	0			3	1.2	0.98	7.25	213	8.94	7.97	9.25	-17.7	1000	0.10	1.5	
										5		1.01	7.34	198	8.31	8.09	9.21	-37.7		0.09		
										10		1.52	7.13	188	5.98	4.65	8.97	-31.5		0.09		
										12		3.65	6.98	197	7.46	2.50	8.90	-25.1		0.09		
										14		2.32	6.99	198	8.74	3.17	8.96	-25.5		0.09		
										16		1.83	7.09	198		5.42	9.21	-30.1		0.09		
MW 07			looks crooked	1105	-	4.51	0			2	0.6	~~3.59~~	7.29	286	14.1	7.34	10.59	-4.3	1130	0.14 too small for SWL	2	
										4			7.14	260	2.23	4.46	10.55	-7.6		0.12		
										6			7.10	245	-.44	2.27	10.58	-9.4		0.12		
										8			7.06	244	-1.91	1.27	10.62	-10.4		0.12		
										10			7.06	242		0.77	10.63	-12.2		0.12		
MW 14			good filled w/ water	~~1200~~ 1200	-	1.92	0			2	0.6		6.37	432	35.4	3.19	10.27	60.8	~~1230~~ 1230	0.21 too small for SWL	1.5	
										4			6.42	540	34.9	2.87	10.68	46.2		0.27		
										6			6.45	572	23.0	2.64	10.99	37.7		0.28		
										8			6.44	580		2.57	11.07	34.1		0.28		
MW 24S			good	1230	-	3.80	0			2	0.5	3.83	7.67	767	16.6	3.40	9.82	150.1	1310	0.37		
										4		3.84	7.96	655	7.51	2.78	9.65	144.5		0.31		
										6		3.95	8.17	583	4.37	2.50	9.57	135.6		0.28		
										8		3.84	8.32	537		2.37	9.55	125.4		0.26		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Troy Bussey, Melody Fedun **DATE:** 3/16 - 3/17

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 03			good	1530	–	4.72	0	Peristaltic	1 ft from bottom	3 5 7 8	0.4		8.62 8.58 8.57 8.58	550 532 525 523	24.4 12.7 8.65	2.31 1.60 1.41 1.26	9.41 9.36 9.34 9.35	128.9 113.6 103.0 96.0	1400	0.27 .25 .25 too small for SWL	1	Baker tanks
MW 23S			~~poor~~ pretty destroyed	1400	–	4.51	0			3 6 8	0.6	4.93 4.93 4.94	6.37 6.37 6.37	1061 1086 1104	8.82 4.53 4.60	1.66 1.55 1.50	9.67 9.73 9.79	49.1 41.5 36.0	1430	.53 .54 .55	2	
MW 15			good filled w/ water	1430	–	3.05	0			2 4 6	0.4		7.01 7.01 7.01	1462 1516 1519	0.98 0.86 3.60	1.43 1.32 1.30	10.04 10.09 10.67	-24.4 -42.0 50.9	1500	.74 .77 .77 too small for SWL	2	
MW 18			shifted	0830	–	6.67	0			2 4 6	0.3	7.00 7.01 7.02	7.02 7.02 7.02	22274 22661 22738	7.1 7.11	9.26 9.62 9.85	8.35 8.36 8.47	304.8 308.1 307.6	1520	1347 1363 1368	1.5	
MW 16			good filled with water	0900	–	5.55	0			4 6 8	0.5	6.05 6.07 6.07	6.37 6.40 6.41	5617 5629 5631	22.8 22.3 24.3	2.25 3.53 3.63	9.57 9.31 9.23	13.1 4.0 1.3	0950	3.05 3.04 3.06 too small for SWL	1	smelly
MW 64			good filled w/ water	1000	–	5.53	6			1 3 5 7 9	0.5		6.32 6.39 6.52 6.59 6.64	3908 5057 6225 6757 7335	123 96.8 44.1 15.7 7.50	5.07 4.90 5.09 5.15 5.47	11.16 11.38 11.60 11.62 11.64	33.3 16.0 -11.1 -25.7 -37.7	1050	2.26 2.82 3.51 3.87 4.27 too small for SWL	1	smelly

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Troy Bussey Melody Fedun **DATE:** 3/17

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 02R			good	1100	–	4.09	0	Peristaltic	18 ft from bottom	1	0.5	4.40	6.87	608	17.6	2.50	9.79	34.7	1130	0.30	1.5	Baker 51, slight gli sheen
										3		4.35	6.80	605	7.75	1.54	9.81	19.4		0.30		
										5		4.37	6.75	589	6.17	1.28	9.87	14.2		0.29		
MW 20			cracked casing	1200	–	4.72	0			2	0.4	4.82	7.83	993	-2.20	3.39	11.41	-56.9	1230	.50	1.5	
										4		4.83	7.39	1028	-3.39	2.46	11.02	-64.5		.51		
										6		4.82	7.56	1049		2.02	10.93	-67.0		.51		
										8		4.82	7.53	1054		1.82	10.92	-68.0		.52		

PIONEER TECHNOLOGIES CORPORATION (PTC)
FIELD CHECKLIST

Project/Task Name: Port of Olympia East Bay GWM — Site Location: East Bay

Requested By / Date: TDB 08/4/10 — Work Scheduled: Week of August 16th

SERVICES REQUESTED	COMPLETED
1) Conduct H&S tailgate meeting & complete form	☐ YES ☐ NO
2) Uncover any MWs covered with soil (i.e., MW19). Re-berm MW13 and MW21S as necessary. - Shovel	☐ YES ☐ NO
3) Conduct GWM event for 20 normally sampled MWs (all MWs except MW02, MW05, MW06, MW10, MW17, MW19)	☐ YES ☐ NO
* Measure and record LNAPL thickness in every MW being sampled	☐ YES ☐ NO
* Measure and record salinity and turbidity in every MW being sampled	☐ YES ☐ NO
* Field QC samples: 1 field blank, 1 equipment rinsate blank	☐ YES ☐ NO
* Lab to perform filtration for dissolved metals analysis; request that lab perform silica gel prep for NWTPH-Dx	☐ YES ☐ NO
4) Measure water levels synoptically to the extent practical in as many MWs as possible (including MWs not sampled)	☐ YES ☐ NO
5) Return interface probe, water quality meter / flow through cell, and turbidity meter to GW Essentials	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO
	☐ YES ☐ NO

ADDITIONAL STANDARD INSTRUCTIONS	COMPLETED		COMPLETED
☐ Review Docs:	☐ YES ☐ NO	☒ Health & Safety Meeting	☐ YES ☐ NO
☐ Agency NOI / Utility Locate / Concrete Coring	☐ YES ☐ NO	☐ Call PM from Site	☐ YES ☐ NO
☒ Coordinate Access: City, LOTT	☒ YES ☐ NO	☐ Draw Site Map	☐ YES ☐ NO
☐ Coordinate Sub / Equip:	☐ YES ☐ NO	☒ Cuttings / Purge Water Characterization & Disposal	
☒ Purchase / Rent Equip: see below	☒ YES ☐ NO	☐ Potential HW	☐ YES ☐ NO
☒ Client/Agency Coordination: Port & Ecology	☒ YES ☐ NO	☐ Non-Haz	☐ YES ☐ NO
☒ Calibrate Equipment: WQ meter	☐ YES ☐ NO	☒ Background to ground	☐ YES ☐ NO

Rent van. Rent 1) Solinist interface Meter 122, 2) YSI Model 556 water quality meter with flow through cell, and 3) LaMotte Turbidity meter 2020e from Groundwater Essentials

SAMPLING REQUIREMENTS

☐ Field Testing:

☒ Lab Testing: Both **total and dissolved** arsenic, copper, lead, nickel (6000/7000); TPH-D & -HO (NWTPH-Dx with silica gel prep)
Laboratory: Anatek - Moscow

☐ Lab Testing: Laboratory:

☐ Lab Testing: Laboratory:

FIELD SUPPLIES NEEDED

☒ Site Map ☒ Camera ☐ Survey Equip / GPS ☒ Vehicle

☒ Std Field Equip (keys, forms, SAP, HASP, PPE, decon, tools)

☐ Drilling Equip (PID, references, knife, baggies, tape)

☐ Soil Equip (SS bowls, spoon/shovel, hand auger, pick, sieves)

☒ GWM (pump, tubing, gen., compres., bailers, rope/string,PDB)

☐ Pump / Slug Test Equip (GWM Equip, slug, stopwatch)

☒ Water Level Indicator / Interface Probe

☒ Water Quality Meter rental ☐ Field Test Kits

☒ Sample Kit / Cooler / COC / Ice Anatek

☒ IDW: ☐ Drums ☒ 5-gal buckets

☒ Other: Tools

☐ Other:

PIONEER TECHNOLOGIES CORPORATION (PTC)
DAILY FIELD REPORT

Date: 8/16/2010 → 8/18/2010 Site Location: East Bay Site Arrival Time: 8:00 Site Departure Time: 3:30

WEATHER	(Clear Sun)	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	50-70	(70-85)	(85 Up)
WIND	(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
melody Fiedler	PTC	
Kara Roberts	PTC	

NOTES ON WORK COMPLETED

Access to Port fences - call Joanne
LOTT fence Ed Schumaker
360-664-2333

Access to Port fences
Bill 528-8022
Jack 239-3577

MS/MSD - fill up at any well - filled up at MW03 on 8/16/2010
Field blank - fill with any water
Equipment rinse - run though pump & fill up bottles
* Add to COC*

At MW01 pump malfunctioned when we started pumping again water had gotten pretty turbid.

MW04 - stopped pumping water after 1minute, adjusted tubing, black water came up, smelled of rotting eggs, well was spitting up water

MW20 - right at the end of sample tubing might have hit bottom, water became very dirty for the end of the TPH-DX and the entire Metal sample.

Sampled MW16 twice because Total/Dissolved metals bottle spilled while we were packing

MW14 - pump malfuntioned & once working again water was very turbid

~~MW13~~ MW13 - same note as MW20 but because well was pumped dry.

MW19 - is 18.6 ft left of MW21s

SIGNATURE: Melody Fiedler DATE: 8/18/2010

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: Port of Olympia East Bay | FIELD TECHNICIAN(S): Melody Feden / Ileana Roberts | DATE: 8/16/2010

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 21S	-	-	good	~~1500~~ 1630	--	4.46	0	Peristaltic	1 ft up from bottom	4 6 10 12	0.6	4.60 4.61 4.61 4.63	6.62 6.59 6.56 6.55	.958 .924 .899 .882	.95	0.82 0.78 .73 .71	19.51 19.30 19.27 19.27	-91.7 -89.0 -82.6 -78.0	1120	.51 .50 .49	2.5	dump out
MW 01	-	-	good	1100	-	4.88	0			2 4 6 8	0.5		7.12 7.10 7.09 7.07	~~.308~~ .305 .304 .303	193.7 153 46.9 18.2	1.05 1.08 1.08 1.09	20.37 20.15 20.03 20.02	-59.6 -62.1 -64.2 -66.9	1115	.16 .16 .16 .16	1	no SWL too small
MW 03	-	-	good	11:45	-	5.11	0			3 5 7 9	0.5		8.04 8.05 8.06 8.07	.589 .592 .597 .602	27.7 8.97 ~~8.25~~	0.31 0.29 0.30 3.6	16.97 17.08 17.02 16.99	-116.4 -116.0 -115.3 -114.5	1200	.29 .29 .29 .29	2	no SWL too small
MW 04	--	-	good	12:5	--	6.68	0			6 8 10 12	.2		6.41 6.41 6.42 6.42	3.428 3.598 3.726 3.832	91.1 4.92 2.25	.26 ~~.25~~ ~~.24~~ .24	17.49 17.62 17.68 17.76	-121.2 -134.9 -158.3 -181.9	1230	1.84 1.92 2.00 2.05	1	no SWL too small
MW 16	-	-	good	1330	-	5.60	0			6 8 10 12	0.7 0.5	~~6.30~~ ~~6.42~~ 6.32 6.32	6.30 6.30 6.32 6.32	1.948 1.961 1.973 1.990	1.94 10.27	0.15 0.15 0.19 .22	15.27 15.74 16.37 16.62	-149.7 -167.5 -178.7 -181.9	1345	1.24 1.23 1.23 1.23	1	
MW 18			~~good~~ PVC looks cracked	1415	-	8.88	0			3 5 7 9 11	0.3	9.12 9.10 9.16 9.17 9.19	6.84 6.83 6.82 6.81 6.81	5.242 5.816 6.313 6.717 7.082	1.61 -.26	1.24 1.21 1.21 1.19 1.20	17.34 17.08 16.82 16.75 16.64	-22.1 -17.7 -12.5 -7.8 -2.8	1430	3.41 3.82 4.20 4.48 4.74	1	

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Port of Olympia

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Melody Feden / Kara Roberts **DATE:** 8/16/2016 - 8/17/2016

WELL INFO				DTW				PURGING												SAMPLE COLLECTION		PURGE WATER	
										Stabilization													
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW30	—	—	good	3:00	—	7.32	0	peristaltic	2ft from Btm	5	.2	7.36	7.57	1.034	80.4	1.07	21.31	-138.5		.51		
										7		7.37	7.55	1.028		1.08	20.4	-136.3		.51		
										9		7.38	7.54	1.025		1.10	19.84	-135.3	315	.51		
										11		7.38	7.52	1.020	12.5	1.09	19.41	-138.3		.51	1	dump on ground
MW 16	—	—	good	0836	—	6.01	0		1ft from bottom	3	0.4	6.31	6.36	1.354	278	0.23	14.51	-111.9		0.87		
										5		6.31	6.34	1.389		0.27	14.80	-118.7		0.88		
										7		6.42	6.34	1.426		0.27	15.19	-134.4	0845	0.90		
										9		6.51	6.34	1.451		0.26	15.27	-149.7		0.91		
										11		6.59	6.33	1.456	7.97	0.26	15.26	-149.0		0.91	1.5	
MW 23S	—	—	good	0900	—	4.80	0		1ft from Btm	3	0.4	5.26	6.38	0.739	304	0.41	17.12	-105.9		0.43		
										5		5.30	6.34	0.719		0.33	16.54	-97.4		0.42		
										7		5.34	6.32	0.714	6.57	0.28	16.45	-100.1	0915	0.42		
										9		5.35	6.31	0.716	5.91	0.26	16.41	-109.7		0.42	1.5	
MW 24S	—	—	good	0945	—	4.2	0		1ft from Btm	2	.4	4.2	7.83	.414	[illegible]	.40	20.59	-123.9		.19		
										4		4.2	8.0	.368	3.58	.41	21.07	-113.3		.19		
										6		4.2	8.17	.404		.43	21.23	-103.5	1000	.19		
										8		4.21	8.22	.411	-.92	.43	21.28	-98.3		.2	1.5	
MW 09	—	—	pipe bent cement up to top so cap can't go on	1030	—	—	0		1ft from Btm	3	.5		6.37	.638		.20	17.03	-73.3		.31		
										5			6.33	.629	15.2	.20	16.88	-76.6		.31		no SWL Bent pipe
										8			6.28	.622		.20	16.86	-80	1045	.30		
										8			6.25	.623	9.95	.20	16.84	-83.6		.30	2	
MW 08	—	—	filled w/ water	1100	—	3.83	0		1ft from bottom	4	.4		6.54	0.903		0.41	15.66	-89.5		0.53		
										6			6.54	.910	9.42	0.41	15.43	-88.1		.56		no SWL too small
										8			6.54	.914		0.40	15.36	-86.8	1130	.56		
										10			6.54	.917	10.65	0.40	15.35	-85.7		0.54	1.5	

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

Port of Olympia

Stabilization:
SWL < 0.33 ft | Turb ± 10%
pH ± 0.1 | DO ± 0.3 mg/L
SC, Temp ± 3% | ORP ± 10 mV

SITE NAME: East Bay **FIELD TECHNICIAN(S):** Melody Feder / Kara Roberts **DATE:** 8/17/10 - 8/18/10

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization										Salinity		
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW13	1	—	good	0900	—	4.31	0	Peri. Stabilitic	1 ft from bottom	3	0.3		6.68	1.726	343	0.62	21.63	-87.8		.97		
										5	0.1		6.77	1.925		.67	22.52	-89.2		64 too		
										7			6.84	2103		.73	23.67	-92.8	1215	1.11 SWL	.5	dump on ground
										9			6.88	2239		.78	24.64	-97.9		1.17 too		
										11			6.94	2357	440	.80	25.45	-102.4		1.25 small		
MW 25	—	—	filled w/ water good	0330	—	1.89	0		1 ft from bottom	2	0.5	3.12	6.83	0.231		0.57	24.04	-73.1		0.11		
										4		3.65	6.70	0.220		0.62	24.14	-70.6		0.11		
										7	0.3	3.42	6.72	0.218		0.74	24.58	-70.9	1345	0.10	1	
										9		3.32	6.73	0.214	327	0.79	24.68	-69.1				
MW 14	—	—	filled w/water good	1400	—	2.72	0		1 ft from btm	2	0.3		6.73	0.380		0.81	21.73	-43.0		0.19		
										4			6.56	0.371	42.3	0.83	20.92	-42.8				
										6			6.46	0.368		0.71	19.02	-38.9	1415	0.20 too small for SWL	.5	
										8			6.39	0.368	56.8	0.49	15.21	-40.9		0.20		
MW 22S	—	—	good	1430	—	2.1ft	0		1 ft from bottom	1	0.5	1.33	7.13	0.185		0.56	18.47	-44.4		0.10		
										3		1.48	6.57	0.322		0.39	16.64	-26.3		0.20		
										5		1.62	6.38	0.341	424	0.25	16.13	-25.9	1500	0.20	1.5	
										7		1.62	6.31	0.356		0.11	16.08	-19.3		0.14		
										9		1.56	6.27	0.188	430	0.17	16.20	-17.4		0.10		
MW 15	-	-	good	0800	-	3.86	0		1 ft from btm	2	0.5		6.66	1.187		0.21	21.94	-89.9		0.62		
										4			6.69	1.163	-.32	0.14	22.37	-98.7		0.61		
										6			6.71	1.158		0.12	22.47	-101.7	0815	0.60 no SWL too small	1.5	
										8			6.71	1.151	-1.85	0.10	22.51	-101.6		0.60		
MW 07	—	—	cracked casing shifted	0845	—	5.51			1 ft from btm	3	0.5		6.99	0.248	3.95	0.18	15.97	-47.3		0.14		
										5			6.93	0.224		0.11	15.78	-56.5		0.13		
										7			6.90	0.204		0.09	15.68	-61.4	0920	0.12 no SWL too small	1	
										8			6.90	0.193	1.24	0.08	15.67	-63.1		0.11		

PIONEER TECHNOLOGIES CORPORATION (PTC)
GROUNDWATER MONITORING FORM

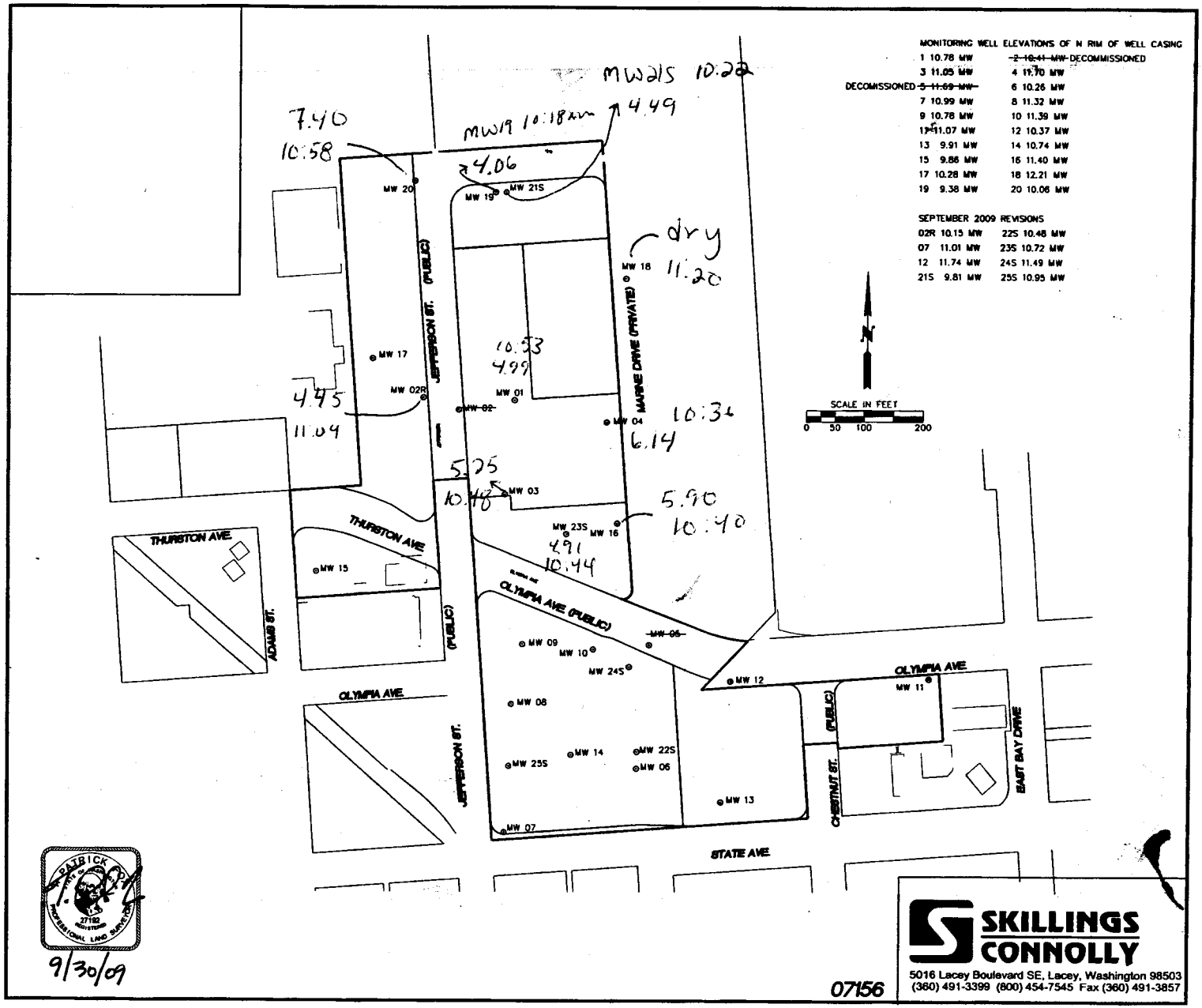
Stabilization:	
SWL < 0.33 ft	Turb ± 10%
pH ± 0.1	DO ± 0.3 mg/L
SC, Temp ± 3%	ORP ± 10 mV

SITE NAME: Port of Olympia East Bay

FIELD TECHNICIAN(S): Kara Roberts / Melody Feden

DATE: 8/18/2010

WELL INFO				DTW				PURGING											SAMPLE COLLECTION		PURGE WATER	
										Stabilization												
Well ID	Total Depth (ft)	Screen Interval (ft)	Current Condition (e.g., seal, cover, cap, casing, lock)	Time	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thick. (ft)	Pump Type	Intake Depth (ft)	Elaps. Time (min)	Flow Rate (L/min)	SWL (ft)	pH	Spec. Cond. (mS/cm)	Turb (NTU)	D.O. (mg/L)	Temp (°C)	ORP (mV)	Time	Salinity Field Kit Results / General Comments	Vol (gal)	Disposal / Storage Comments
MW 02R	–	–	good	9:15	–	4.45	0	Peri Static	1ft from Btm	2	.4	4.68	6.54	.348		.34	15.98	-56.9	9:30	.17	1.5	dump on ground
										4		4.68	6.54	.337	4.50	.35	16.01	-57.3		.16		
										6		4.69	6.52	.322		.31	15.98	-57.1		.15		
										8		4.69	6.51	.312	2.47	.30	15.99	-56.8		.15		
MW 11	–	–	good	9:45	–	3.52	0		1ft from Btm	2	.6		6.70	.219	38.6	6.70	18.36	-28.3	1000	.10 too small to measure SWL	1.5	
										4			6.72	.220		.09	18.29	-42.7		.10		
										6			6.75	.218		.06	18.22	-55		.10		
										8			6.80	.217	262	.06	18.15	-64		.10		
															19.2							
MW12	–	–	Casing Bent Tubing Bent	~~1500~~ 1230	–	9.80	0		1ft from Btm	3	0.2		7.31	6.196	[illegible]	1.12	22.82	-39.3	1530	3.61 Too small to measure SWL	.3	
										5			7.32	7.015	89.4	1.16	22.10	-30.0		4.18		
										7			7.32	7.726	149	1.18	21.72	-20.7		4.64		
										10			7.31	8.348	111	1.19	21.46	-11.0		5.08		
										12			7.30	8.948	79.7	1.19	21.54	-6.4		5.43		
MW 24S	–	–	good	~~4.26~~ 1300	–	4.26	0		1ft from btm	6	0.3	4.26	8.00	.389	55.9	1.04	21.81	-51.4	1315	0.20	.5	
										8		4.26	8.04	.386	22.5	1.03	21.99	-55.7		0.20		
										10		4.26	8.08	.387	8.40	1.04	22.31	-55.3		0.20		
										12		4.25	8.12	.391	5.14	1.05	22.51	-54.0		0.20		



MONITORING WELL ELEVATIONS OF N RIM OF WELL CASING

1	10.78 MW	~~2 10.41 MW~~	DECOMMISSIONED
3	11.05 MW	4	11.70 MW
DECOMMISSIONED	~~5 11.69 MW~~	6	10.26 MW
7	10.99 MW	8	11.32 MW
9	10.78 MW	10	11.39 MW
11	11.07 MW	12	10.37 MW
13	9.91 MW	14	10.74 MW
15	9.86 MW	16	11.40 MW
17	10.28 MW	18	12.21 MW
19	9.38 MW	20	10.06 MW

SEPTEMBER 2009 REVISIONS

02R	10.15 MW	22S	10.48 MW
07	11.01 MW	23S	10.72 MW
12	11.74 MW	24S	11.49 MW
21S	9.81 MW	25S	10.95 MW

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9/30/09

07156

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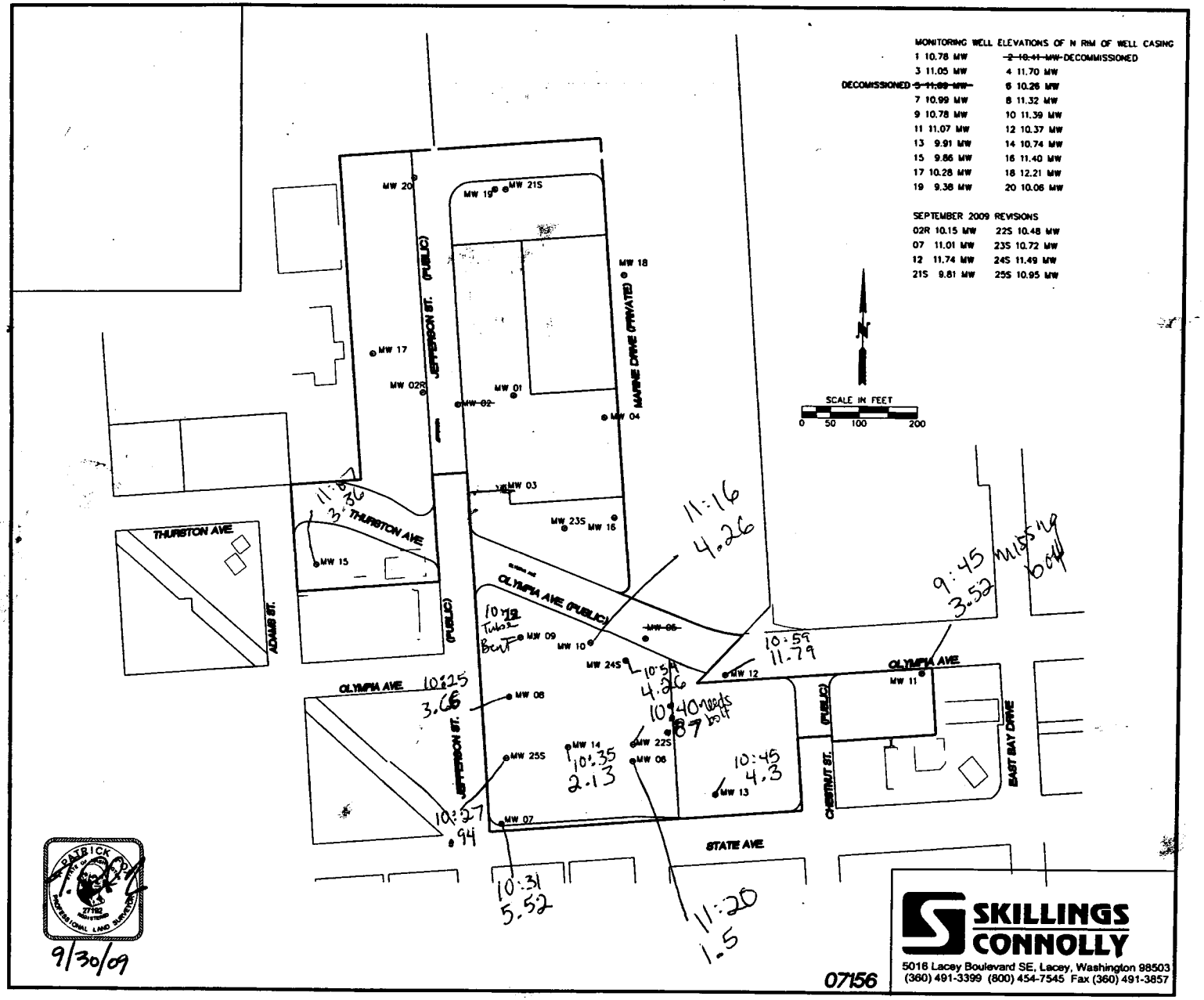
5016 Lacey Boulevard SE, Lacey, Washington 98503
(360) 491-3399 (800) 454-7545 Fax (360) 491-3857


MONITORING WELL ELEVATIONS OF N RIM OF WELL CASING
1 10.78 MW
~~2 10.41 MW~~ DECOMMISSIONED
3 11.05 MW
4 11.70 MW
DECOMMISSIONED ~~5 11.09 MW~~
6 10.26 MW
7 10.99 MW
8 11.32 MW
9 10.78 MW
10 11.39 MW
11 11.07 MW
12 10.37 MW
13 9.91 MW
14 10.74 MW
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20 10.06 MW
SEPTEMBER 2009 REVISIONS
02R 10.15 MW
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23S 10.72 MW
12 11.74 MW
24S 11.49 MW
21S 9.81 MW
25S 10.95 MW
SCALE IN FEET
0 50 100 200
MW 20
MW 19
MW 21S
MW 18
MW 17
MW 02R
MW 01
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MW 04
MW 03
MW 23S
MW 16
MW 15
MW 09
MW 10
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MW 24S
MW 12
MW 11
MW 08
MW 25S
MW 14
MW 22S
MW 06
MW 13
MW 07
JEFFERSON ST. (PUBLIC)
MARINE DRIVE (PRIVATE)
THURSTON AVE.
ADAMS ST.
OLYMPIA AVE. (PUBLIC)
OLYMPIA AVE.
CHESTNUT ST. (PUBLIC)
EAST BAY DRIVE
STATE AVE.
11:16
4.26
11:36
3.
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.94
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11:20
1.5
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9/30/09

APPENDIX H

SAMPLING AND ANALYSIS PLAN / QUALITY ASSURANCE PROJECT PLAN

SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN REMEDIAL INVESTIGATION WORK PLAN EAST BAY REDEVELOPMENT PORT OF OLYMPIA OLYMPIA, WASHINGTON

OCTOBER 22, 2008

FOR
PORT OF OLYMPIA

GeoEngineers

Sampling and Analysis Plan and Quality Assurance Project Plan

File No. 0615-034-07

October 22, 2008

Prepared for:

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1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) describe sample collection, handling and analysis procedures associated with the Remedial Investigation Work Plan (RIWP) for the Port of Olympia's (Port) 13-acre East Bay Redevelopment Site (Site). The Site is located in Olympia, Washington, as shown in Figure 1. This SAP must be used in conjunction with the RIWP and the project-specific Health and Safety Plan (HASP).

Detailed descriptions of the field sampling procedures are provided in this document. Site conditions may make it necessary to modify these procedures. Any variations or modifications that become necessary during the investigation will be coordinated with Port personnel, the Washington State Department of Ecology (Ecology) and other involved parties, as appropriate. Variations or modifications implemented during the investigation and the reason for the modification will be documented in field records.

This SAP describes field activities, sampling equipment, sampling locations and procedures that will be used during investigations at the Site. This SAP also includes a QAPP (Section 11), which identifies quality assurance/quality control (QA/QC) procedures that will be implemented during field sampling activities and laboratory analyses.

2.0 PURPOSE AND SCOPE

The purpose of this SAP is to present the detailed procedures that will be used to obtain samples during the supplemental remedial investigation (RI). The objective of this sampling is to provide information to:

- Characterize the nature and extent of contamination at the Site;
- Assess the potential risk to human and ecological receptors; and
- Provide the information that will allow selection of cleanup action alternatives.

Rationale for sample locations and depths and monitoring wells are described in Tables 1 through 3.

Activities to be performed by GeoEngineers during the RI include the following:

1. Update the Project HASP and SAP for use by GeoEngineers' personnel during the RI.
2. Retain public and private utility locating services to identify and locate underground utilities in the exploration areas in coordination with the Port.
3. Retain a concrete coring contractor to core through paved surfaces, as necessary.
4. Monitor the advancement of soil explorations using direct-push and/or hollow-stem auger techniques to depths specific to proposed sample locations. If field screening indicates

contamination is present at the target total depth for a boring, the boring will be advanced until field screening indicates contamination is not present.

a. Soil borings will be located by measuring from known previously surveyed features (roads, existing monitoring wells, etc) and GPS readings.

b. Samples of soil will be collected continuously for the total depth of each boring. Samples for potential chemical analyses will be collected approximately every two feet. Soil will be visually classified in the field according to the Unified Soil Classification System. Contacts between soil lithologies and fill episodes, if feasible, will also be described.

c. Groundwater monitoring wells may be constructed in five borings as described in Table 2.

5. Obtain soil samples as specified in this SAP and the RIWP. Field screening will be performed on each sample using visual, water sheen and headspace vapor screening methods. The field screening results will be used as a general guideline to approximate the vertical extent of petroleum-related contamination in the soil samples. In addition, screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis.

6. Explore the locations and nature of water seeps along the shoreline embankment and collect data to determine if the seeps represent groundwater.

7. Obtain groundwater samples from existing and new monitoring wells for chemical analytical testing using low-flow sampling methodology. Measure depth to water using an electric water level indicator.

a. Collect water samples from seeps if the seeps represent groundwater.

8. Contain soil cuttings, purge water and decontamination water in steel drums and store the drums in a secure location designated by the Port to await off-site transport and disposal. The drums will be labeled according to standard GeoEngineers' practice.

9. Submit soil and groundwater samples to a subcontracted chemical analytical laboratory for chemical analysis. The chemical constituents for each sample have been determined based on existing data and assumptions of the chemicals of potential concern (COPCs) present. Sample locations, depth intervals, and COPCs are described in Tables 1 through 3. The chemical analysis may include one or more of the following:

a. Gasoline-, diesel- and motor oil-range petroleum hydrocarbons by Ecology Methods NWTPH-Gx and NWTPH-Dx,

b. Metals by U.S. Environmental Protection Agency (EPA) Method 6000/7000 series,

c. Volatile organic compounds (VOCs) by EPA Method 8260B,

d. Semivolatile organic compounds (SVOCs) including carcinogenic polycyclic aromatic hydrocarbons (cPAHs) by EPA Method 8270 SIM,

e. Polychlorinated biphenyls (PCBs) by EPA Method 8082, and

f. Dioxins/furans by EPA Method 1613B or Method 8290.

Tables 4 and 5 summarizes the target analytical reporting limits and analytical methods that will be used for soil and groundwater.

10. Document sample methodology and sample locations using detailed field logs.

11. Use database and geographic information system (GIS) technologies to manage chemical analytical data and sample locations.

3.0 PROJECT SCHEDULE

Field work for the supplemental RI will be conducted in phases. The initial phase of the RI will be completed in Fall 2008 in order to provide data critical to the planning of the infrastructure improvement project. The initial phase includes completing eight explorations located in or near the infrastructure corridor. The initial eight exploration locations include borings DP27, DP30, DP32, DP33, DP34, DP36, DP38, and DP40, which are also highlighted on Table 1. The initial phase will also include locating suspected artesian wells, as described in Appendix B of the RI Workplan. Subsequent phase of field work will be completed after data from the first phase has been evaluated and after decommissioning of the artesian wells.

4.0 ROLES AND RESPONSIBILITIES

This section outlines the individuals directly involved with the RI. Work performed under this SAP will be in cooperation with the Port.

Key personnel for this project are as follows:

Position	Name	Affiliation	Telephone Number
Ecology Project Coordinator	Steve Teel	Washington State Department of Ecology	360-407-6247
Port Project Coordinator	Joanne Snarski	Port of Olympia	360-528-8061
Principal-in-Charge	David Cook	GeoEngineers, Inc.	206-728-2674
Project Manager	Jay Lucas	GeoEngineers, Inc.	206-239-3221

- The **Ecology Project Coordinator** is responsible for providing timely technical review and guidance regarding compliance with the Agreed Order (AO) and is responsible for overseeing implementation of the AO for Ecology.
- The **Port Project Coordinator** is responsible for administering the contract with the consultant and is responsible under the AO for overseeing implementation of the AO for the Port.
- The **Principal-in-Charge** works with the Project Manager and is responsible for project document QA/QC review.
- The **Project Manager** reports directly to the Port Project Coordinator and the Principal-in-Charge. The Project Manager is responsible for coordinating project activities and submitting deliverables to the Port. The Project Manager's duties consist of providing concise technical work statements for project tasks, selecting project team members, determining the degree of subcontractor participation, establishing and adhering to budget and schedule, providing technical oversight and providing review of all work.

5.0 FIELD PROCEDURES

The rationale, depths and chemical program for soil and groundwater samples are presented in Tables 1 through 6 of this SAP and are described in the RIWP. The soil and groundwater samples will be obtained and submitted to a Washington State accredited laboratory for chemical analysis.

Note that Sampling and Testing associated with the RI, as outlined in this SAP, includes a phased approach to facilitate early decisions regarding the infrastructure improvements and associated excavation. The phased explorations and testing approach are highlighted in Table 1 of this SAP.

5.1 UNDERGROUND UTILITY LOCATE

Prior to sampling activities, an underground utility locate will be conducted in the area of the proposed sample locations to identify any subsurface utilities and/or potential underground physical hazards.

5.2 SUBSURFACE SOIL SAMPLING

5.2.1 Sample Collection Method

Subsurface soil sampling will be conducted using a direct-push drilling rig equipped with a core barrel lined with disposable acetate sleeves. Soil samples will be obtained every two feet for potential chemical analytical testing and field screening, as described in Table 1. Samples obtained for chemical analytical testing will consist of approximately four- to six-inches of the soil core. The depth of each sample will be measured from the bottom of the sample interval. The depth to the groundwater table, if present, may also be measured at each sample location, using an electric water level indicator.

Samples to be analyzed for gasoline-range petroleum hydrocarbons and VOC analysis following EPA Method 5035A (Ecology 2004) will be obtained first. Samples obtained for non-volatile analyses will be obtained from the same general intervals as the volatile samples. Planned sample depths are based on results from earlier studies and are outlined in Table 1. Sample containers will be labeled in the field and stored in an iced cooler prior to and during shipment to the chemical analytical laboratory.

Sampling activities will be conducted by a GeoEngineers representative, and soil will be visually classified in the field according to the Unified Soil Classification System (USCS) and American Society for Testing and Materials (ASTM) Standard 2488.

Field personnel will record the sample locations using hand-held Trimble GeoXT global positioning system (GPS) units with sub-meter accuracy during sampling activities. Sub-meter accuracy standards will be used during data collection to record latitude and longitudinal data. A minimum of four satellites will be required for a position dilution of precision (PDOP) value of less than 6. Satellite elevation must be at least 15 degrees above the horizon, with a minimum signal-to-noise ratio (SNR) of 39 bBHz. GPS data collected in the field will be subsequently processed in the office using measurements from the nearest reference station to each collection point.

5.2.2 Sample Locations

Twenty-two new boring locations are planned and shown in Figures 2 and 3. The borings are placed in areas to further evaluate the lateral and/or vertical extent of contamination that has been identified in previous studies. The rationale for sample locations and depth intervals are described in Table 1.

5.2.3 Phase 1: Infrastructure Construction Corridor Sample Locations

Locations of eight borings are within utility corridors associated with the infrastructure improvements. These borings may be completed during an initial phase of exploration to accommodate the construction schedule. These borings are highlighted in Table 1 and Figure 2. Sampling in the infrastructure corridor will provide data to characterize soil that will be removed during excavation activities.

5.3 FIELD SCREENING

Field screening for evidence of possible contamination will be performed on soil samples obtained from the explorations. Field screening results will be recorded on the field logs, and the results will be used as a general guideline to delineate areas of possible contamination. Screening results will be used to aid in the selection of soil samples to be submitted for chemical analysis. The following screening methods will be used: (1) visual screening, (2) water sheen screening and (3) headspace vapor screening. Visual screening and water sheen screening are qualitative methods; therefore, precision, accuracy and detection limits are not quantified for these methods. Headspace vapor screening is a semi-quantitative method; however, precision and accuracy will not be quantified for this method. Instrument accuracy and detection limits are described below. Field screening results are site- and location-specific. The results may vary with temperature, moisture content, soil type and chemical constituent.

5.3.1 Visual Screening

The soil will be observed for unusual color and stains and/or odor indicative of possible contamination.

5.3.2 Water Sheen Screening

A portion of the soil sample will be placed in a pan containing distilled water. The water surface will be observed for signs of sheen. The following sheen classifications will be used:

Classification	Identifier	Description
No Sheen	(NS)	No visible sheen on the water surface
Slight Sheen	(SS)	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly
Moderate Sheen	(MS)	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface
Heavy Sheen	(HS)	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen

5.3.3 Headspace Vapor Screening

Headspace vapor screening will be performed on a portion of the soil sample placed into a resealable plastic bag. Ambient air will be captured in the bag; the bag will be sealed and then shaken gently to expose the soil to the air trapped in the bag. The bag will remain closed for approximately 5 minutes at ambient temperature before the headspace vapors are measured. Vapors present within the sample bag's headspace will be measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag. A PID measures the concentration of organic vapors ionizable by a 10.6 electron volt (eV) lamp in parts per million (ppm) and quantifies organic vapor concentrations in the range between 0.1 ppm and 2,000 ppm (isobutylene equivalent) with an accuracy of 1 ppm between 0 ppm and 100 ppm. The maximum value on the instrument and the ambient air temperature will be recorded on the field log for each sample. The PID will be calibrated to 100 ppm isobutylene.

5.4 GROUNDWATER SAMPLING

5.4.1 Monitoring wells

Groundwater will be sampled from 17 existing and new monitoring wells for chemical analytical testing as shown in Table 3. Monitoring wells will be sampled using low-flow sampling methodologies, as described below.

- Prior to sampling, measure depth to water with an electric water level indicator.
- Purge groundwater from the monitoring wells using dedicated tubing, a peristaltic pump (or equivalent), a flow-through cell and water parameter analyzer (Horiba U-20). Purge monitoring wells using a flow rate between 100 and 500 milliliters per minute (mL/min) that does not create significant drawdown in the well. When field parameters have stabilized or at least three well volumes of water have been purged from the well, disconnect the flow-through cell and sample groundwater directly from down-well tubing, maintaining a low-flow pumping rate. Water quality parameters to be monitored during purging include: conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature.
- Place each groundwater sample directly into a laboratory-prepared sample container, label the container, log the sample on the chain-of-custody and sample collection form, and place the container into a cooler with ice.

5.4.2 Groundwater Seeps

Greylock Consulting identified four seep locations along the shoreline during a low tide on July 16, 2008. These locations, as well as other seep locations that may be identified during site visits, will be evaluated to determine if they represent groundwater rather than surface water, irrigation water or discharge from buried pipes.

The evaluation will be based on several lines of evidence that will include:

- Physical observations of the proximity of the seeps to known utilities that could represent areas where water leaks from stormwater drains or from the fill around buried utilities.
- Explore the soil above the seeps to determine if the soil is saturated above the seepage point, and follow the saturation to its point of origin. This exploration will be conducted with hand digging equipment.
- Measure the temperature, salinity and conductivity of the water discharging from the seeps and compare these values to that representative of groundwater and of marine water. This will help determine if the seeps represent delayed drainage of sea water, rather than groundwater.
- Determine if the seeps originate at a higher elevation that the groundwater table. If a seep originates above the elevation of the groundwater table or high tide elevation that day, it is evidence that the seep does not represent groundwater. The elevation of the groundwater table will be based on water levels measured in the nearest monitoring well during the high tide and the low tide of that day's tidal cycle.

If water from an area of seepage is identified as groundwater, a representative sample will be collected for chemical testing as identified in Table 3. The sample will be collected by pushing a short PVC pipe into the seep so the water drains from the end of the pipe. Following insertion of the PVC pipe, a sample of the water will be collected after turbidity caused by the initial disturbance has descreased. Conductivity, temperature, and salinity water quality parameters will be measured as described above for the monitoring well samples. Up to four samples representative of groundwater seeps will be collected. The PVC pipe will be decontaminated prior to collection of each sample.

5.5 FIELD EQUIPMENT CALIBRATION PROCEDURES

Field equipment requiring calibration will be calibrated to known standards in accordance with manufacturers' recommended schedules and procedures for each instrument. If field equipment becomes inoperable, it will be replaced with a properly calibrated instrument.

6.0 CHEMICAL ANALYTICAL PROGRAM

All samples will be submitted to a Washington State accredited laboratory. Tables 1 and 3 summarize the chemical analyses for soil and groundwater samples from monitoring wells, respectively. Tables 4 and 5 summarize the target analytical reporting limits.

7.0 SAMPLE HANDLING AND CUSTODY REQUIREMENTS

The following procedures will be used when obtaining soil and/or groundwater samples during the investigation activities.

- Dedicated nitrile gloves will be worn when obtaining each sample, including quality control (QC) samples.
- Soil samples obtained for chemical analysis of gasoline-range petroleum hydrocarbons and VOCs will be obtained using EPA Method 5035A.
- Samples obtained for chemical analysis will be transferred into clean sample containers supplied by the analytical laboratory. Table 6 lists the sample containers to be used.
- Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis.
- Sample labels will be completed for each sample following the procedures provided in this section. Immediately after the samples are obtained, they will be stored in a cooler with ice until they are delivered to the analytical laboratory.
- Standard chain-of-custody procedures will be followed for all samples obtained.

7.1 CUSTODY SEALS

Custody seals are signed and dated seals that are affixed to the lid of a shipping container (for example, cooler) and are used to indicate if the container has been opened before it reaches the intended recipient. Custody seals will be attached to containers by GeoEngineers personnel before they are transferred to the chemical analytical laboratory.

7.2 CUSTODY PROCEDURES

Chain-of-custody procedures will be used to track the possession of the samples from the time they are obtained in the field through analysis and final disposition. Each time the samples change hands, both the sender and receiver will sign and date the chain-of-custody record form. A chain-of-custody record form will be used to track possession of the samples and to document the analyses requested. The form will be completed at the end of each sampling day prior to transfer of samples off-site and will accompany the samples during transfer to the laboratory.

When the samples are shipped to the laboratory via common carrier, one copy of the chain-of-custody record form will be retained for project files, and the remaining copies will be enclosed in a plastic bag and secured to the inside of the cooler prior to shipment.

Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory, and copies will be returned to the relinquishing party.

8.0 DOCUMENTATION OF FIELD ACTIVITIES

Daily field activities, including observations and field procedures, will be recorded on appropriate forms. The original field forms will be maintained in GeoEngineers' office files. Copies of the completed forms will be maintained in a sequentially numbered field file for reference during field activities. Photographic documentation of field activities will be performed as appropriate.

8.1 SAMPLE DESIGNATION

Each sample obtained during field activities will be identified by a unique sample designation. The sample designation will be included on the sample label. For soil samples, the designation also will be included with the corresponding sample information on the appropriate field log. For groundwater sampling from monitoring wells, the corresponding sample information will be recorded on the monitoring well sampling field sheet. The following sample designation system will be used for this project.

All samples will be assigned a unique identification code based on a consistent sample designation scheme. The sample designation scheme is designed to suit the needs of the field staff, data management and data users. All samples will consist of three components separated by a dash. These components are station code, date and sample interval. The sample designation scheme is as follows:

Station Code	Date	Sample Interval
SSnn	YYMMDD	XXX
MWnn	YYMMDD	W

The three components are described below.

8.1.1 Station Code

The station code component is a four-character code that uniquely identifies each sampling station. The station code component has two parts: a two-letter station designation ("SS" or "MW") followed by a sequential two-digit number component "nn." The two-letter "SS" designation will be determined by how the soil sample was obtained (for example, drilling method, grab) as described below. The sequential "nn" component will begin at 26 (that is, 26, 27, 28) to accommodate samples previously obtained at the Site during previous studies. For groundwater samples, the "MWnn" designation will correspond to the monitoring well number (for example, MW25S).

The station designations are:

- DP – Direct-Push
- SB – Soil Boring using Hollow-Stem Auger (HSA) Drilling Techniques
- TP – Test Pit
- GB – Grab Sample

8.1.2 Date

The date component is a six-character code that presents the date that the sample was obtained in the following format: year, month, day (YYMMDD).

8.1.3 Sample Interval

The sample interval component corresponds to sample depth for soil samples, and is a three-character code that identifies each sampling interval. Soil sample depth determinations will be made to the nearest 0.5 foot, with the depth determination representing *either* the sample collection point (for VOC) *or* the beginning of the sampling interval (that is, 050 will represent the 5- to 5.5-foot interval). For groundwater, a "W" will be used for the sample interval component.

8.1.3.1 Field Quality Control (QC) Samples

Field QC samples will be identified by adding characters to the end of the sample interval field. The following characters are associated with the following field QC sample types:

- TB – VOC trip blank
- DUP – duplicate sample

8.1.4 Examples

Examples of complete sample numbers with descriptions are as follows:

- DP30-080825-020 A field sample collected at station DP30 on August 25, 2008, from 2 to 2.5 feet bgs.
- MW04-080825-W A groundwater sample collected at monitoring well MW04 on August 25, 2008.

Under the sample designation method described above, the identifier will be unique (that is, no two samples will have the same identifier) and informative (that is, location, date and sample interval). This designation scheme will facilitate overall data management and submittal into Ecology's Environmental Information Management (EIM) database.

8.2 SAMPLE LABELING

Sample information will be printed legibly onto the sample labels in indelible ink. Field identification will be sufficient to enable cross-reference with the project logbook.

To minimize handling of sample containers, labels will be completed before sample collection to the extent possible. The label will be filled out completely in the field and attached firmly to the sample container. The sample label will provide the following information:

- GeoEngineers' job number
- Sample designation
- Date of sample collection (month/day/year)
- Time of sample collection (hours: minutes)
- Chemical analyses to be conducted

- Sample preservation, if applicable
- Initials of sampler

8.3 FIELD LOGBOOKS AND DATA FORMS

Field logbooks (or daily logs) and data forms are necessary to document daily activities and observations. Documentation will be sufficient to enable participants to reconstruct events that occurred during the project accurately and objectively at a later time. All entries will be written in ink, dated and signed daily. No pages will be removed from logbooks for any reason. If corrections are necessary, these corrections will be made by drawing a single line through the original entry (so that the original entry is legible) and writing the corrected entry alongside. The correction will be initialed and dated. Corrected errors may require a footnote explaining the correction.

8.4 PHOTOGRAPHS

Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the field logbook or data forms concerning photographs:

- Date, time and location where photograph was taken
- Photographer
- Description of photograph taken
- Sequential number of the photograph and the film roll number, or sequence in the digital log
- Compass direction

9.0 DECONTAMINATION PROCEDURES

The objectives of decontamination procedures are to minimize the potential for cross-contamination between individual samples, to prevent contamination from leaving the sampling site by way of equipment or personnel and to prevent exposure of field personnel to contaminated materials. This section discusses general decontamination procedures.

9.1 PERSONNEL

Personnel decontamination procedures depend on the level of protection specified for a given activity. The HASP identifies the appropriate level of protection for each type of fieldwork involved in this project, as well as appropriate decontamination procedures.

9.2 SAMPLING EQUIPMENT

Decontamination procedures are designed to remove trace-level contaminants from sampling equipment to prevent cross-contamination of samples. Non-dedicated sampling or measurement equipment, including stainless steel sampling tools, soil sampling equipment and water level measurement instruments, will be decontaminated prior to and after each sampling attempt or measurement by washing with a nonphosphate detergent solution (for example, LiquiNox® and distilled water) and rinsing with distilled water.

10.0 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated from the subsurface investigations will be contained in 55-gallon steel drums and temporarily stored in a secured location as designated by the Port. The IDW is

anticipated to consist of soil cuttings, decontamination water, monitoring well development and purge water. The IDW will be separated by media (that is, soil and water) and labeled appropriately. Chemical analytical results from soil and groundwater sample analyses may be used to profile IDW for disposal at an appropriate off-site disposal facility. Solid waste from sampling activities (used gloves, tubing, etc.) will be contained in plastic trash bags and disposed as solid waste.

11.0 QUALITY ASSURANCE PROJECT PLAN

11.1 QUALITY ASSURANCE OBJECTIVES

The general quality assurance (QA) objectives for this project are to develop and implement procedures for obtaining and evaluating data of a specified quality that can be used to assess site conditions and risks. Field QA procedures to be followed include completing all appropriate sample documentation. Measurement data should have an appropriate degree of accuracy and reproducibility; samples obtained should be representative of actual field conditions, and samples should be obtained and analyzed using proper chain-of-custody procedures.

11.2 FIELD QA/QC PROCEDURES

Field QA/QC procedures to be followed include completing all appropriate sample documentation and preservation. One trip blank will be placed in each sample shipping container (for example, cooler) and analyzed for VOCs.

11.2.1 Trip Blanks

The analytical results of field trip blanks will be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. Trip blanks will be analyzed at a frequency of one for each shipment of samples containing field samples for chemical analysis of VOCs. The trip blanks will be labeled with a "TB" sample identifier as described earlier in the "Sample Designation" section (Section 8.1) and delivered to the laboratory with the normal shipment of samples.

11.2.2 Sample Preservation and Containers

Samples will be kept in a cooler with ice before and during transport to the laboratory. The sampling extraction and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate laboratory-assigned data qualifiers will be noted if holding times are exceeded or containers do not contain the appropriate sample preservation. Table 6 summarizes sample preservation and containers.

11.3 LABORATORY QA/QC PROCEDURES

The data quality objectives will be met in the laboratory by using established instrument calibration and sample handling procedures, analysis according to standard analytical methods and analysis of quality control samples. Laboratory quality control will consist of analysis of surrogate spikes, method blanks, duplicates, matrix spikes and matrix spike duplicates and reporting of all data including holding times.

11.3.1 Equipment Calibration Procedures and Frequency

All instruments and equipment used by the laboratory will be operated, calibrated and maintained according to manufacturer's guidelines and recommendations. Operation, calibration and maintenance

will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

11.3.2 Analytical Procedures

Samples will be analyzed according to analytical methods listed in Tables 1, 3, 4 and 5. EPA standard analytical methods are specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846* (through update III), dated December 1996. Washington analytical methods for petroleum hydrocarbons are specified in the Model Toxics Control Act (MTCA) regulations, as outlined in Washington Administrative Code (WAC) 173-340.

11.3.3 Laboratory QA/QC Samples

Laboratory QC samples will be analyzed at a frequency of 5 percent (1 in 20) on a laboratory batch basis. Laboratory QC samples will consist of duplicates, method blanks, matrix spikes and matrix spike duplicates. In addition, each organic analysis will include addition of surrogate compounds to the sample for surrogate spike analysis.

11.3.4 Laboratory Deliverables

The following information will be provided in the laboratory reports submitted for this project:

- Transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any problems meeting the method holding times or laboratory control limits, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report.
- Sample analytical results, including sampling date, date of sample extraction or preparation, date of sample analysis, dilution factors and test method identification; soil sample results in milligrams per kilogram (mg/kg), micrograms per kilogram (µg/kg) or nanograms per kilogram (ng/kg); and detection limits for undetected analytes. Results will be reported for all field samples, including field duplicates and blanks submitted for analysis.
- Method blank results, including reporting limits for undetected analytes.
- Surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only).
- Matrix spike/matrix spike duplicate and/or blank spike/blank spike duplicate spike concentrations, percent recoveries, relative percent differences and corresponding control limits.
- Laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits.
- Sample chain-of-custody documentation.

The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets and other laboratory support data for samples from this project, will be compiled and kept on file at the laboratory's office for reference.

11.4 REVIEW OF FIELD AND LABORATORY QA/QC DATA

The sample data, field and laboratory QA/QC results will be evaluated for acceptability with respect to the RI data quality objectives (DQOs). Each group of samples will be compared with the DQOs and

evaluated using data validation guidelines contained in the following documents: *Guidance Document for the Assessment of RCRA Environmental Data Quality*, draft dated 1988 and *National Functional Guidelines for Organic Data Review*, draft 1999. To accomplish data evaluation, the criteria listed in the following subsections will be assessed.

11.5 PRECISION, ACCURACY AND COMPLETENESS

11.5.1 Precision

Precision is a measure of data variability. Variability can be attributed to sampling activities and/or chemical analysis. Relative percent difference (RPD) is used to assess the precision of the sampling and analytical method and is calculated as follows.

RPD = 100[(Xs - Xd)/(Xs + Xd)]/2

where

RPD	=	relative percent difference
Xs	=	sample analytical result
Xd	=	duplicate sample analytical result

11.5.2 Accuracy

Accuracy is a measure of the error between chemical analytical results and the true sample concentrations. Accuracy is a measure of the bias in a system and will be expressed as the percent recovery of spiked samples. The accuracy will be presented as percent recovery and will be calculated as follows.

PR = 100(Xss - Xs)/T

where

PR	=	percent recovery
Xss	=	spike sample analytical result
Xs	=	sample analytical result
T	=	known spike concentration

11.5.3 Completeness

Completeness is evaluated to assess whether a sufficient amount of valid data is obtained. Completeness is described as the ratio of acceptable measurements to the total planned measurements. Completeness is calculated as follows.

C = (Number of samples having acceptable data)/
(total number of samples analyzed) x 100%

where

C	=	completeness

11.6 REPORTING, DOCUMENTATION, DATA REDUCTION AND CORRECTIVE ACTION

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified, as appropriate. A review and discussion of analytical data QA/QC will be submitted in a report to be attached to the RI report. Data validation procedures for all samples will include checking the following, when appropriate.

1. Holding times
2. Detection limits
3. Field equipment rinseate blanks
4. Laboratory blanks
5. Laboratory matrix spikes
6. Laboratory matrix spike duplicates
7. Laboratory blank spikes
8. Laboratory blank spike duplicates
9. Surrogate recoveries

If significant quality assurance problems are encountered, appropriate corrective action as determined by GeoEngineers' project manager and/or the chemical analytical laboratory will be implemented as appropriate. All corrective action will be defensible, and the corrected data will be qualified.

Spatial information collected during the field event will be analyzed and displayed using ArcGIS 9.1 and EQUIS 3 to manage the chemical analytical data.

12.0 REFERENCES

Ecology (Washington State Department of Ecology). June 2004. *Collecting and Preparing Soil Samples for VOC Analysis – Implementation Memorandum #5.* Publication 04-09-087.

Ecology. April 2003. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Publication 90-53.

Ecology. February 2001. *Model Toxics Control Act, Chapter 173-340*, Washington State Department of Ecology Toxics Cleanup Program, Olympia, Washington.

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
1. Additional characterization is needed to define the extent of soil contamination at the site. The aerial and vertical extent of soil contamination needs to be further defined in the vicinity of DP02 and DP04 (including westward beneath Jefferson Street and on adjacent offsite parcels if necessary) and north of DP18.	TPH-D, TPH-MO, arsenic, and cadmium in the 2-6 feet interval were the only COPC exceedances at DP04. These COPCs have been delineated laterally in this interval to the northeast and south with MW08 and DP03, respectively. A new soil boring will be advanced northwest of DP04 to complete the lateral delineation of COPC screening level exceedances in the 2-6 feet interval. Soil samples will also be obtained from beneath existing railroad tracks to be removed during infrastructure construction activities. The railroad tracks are currently embedded in the asphaltic pavement along Jefferson Street and we expect that the section beneath the pavement will consist of railroad ties supporting the rail and ballast material (typically 3 feet of crushed rock) supporting the ties. Soil samples will be collected at the soil/ballast interface. We will analyze soil collected beneath the ballast material for cPAHs (using EPA Method 8270C), TPH, and metals to assess potential residual soil contamination associated with the ties.	DP37	0-2										
			2-6	x [a]	X	X	x		x	X			light sand fill
			6-10	X	X	X	x			X			dark sand fill
	TPH-MO in the 2-6 feet interval was the only significant COPC exceedance at DP02. This COPC has been delineated laterally in this interval to the north and southeast with DP03 and DP16, respectively. A new soil boring will be advanced southwest of DP02 to complete the lateral delineation of the TPH-MO screening level exceedance in the 2-6 feet interval. A sample from 10 to 14 feet from the monitoring well boring for MW25S will be tested for TPH-MO to evaluate the vertical extent of this COPC identified in previous samples from DP02. Proposed shallow screen interval for MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04. Soil samples from below the railroad tracks will also be collected and analyzed from DP38 and analyzed for PAHs. PAHs will be tested in sample from 10 to 14 foot depth interval in the boring for MW25S to evaluate the vertical extent of this COPC identified previously at DP02 and DP16. One sample from DP38 will be tested for dioxins/furans to evaluate soil within the infrastructure corridor.	DP38	1-3				x		x				
			4-6	x	X	X	x	x	x		x		light sand fill
			6-10	X	X	X	x	x	x		x	9	Silt or dark sand fill
		MW25S	0-2										
			2-6										
			6-10	x	X	X	X		X				Silt or dark sand fill
			10-14	x	X	X	X		x				Silt or dark sand fill
	TPH-MO in the 10-14 feet interval was the only significant potential COPC exceedance at DP18. This COPC has been delineated latreally in the vadose zone and saturated zone with MW03, MW16, and DP17 but has not been delineated laterally north of DP18. Soil samples from the boring for MW23S will provide this information. Proposed screen interval for MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18. TPH-MO will be tested in MW-23S at the 6 to 10 and 10 to 14 foot intervals to evaluate the vertical extent of TPH-MO identified previously at DP18.	MW23S	0-2										
			2-6										
			6-10	x [a]	X	X	X		X				light sand fill
			10-14	x	X	X	X		X				light sand fill
2. Additional characterization is needed to define the extent of soil contamination at the site. The vertical extent of contamination needs to be defined in the vicinity of DP06 and DP08.	TPH-G in the 2-6 feet interval was the only significant potential COPC exceedance at DP06 and needs to be defined at depth and to the south. TPH-D and TPH-MO in the 2-6 feet interval were the only significant potential COPC exceedances at DP08. TPH-D and TPH-MO exceedance was identified in the 2-6 feet interval in DP-13. The vertical extent of gasoline, diesel and oil contaminated soil has been delineated with DP24, DP15, DP14, MW-5, MW-8 and MW-10. MW24S, along with the other proposed and existing wells, will be used to evaluate the leaching to groundwater pathway via empirical demonstration per WAC 173-340-747(9) an (10)(c). Proposed shallow screen interval for MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	MW24S	4-6	X	X	X	X		X				
			6-10	X	X	X	X		X				
	Evaluate lateral extent of TPH-D and MO identified previously at DP08 and DP13. Evaluate lateral extent of gasoline exceedance at DP08 and DP13.	DP39	0-2	X	X	X	X		X				
			2-6	x [a]	X	X	X		X				dark sand fill
	Lateral and vertical extent of dioxins/furans by TP03. Evaluate thickness of pre-1891 fill. Collect data to support management of soil that will be excavated as part of the infrastructure improvements. DP40 will also help evaluate the extent of diesel and oil contamination previously observed in DP13 and DP08 at 2-6 feet.	DP40	0-2	x	X	X	x	x	x				light sand fill
			2-4	x	X	X	x	x	x		x		light sand fill
			4-6	x	X	X	x	x	x		x	3.5	dark sand fill
3. Additional characterization is needed to define the extent of soil contamination at the site. The aerial extent of contamination has not been defined in the vicinity of MW19.	TPH-G in the 2-6 feet interval was the only potential COPC exceedance at MW19. Two soil borings (DP28 and the boring for MW21s) will be located near MW19 to evaluate the aerial extent of the screening level exceedance of TPH-G at MW19 in the 2-6 feet interval. The proposed screen interval (2 to 7 feet bgs) for MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19. Moreover, a soil boring advanced to the west of MW19 in response to Ecology Comment #7 (i.e. DP27) will also be sampled for TPH-G in the 2-6 feet interval to provide lateral delineation to the west. To address Ecology comment 7, if evidence of burned wood or ash is observed in boring DP28, which is located on the northern edge of parcel 1 near the former Refuse Fire Area, a sample of this material will be analyzed for dioxins and furans.	DP28	0-2	X	X	X	X						
			2-6	X	x	X	X						light sand fill
		MW21S	0-2										
			2-6		x [a]								light sand fill

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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration: Boring (DP) Well (MW)	Sampling Depth Interval (ft bgs)[1]	Soil Analyses: NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]	Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
4. Additional characterization is needed to define the extent of soil contamination at the site. Area of Concern (AOC) #16 (pad mounted transformer) needs to be evaluated. Soil samples should be collected from this area for petroleum hydrocarbons and PCBs. The location of well MW04 does not appear to be close enough to this AOC to be adequate.	One new boring will be advanced and sampled within AOC 16 as recommended by Ecology. The targeted depth for the soil sample collected from this boring is the elevation of the former transformer pad located in AOC 16. The sample from this boring will be analyzed for PCBs and mineral oil range petroleum hydrocarbons (NWTPH-Dx).	DP35	0-2										
			2-6	x						x			gravel fill
5. Parcel 1 needs to be assessed. AOCs #43 through 48 and #50 have not been adequately assessed. Also, the northern portion of Parcel 1 needs to be assessed.	The first sentence of this comment does not apply because the East Bay Redevelopment Project Area only includes the northwest portion of Parcel 1. A new boring (DP36) located in the right-of-way of Olympia avenue adjacent to the northwest portion of Parcel 1will address Ecology's concern regarding the northern portion of Parcel 1. However, the primary purpose of this boring is to evaluate soil conditions to assist in planning of future infrastructure improvements in this area and evaluate residual concentrations of COPCs in an area where historical sources were not located.	DP36	1-3					x					gravel fill
			2-6	x	x	X	x	X					silt
			6-10					X				9	silt
6. Additional characterization of dioxins/furans is needed. As shown in the report, concentration of dioxins/furans that exceed the MTCA Method B Soil Cleanup Level of 11 nanograms per kilogram (ng/kg) or parts per trillion (ppt), expressed as a Total Toxicity Equivalency Factor (TEF), were observed at all four locations tested for this constituent. The reported TEF values from these locations range from 57.9 to 645 ng/kg. Because the highest concentration (TP02) is near the east property line and near an adjacent public walking path and grassy area, additional samples for dioxins/furans should be collected in this adjacent area. Also, an analysis of wind direction should be performed to help predict locations that may show higher dioxin concentrations.	New boring DP33 will provide vertical profile of dioxins/furans concentrations near TP2. Selection of sample locations based on prediction of wind direction is not necessary because the proposed dioxins/furans sample locations (as outlined in this table) provide spatial coverage across the site.	DP33	0-2					x	x	x			gravel fill
			2-4					x	x	x		x	gravel fill
			4-6					x	x	x			light sand fill
			6-8						x				light sand fill
												9	
7. Additional characterization of dioxins/furans is needed. Parcel 7 is located adjacent to the Refuse Fire Area (Area of Concern #1), which is a potential source of dioxins/furans contamination. Additional soil samples for dioxins/furans analyses should be performed in Parcel 7. These samples will provide additional dioxins/furans data for the site and may help to determine whether AOC #1 was a source.	Additional samples which address Ecology's comment 7 will be collected and tested for dioxins/furans from a boring advanced near AOC 1 (DP27) and a boring advanced at the northern edge of Parcel 7 (DP28). In addition, DP27 will be sampled for TPH-G to address gasoline contamination identified in soil at MW-19 (see response to Ecology Comment #3). Samples from boring DP27 will also be analyzed for PAHs to evaluate the lateral and vertical extent of cPAHs identified in soil samples from MW-20, near the Refuse Fire Area. Note that Parcel 8, which is adjacent to the northwest portion of the Site, is being addressed by LOTT Alliance through Ecology's Voluntary Cleanup Program.	DP27	0-2					x	x	x			light sand fill
			2-4		x	X	x	x	x		x		light sand fill
			4-6				x	x	x		x		silt
			6-8				x	x					silt
												3	

TABLE 1
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EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses									Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]			
8. Additional characterization of dioxins/furans is needed. Section 4.3.1 states that "dioxin testing appears to indicate that the historical working surface (depth of about 2 feet below existing grade) is impacted." Please provide more detail on what is meant by "historical working surface" and how it is distinguished. According to the Supplemental Site Use History report, the boiler house (AOC #17) operated circa 1932 and the power house (AOC #22-24) operated from at least 1941 through 1958. Was 2.0 feet below current grade the historical grade for these facilities? If so, what evidence is there for this? Dioxin samples were collected at the 2.0 foot depth at AOC #17, at the 3.5 depth at AOC #22-24, and at the 1.5 and 2.0 foot depths at the two randomly selected locations. It is recommended that additional samples be collected at AOC #17 so that a concentration verses depth profile can be determined.	The "historical working surface" is the sometimes woody and compacted historical grade where industrial buildings were located and operations were conducted on the property prior to later filling and grading. Based on our review of historical information the working surface is located about 1 to 4 feet below existing grade, however it can be difficult to identify in borings due to similarity in lithology of fill in this depth interval. Because of Ecology's questioning of the historical working surface and difficulty in determining its exact location in borings, a more appropriate rationale for the location of explorations where vertical profiles for dioxins/furans testing is as follows:1) complete a profile (DP33) adjacent to previous sample with high dioxins concentrations (TP02) and 2) complete a profile that represents temporal fill sequences.	See DP 33 (Comment 6) and borings and "Additional Explorations" rationale below.											
9. Additional characterization of groundwater contamination, flow direction, and gradient is needed. Groundwater monitoring wells MW-1 through MW·11 and MW-14 were installed with their screened interval submerged below the water table. Wells that monitor for light non-aqueous phase liquids (LNAPL, such as petroleum hydrocarbons) should be completed so that their screen straddles the water table. Therefore, to accurately evaluate whether groundwater is contaminated from LNAPL constituents, it will be necessary to install additional groundwater monitoring wells with screens that extend above the water table at selected locations where the existing monitoring wells are not adequate. Please present your proposed new well locations to us for review and approval.	Given the general lack of dissolved-phase petroleum constituent detections in the groundwater samples collected from existing MWs (as well as the relatively low TPH soil concentrations detected in soil samples collected from areas with suspected hydrocarbon contamination), it is unlikely that the typical placement of the screened intervals straddling the water table would result in measurable LNAPL thicknesses or even a screening level TPH exceedance at any MW at this site. Nonetheless, five shallow MWs (MW21S through MW25S) with screens straddling the water table are proposed to address this comment. MW21S and MW24S are discussed in the responses to Ecology Comments #2 and #3, respectively. Proposed MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06. MW23S and MW25S are discussed in the response to Ecology Comment #1. This Ecology comment is further addressed by in the Groundwater Monitoring Plan. Based on recent comments from Ecology (9/22/08 Ecology comment letter and subsequent discussion), because artesian wells at the Site may be influencing shallow groundwater, an attempt will be made to locate and decommission or otherwise mitigate leakage from the artesian wells. If the artesian wells are found and decommissioned, water levels and the need for shallow monitoring wells will be reevaluated.	MW22S	No analysis of soil samples unless field observations indicate the presence of contamination. Anticipated screened interval is 1-6 feet bgs.										
Additional Explorations														
Additional explorations to evaluate the nature and extent of contamination, including dioxins/furans. These explorations will provide data related to: a) regional area background concentrations of dioxins/furans and metals not related to a site release, b) management of soil that will be excavated as part of the infrastructure improvements, and c) evaluation of COPC distribution in different fill types and spatial coverage related to general extent of COPCs.	Evaluate extent of lead and PAHs at DP11.	DP29	0-2						x				light sand fill
			2-6				x						silt or gravel
			6-10				x						silt or gravel
			10-14						x				silt or gravel
	Evaluate dioxins/furans in fill (1891 to 1908 time interval), evaluate dioxins/furans in soil within the infrastructure corridor, and provide additional sampling data for parcel 9.	DP30	0-2				x	x					light sand fill
			2-4				x	x	x				light sand fill or silt
			6-8				x	x (if silt)				9	light sand fill or silt

TABLE 1
PROPOSED NEW BORING AND MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
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Ecology Comment	Response to Ecology Comments/Sampling Rationale	Exploration	Sampling Depth Interval (ft bgs)[1]	Soil Analyses								Planned Utilities - Maximum Depth (feet)	Anticipated Soil Type / Lithologic Unit
		Boring (DP) Well (MW)		NWTPH-Dx	NWTPH-G	BTEX	Total Metals (As, Cd, Pb)[2]	D/F	PAHs	PCBs	TOC[3]		
	Locations DP31 and DP41 are selected to obtain dioxins/furans data from soil not associated with any AOC source. This data will be used to evaluate dioxins/furans concentrations related to regional dioxin sources and regional background levels as it is possible that detected concentrations of dioxins/furans and metals in soil samples collected to date are attributable to an area or regional background rather than a site release. DP31 is located on parcel 6 in an area where no historical sources (AOCs) were located and the underlying fill is from the 1948 to 1975 time period. DP41 is located on parcel 2 in an area where no historical sources (AOCs) were located and the underlying fill is from the post 1975 time period.	DP31	0-2					x					light sand fill
			2-6	x			x	x					light sand fill
		DP41	0-2					x					gravel fill
			2-6				x	x					silt
	Evaluate dioxins/furans in post-1975 fill within the infrastructure corridor. These data will assist with evaluating background conditions as well as inform waste characterization and disposal associated with the excavated infrastructure corridor soils.	DP32	0-2					x			x		gravel fill
			2-6				x	x	x		x		gravel fill
			6-9					x				9	gravel fill
	Evaluate dioxins/furans in fill (1891 to 1908 time interval) near infrastructure corridor and on Parcel 4.	DP34	0-2					x					light sand fill
			2-6	X	X	X	x	x	x		x		light sand fill
			8-10	X	X	X	x	x	x			10	light sand fill or gravel
	These borings are located on Parcel 4 and the locations were selected to gather information to support soil characterization during construction activities associated with the Children's Hands on Museum.	DP26	0-2				X	x	X				light sand fill
			2-6					x	X				silt or light sand fill
			6-10				X	X					
		DP42	0-2				X	x					gravel fill
			2-6				X	x					light sand fill
			6-10				X	X					

Notes:

Blank boxes (no X) indicate that soil samples will be collected from the specified depth intervals and held for potential analyses by the analytical laboratory

Shaded cells indicate explorations and samples that will be collected in first phase of investigation

[1] Samples will be collected approximately every 2 feet in soil borings for field screening and potential chemical analyses. Discrete soil samples will be obtained from within the depth intervals shown in this column (rather than composite samples.) The depth ranges represent the intervals that a sample will be analyzed for the COPCs identified in the Soil Analyses columns. Additional samples may be analyzed if field observations indicate the presence of contamination.

[2] The metals listed; arsenic, cadmium and lead, represent metals that had concentrations exceeding screening levels in one or more locations. Some soil samples collected from the infrastructure corridor may also be analyzed for "RCRA 8" metals to provide data needed by soil disposal facilities. The RCRA metals include arsenic, barium, cadmium, chromium, lead, mercury, selenium & silver.

[3]TOC= total organic carbon. TOC and other physical soil properties such as grain size may also be analyzed at various locations for the possibility of establishing site specific Method B cleanup levels.

[a] Also analyze for EPH.
[b] Also analyze for total organic carbon
x = sample collected for analytical testing. Red X = additional analytical testing requested by Ecology in it's September 22, 2008 comment letter.
As = Arsenic, Cd = Cadmium, Pb = Lead
PCBs = Polychlorinated biphenyls
HCID = Hydrocarbon Identification test (NWTPH-HCID)
NWTPH-Dx = Diesel-range and motor oil-range total petroleum hydrocarbons
TPH-MO = motor oil-range petroleum hydrocarbons
D/F = Dioxins and furans
NWTPH-G = Gasoline-range total petroleum hydrocarbons

TABLE 2
PROPOSED NEW MONITORING WELL RATIONALE
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

				Existing Well Data[2]		
Well I.D.	**Purpose**	**Installation Method/Well Diameter**	**Proposed Well Screen Interval (BGS-feet)[1]**	**Nearest Existing well**	**Highest DTW**	**Lowest DTW**
MW21s	MW21S addresses Ecology Comment #9 for detected TPH in soil at MW19.	Direct push/1-inch	2 to 7	MW19	3.47	3.78
MW22s	MW22S will be used to evaluate LNAPL thicknesses and petroleum constituent concentrations near MW06.	Direct push/1-inch	1 to 6	MW6	0.84	1.14
MW23s	MW23S addresses Ecology Comment #9 for detected TPH in soil at DP18.	Direct push/1-inch	4 to 9	MW16	5.41	6.35
MW24s	MW24S addresses Ecology Comment #9 for detected TPH in soil at DP06, DP08, DP24, and DP13.	Direct push/1-inch	2.5 to 7.5	MW10	3.48	3.8
MW25s	MW25S addresses Ecology Comment #9 for detected TPH in soil at DP02 and DP04	Direct push/1-inch	2 to 7	MW7 and MW8	5.0 & 2.55	5 & 2.62

Notes:

Based on recent comments from Ecology, because artesian wells at the Site may be influencing groundwater levels, an attempt will be made to locate and decommission the artesian wells. If the artesian wells are found and decommissioned, the need for shallow monitoring wells will be reevaluated.

[1]Across water table with one foot of screen above predicted high water table elevation and four feet of screen below this elevation, subject to approval by Ecology and issuance of well construction variance.

[2] Based on depth to water measurements collected August 2007 and July 2008 during low and high tides.

bgs=below ground surface

DTW = depth to water in feet as measured from top of well casing. Top of well casings for referenced wells is approximately at ground surface.

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TABLE 3
PROPOSED GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL TESTING PLAN
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Well No.[3,4,5]	Associated Historic Source Area/Concern and Contaminant of Potential Concern (COPC)	Past Groundwater Monitoring and Sampling Events												Proposed Future Groundwater Monitoring									
		Last Sampling Events			Chemical Analytical Testing Completed									Physical Parameter Monitoring		Chemical Analytical Testing Proposed							
		Jan-07	Jun-07	Aug-07	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs	Total PP Metals	SVOCs (and PAHs)[6]	PCBs[7]	Dioxins/Furans[8]	Previous Exceedance of Screening Level (MTCA A or B)	Depth to Water	Conductivity, pH, ORP, Turbidity, DO, Salinity, Fe^{2+} (using a Horiba U-10 flow through cell)	TPH-Gasoline	TPH-Diesel	TPH-Oil	VOCs (BETX and HVOCs)	Total RCRA Metals	PAHs[6]	PCBs[7]	Dioxins/Furans[8]
MW01	Oil House (TPH)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW02	Machine Shops (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x [1]	x	--	--
MW03	Tar Dipping Tank (TPH, PAHs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW04	Near former Transformers (PCBs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	x	--
MW05 [2]	Power House Area (TPH, metals, VOCs, D/F)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	x	x
MW06	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW22s (if MW22s is not installed, MW06 wil be sampled for parameters planned for MW22s)							
MW07	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW08	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW09	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW10	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW24s (if MW24s is not installed, MW10 wil be sampled for parameters planned for MW24s)							
MW11	None: downgradient from offsite gasoline station	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW12 [2]	Power House Area (TPH, metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW13	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic, diesel**	x	x	x	x	x	x	x [1]	x	--	--
MW14	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)	N	N	N	N	N	N	N	N	N	N	N	N/A	x	x	x	x	x	x	x	x	--	--
MW15 [2]	None	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW16 [2]	Boiler House Area (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	x (tested Aug-08)
MW17	Shops (TPH, PAHs, Metals, VOCs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	**arsenic**	x	x	x	x	x	x	x [1]	x	--	--
MW18 [2]	None: downgradient well near Marine View Drive	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
MW19	Panel Oiling (TPH, PAHs)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	See MW21s (if MW21s is not installed, MW19 wil be sampled for parameters planned for MW21s)							
MW20	Refuse Fire Area (TPH, metals, PAHs, D/F)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	none	x	x	x	x	x	x	x	x	--	--
Proposed Wells and/or Sampling Locations																							
MW21s (paired with MW19)[9]	Panel Oiling (TPH, PAHs)													x	x	x	x	x	x	x	x	--	--
MW22s (paired with MW06)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW23s (paired with MW16)[9]	Boiler House Area (TPH, PAHs)													x	x	x	x	x	--	--	--	--	--
MW24s (paired with MW10)[9]	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
MW25s (no pairing)	Near Fuel and Oil Areas (TPH, metals, PAHs, VOCs)													x	x	x	x	x	x	x	x	--	--
Seep 1[10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 2 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 3 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--
Seep 4 [10]	Groundwater/surface water interface													NA	x	x	x	x	x	x	x	--	--

Notes:

[1]Dissolved metals to be tested in addition to total metals at locations where metals exceedances have been measured. Also test these samples for aluminum and iron (Al and Fe^{3+}) to represent suspended clay particles. Results to potentially be used for evaluating sorption of COPCs.

[2]MW05, MW12, MW16 and MW18 are downgradient wells between the subject property and East Bay. These wells will be considered for potential future compliance wells.

[3]MW04, 05, 06, 07, 08, 10 were sampled and tested July 13, 2007 for diesel-range hydrocarbons only.

[4]MW01 through MW10 were installed in January 2007. MW11 through MW20 were installed in July and August 2007.

[5]MW14 was not sampled in 2007 because other monitoring wells surrounding MW14 were sampled and tested.

[6]Note on SVOCs. The only SVOC exceedances were cPAHs, therefore only cPAHs will be analyzed, rather than the full SVOC list.

[7]Note on PCBs. PCBs have not been detected in any of the groundwater samples obtained from MW01 through MW20 at the site; nor have they been detected above soil screening levels. Therefore PCBs will only be tested at locations where low level detections of PCBs were detected in soil on Parcel 3 and near the former transformer location (MW04).

[8]Note on Dioxins/Furans. Dioxin/Furans were not detected in a groundwater sample obtained and tested from MW16 in August 2008. Dioxin sampling and testing approach is based on obtaining samples from potential source area wells that are also downgradient compliance wells (MW05 and MW16). If dioxins/furans are detected in groundwater at MW05 or MW16, then additional testing will be conducted at the other compliance wells (MW04, MW11, MW12

[9]This well will not be installed if water levels drop sufficiently after the artesian wells are decommissioned if the existing paired monitoring well screen is not totally submerged.

[10]Water from this seep area will only be sampled if it is determined to represent groundwater (see Section 5.4.2 of Sample and Analysis Plan)

x = sample collected for analytical testing

Y = Yes; N = No; NA = not applicable; "--" = Not tested

TPH-Gasoline by Ecology Method NWTPH-Gx

TPH-Diesel and Oil by Ecology Method NWTPH-Dx

VOCs (volatile organic compounds) by EPA Method 8260B

RCRA Metals (As, Ba, Cd, Cr, Pb, Ag, Se, Hg) by EPA Methods 6000/7000

PAHs (polycyclic aromatic hydrocarbons) by EPA Method 8270sim

PCBs (polychlorinated biphenyls) by EPA Method 8082

Dioxins/Furans by EPA Method 1613B

ORP = Oxidation Reduction Potential

DO = Dissolved Oxygen

Fe = Iron

Al = Aluminum

COPCs = contaminants of potential concern

TABLE 4
SOIL ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1]	
		Target Reporting Limits	Analytical Method
Total Petroleum Hydrocarbons			
Gasoline-Range	mg/kg	5.0E+00	NW-TPH-Gx
Diesel-Range	mg/kg	5.0E+00	NW-TPH-Dx
Oil-Range (including Mineral O	mg/kg	1.0E+01	NW-TPH-Dx
Metals			
Arsenic	mg/kg	5.0E+00	6010B ICP
Cadmium	mg/kg	2.0E-01	6010B ICP
Lead	mg/kg	2.0E+00	6010B ICP
Volatile Organic Compounds[2]			
BTEX	mg/kg	1.0E-03	EPA 8260B
Semivolatile Organic Compounds[2]			
SVOCs	mg/kg	6.7E-02	EPA 8270
4-Chloro-3-methylphenol	mg/kg	3.3E-01	EPA 8270
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	mg/kg	5.0E-03	EPA 8270D SIM
Polychlorinated Biphenyls[2]			
Total PCBs	mg/kg	4.0E-03	8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	mg/kg	5.0E-07	1613/8290
2,3,7,8-TCDF	mg/kg	5.0E-07	1613/8290
-Penta, Hexa, Hepta	mg/kg	2.0E-06	1613/8290
-Octa	mg/kg	5.0E-06	1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/kg = milligrams per kilogram
SVOCs = Semivolatile Organic Compounds
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TCDF = Tetrachlorinated Dibenzofurans
PCBs =Polychlorinated Biphenyls
BTEX = benzene, toluene, ethylbenzene, and xylenes
PAHs = Polycyclic Aromatic Hydrocarbons

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TABLE 5
GROUNDWATER ANALYTICAL TARGET REPORTING LIMITS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

Analytes	Units	Analytical Laboratory Criteria[1] Target Reporting Limits	Analytical Method
Petroleum Hydrocarbons			
Gasoline-Range	mg/L	0.03	NWTPH-G
Diesel-Range	mg/L	0.25	NW-TPH-Dx
Oil-Range	mg/L	0.50	NW-TPH-Dx
Si/Acid Cleaned TPH-D	mg/L	0.25	NW-TPH-Dx
Si/Acid Cleaned TPH-O	mg/L	0.50	NW-TPH-Dx
Metals *(Total or Dissolved)*			
Arsenic	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Barium	mg/L	0.01	EPA 6020/200.8 ICP-MS
Cadmium	mg/L	0.0002	EPA 6020/200.8 ICP-MS
Chromium	mg/L	0.0005	EPA 6020/200.8 ICP-MS
Lead	mg/L	0.001	EPA 6020/200.8 ICP-MS
Mercury	mg/L	0.00002	EPA 7470 GFAA & CVAA
Selenium	mg/L	0.1	EPA 6020/200.8 ICP-MS
Silver	mg/L	0.02	EPA 6020/200.8 ICP-MS
Volatile Organic Compounds[2]			
VOCs	µg/L	1.0	EPA 8260B (5 mL purge)
Methylene Chloride	µg/L	2.0	EPA 8260B (5 mL purge)
Acetone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Butanone	µg/L	5.0	EPA 8260B (5 mL purge)
Vinyl Acetate	µg/L	5.0	EPA 8260B (5 mL purge)
4-Methyl-2-Pentanone	µg/L	5.0	EPA 8260B (5 mL purge)
2-Hexanone	µg/L	5.0	EPA 8260B (5 mL purge)
Tetrachloroethene	µg/L	0.2	EPA 8260B (20 mL purge)
1,1,2-Trichlorotrifluoroethane	µg/L	2.0	EPA 8260B (5 mL purge)
Acrolein	µg/L	50	EPA 8260B (5 mL purge)
1,2-Dibromo-3-Chloropropane	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichloropropane	µg/L	2.0	EPA 8260B (5 mL purge)
trans-1,4-Dichloro-2-Butene	µg/L	5.0	EPA 8260B (5 mL purge)
Hexachlorobutadiene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,4-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Naphthalene	µg/L	5.0	EPA 8260B (5 mL purge)
1,2,3-Trichlorobenzene	µg/L	5.0	EPA 8260B (5 mL purge)
Semivolatile Organic Compounds[2]			
SVOCs	µg/L	1.0	EPA 8270D
Benzyl Alcohol	µg/L	5.0	EPA 8270D
N-Nitroso-Di-N-Propylamine	µg/L	5.0	EPA 8270D
Hexachloroethane	µg/L	2.0	EPA 8270D
2-Nitrophenol	µg/L	5.0	EPA 8270D
Benzoic Acid	µg/L	10	EPA 8270D
bis(2-Chloroethoxy) Methane	µg/L	1.0	EPA 8270D
2,4-Dichlorophenol	µg/L	5.0	EPA 8270D
1,2,4-Trichlorobenzene	µg/L	1.0	EPA 8270D
Naphthalene	µg/L	1.0	EPA 8270D
4-Chloroaniline	µg/L	5.0	EPA 8270D
4-Chloro-3-methylphenol	µg/L	5.0	EPA 8270D
Hexachlorocyclopentadiene	µg/L	5.0	EPA 8270D
2,4,6-Trichlorophenol	µg/L	5.0	EPA 8270D
2,4,5-Trichlorophenol	µg/L	5.0	EPA 8270D
2-Nitroaniline	µg/L	5.0	EPA 8270D
3-Nitroaniline	µg/L	5.0	EPA 8270D
2,4-Dinitrophenol	µg/L	10	EPA 8270D
4-Nitrophenol	µg/L	5.0	EPA 8270D
2,6-Dinitrotoluene	µg/L	5.0	EPA 8270D
2,4-Dinitrotoluene	µg/L	5.0	EPA 8270D
4-Nitroaniline	µg/L	5.0	EPA 8270D
Pentachlorophenol	µg/L	5.0	EPA 8270D
3,3'-Dichlorobenzidine	µg/L	5.0	EPA 8270D
Polycyclic Aromatic Hydrocarbons[2]			
PAHs	µg/L	0.01	8270M GC/MS Low Level
Polychlorinated Biphenyls			
Total PCBs	µg/L	0.01	EPA 8082 Low Level
Dioxins and Furans			
2,3,7,8-TCDD	µg/L	0.000005	EPA 1613/8290
-Penta, Hexa, Hepta	µg/L	0.000025	EPA 1613/8290
-Octa	µg/L	0.00005	EPA 1613/8290

Notes:

[1] These limits represent target reporting limits typically achievable by analytical laboratories. However, there may be instances where these levels cannot be achieved due to sample specific interferences.

[2] Reporting limits for VOCs, SVOCs, PAHs, and PCBs are indicated for the group of compounds. Specific compounds are listed separately if they have a different reporting limit.

mg/L = milligrams per liter
µg/L = micrograms per liter
TCDD = Tetrachlorinated Dibenzo-p-dioxins
TPH-O = Oil-range Petroleum Hydrocarbons
TPH-D = Diesel-range Petroleum Hydrocarbons
SVOC = Semivolatile Organic Compound
VOCs = volatile organic compounds
PCB = Polychlorinated Biphenyls
PAHs = polycyclic aromatic hydrocarbons

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TABLE 6
SAMPLE CONTAINERS
EAST BAY REDEVELOPMENT
PORT OF OLYMPIA

		Soils				Waters			
Analysis	**Method**	**Minimum Sample Size**	**Sample Containers**	**Sample Preservation**	**Holding Times**	**Minimum Sample Size**	**Sample Containers**	**Sample Preservation**	**Holding Times**
Diesel Range Hydrocarbons	NWTPH-Dx	100 g	8 or 16 oz amber glass wide-mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4 C, HCl to pH < 2	14 days to extraction 40 days from extraction to analysis
Gas Range Hydrocarbons	NWTPH-G	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
VOC	SW-846 8260B	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days	120 mL	3 - 40 mL VOA Vials	HCl - pH<2	14 days preserved 7 days unpreserved
Metals (including Mercury)	SW-846 6010/6020 SW-846 7470/7471	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	180 days/ 28 days for Mercury	500 mL	1 L poly bottle	HNO_3 - pH<2 (Dissolved metals preserved after filtration)	180 days (28 days for Mercury)
SVOCs (PAHs)	SW-846 8270C	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCB	SW-846 8082	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	14 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	7 days to extraction 40 days from extraction to analysis
PCDD/PCDF	SW-846 8290	100 g	4 or 8 oz glass wide mouth with Teflon-lined lid	Cool 4°C	30 days to extraction, 40 days from extraction to analysis	1 L	1 liter amber glass with Teflon-lined lid	Cool 4°C	30 days to extraction 40 days from extraction to analysis

Note:
Holding Times are based on elapsed time from date of collection
VOC = Volatile Organic Compounds
SVOC = Semivolatile Organic Compound
PCDD = Polychlorinated Dibenzo-p-dioxins
PCDF = Polychlorinated Dibenzofurans
PCB =Polychlorinated Biphenyls
HCl = Hydrochloric Acid
HNO_3 = Nitric Acid
oz = ounce
mL = milliliter
L = liter
g = gram

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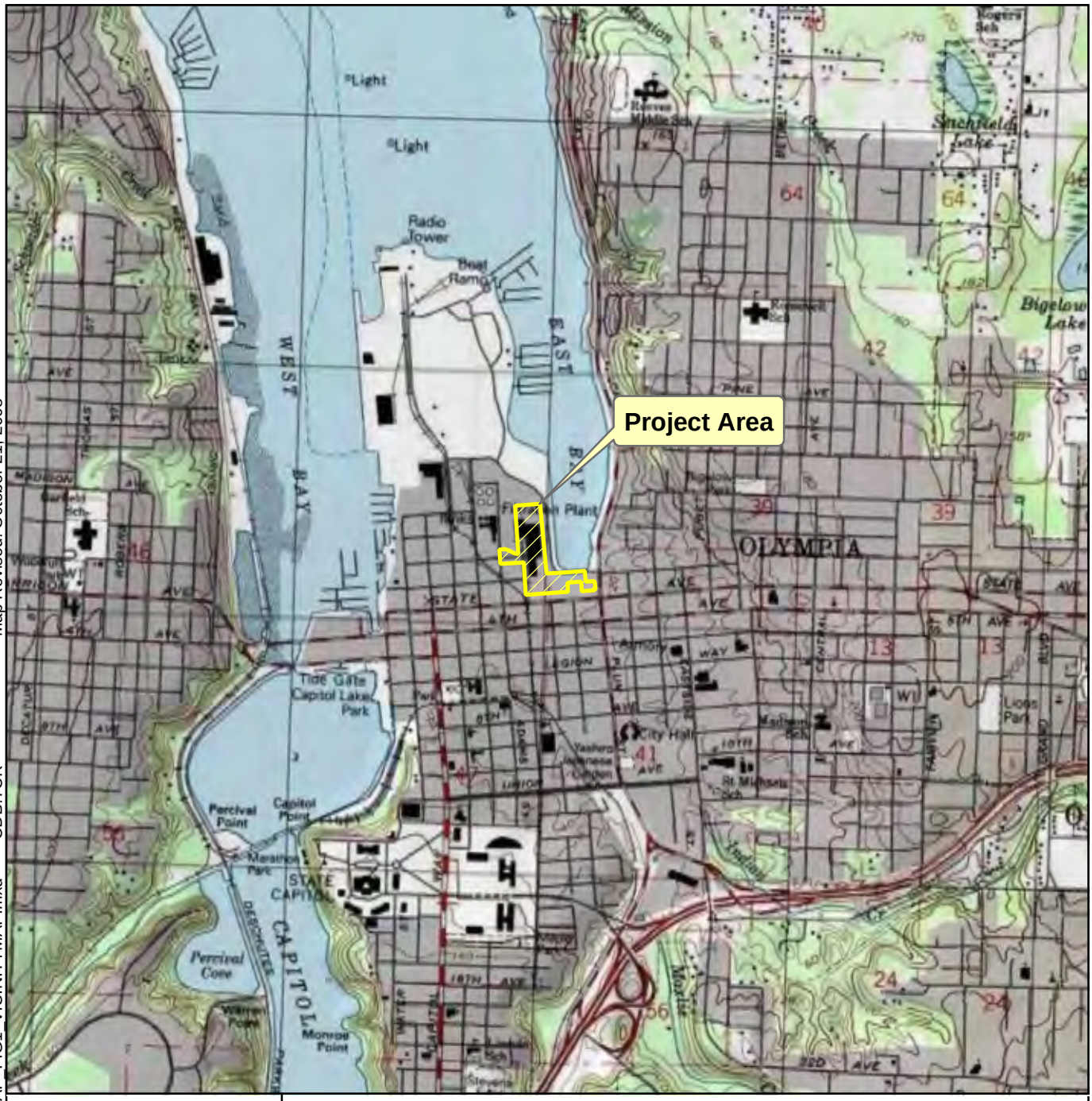


Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: Interstates, state routes, and roads from TIGER 2000. County boundaries, cities, and waterbodies from Department of Ecology. U.S. topographic map from National Geographic Society.

Lambert Conformal Conic, Washington State Plane North, North American Datum 1983

Vicinity Map

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 1

Office: TAC Path: P:\0\0615034\02\GIS\0615034070_SAP_FIG1_VICINITYMAP.mxd CDB:TCK Map Revised: October 21, 2008

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG2_EXPLOR_LOC.mxd CDB:TCK Map Revised: October 21, 2008

- Proposed Direct-Push Boring Location
- Phase 1 Explorations
- Test Pit (GeoEngineers, Inc. - Oct. 2007)
- Direct-Push Boring (GeoEngineers, Inc. - Sept. 2006, Jan. & July 2007)
- Direct-Push Boring (Brown and Caldwell - Nov. 2006, Jan. & Feb. 2007)
- Approximate Infastructure Improvement Corridor
- East Bay Redevelopment Proposed Short Plat Parcel Boundaries
- East Bay Redevelopment Project Area
- Direct-Push Boring (Northwest Testing Company, Oct. 2006)
- Cone Penotrometer Test (Landau - May 2007)
- Boring (Landau - May 2007)

N W E S

150 0 150
Feet

Site Plan and Exploration Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 2

Reference: Aerial photograph (dated April 2008) and Approximate Infastructure Improvement Corridor from Skillings Connolly.
Short plat parcel boundaries are based on information provided by the Port of Olympia.
Notes: 1. The locations of all features shown are approximate.
2. This drawing is for infomation purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Office:TAC Path: P:\0\0615034\GIS\061503407_SAP_FIG3_MW_LOCS.mxd CDB:TCK Map Revised: October 21, 2008

Proposed Monitoring Well Location

Monitoring Well (GeoEngineers, Inc. - Jan. & July 2007)

Monitoring Well (Delta Environmental - June 2003)

Approximate Infastructure Improvement Corridor

East Bay Redevelopment Proposed Short Plat Parcel Boundaries

East Bay Redevelopment Project Area

N
W E
S

150 0 150

Feet

Site Plan and Monitoring Well Locations

East Bay Redevelopment Project Area
Olympia, Washington

GeoEngineers

Figure 3

Reference: Aerial photograph (dated April 2008) from Skillings Connolly. Short plat parcel boundaries are based on information provided by the Port of Olympia.

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for infomation purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

APPENDIX I

GEOENGINEERS' DEPTH TO WATER MEASUREMENTS NOT REPORTED IN DECEMBER 20, 2007 DOCUMENT

TABLE 2
CHEMICAL ANALYTICAL RESULTS THAT EXCEED MTCA CLEANUP LEVELS - GROUNDWATER
HANDS ON CHILDREN'S MUSEUM
OLYMPIA, WASHINGTON

Well Number	Date and Time	Depth to Groundwater[1] (feet bgs)	Well Elevation[2] (feet)	Groundwater Elevation (feet)	Gasoline-range Petroleum Hydrocarbons (µg/L)	Diesel-range Petroleum Hydrocarbons (µg/L)	Motor Oil-range Petroleum Hydrocarbons (µg/L)	Arsenic (µg/L)	Lead (µg/L)	Mercury (µg/L)	Toluene (µg/L)	Napthalene (µg/L)	Pentachlorophenol (µg/L)	cPAHs (Toxicity Equivalency) (µg/L)
MW01	1/5/2007 1300	4.14	101.82	97.68	16 J	41 J	250 U	1.3 J	0.025 J	0.20 U	1.0 U	0.016 J	0.33 U	0
MW02	1/4/2007 1540	3.48	100.27	96.79	11 J	71 J	0.25 U	0.37 U	5.1	0.20 U	0.075 U	0.023 J	0.35 U	0.036
MW03	1/4/2007 1310	4.28	100.96	96.68	21 J	54 J	0.25 U	0.37 U	0.24 J	0.087 J	0.076 J	0.030 J	0.14 J	0
MW04	1/5/2007 1015	5.33	101.85	96.52	44 J	77 J	250 U	**16**	0.040 J	0.20 U	0.26 J	0.029 J	0.35 U	0.001
MTCA Cleanup Level[3]					800/1,000	500	500	5	15	2	1,000	160	0.73	0.1

Notes:

[1] Groundwater may be tidally influenced.

[2] Well elevations were surveyed from an assumed benchmark of 100 feet. The assumed benchmark was the rim of an existing manhole located along the western edge of the warehouse building.

[3] Model Toxics Control Act (MTCA) Cleanup Regulation Chapter 173-340 WAC.

Bolding indicates the value is geater than the given MTCA Method A cleanup level.

bgs = below ground surface

cPAHs = carcinogenic polycyclic aromatic hydrocarbons, see Table 5 for Toxicity Equivalency calculations.

J = The concentration is an approximate value because the analyte was detected at a concentration less than the laboratory reporting limit (RL) but greater than or equal to the method detection limit (MDL).

U = The compound was not detected at a concentration greater than the given RL or MDL.

µg/L = microgram per liter

TACO:\0\615033\00\Finals\061503300Tables.xls

TABLE 3
MEAN GROUNDWATER ELEVATION - JANUARY 30, 2007 THROUGH FEBRUARY 2, 2007
CITY OF OLYMPIA CITY HALL
OLYMPIA, WASHINGTON

Monitoring Well ID	Well Elevation (ft) (assumed)	Mean Groundwater Elevation (ft)	Well Elevation[1] (ft)	Depth to Groundwater (feet bgs)
MW05	101.66	97.47	12.11	4.19
MW06	100.15	99.33	10.63	0.82
MW07	101.12	96.42	NS	4.7
MW08	101.4	NS	11.62	—
MW09	101.79	99.18	NS	2.61
MW10	101.79	99.18	11.75	2.61

Notes

[1] The wells were surveyed by others as part of the City Hall site redevelopment.

NS: Not surveyed

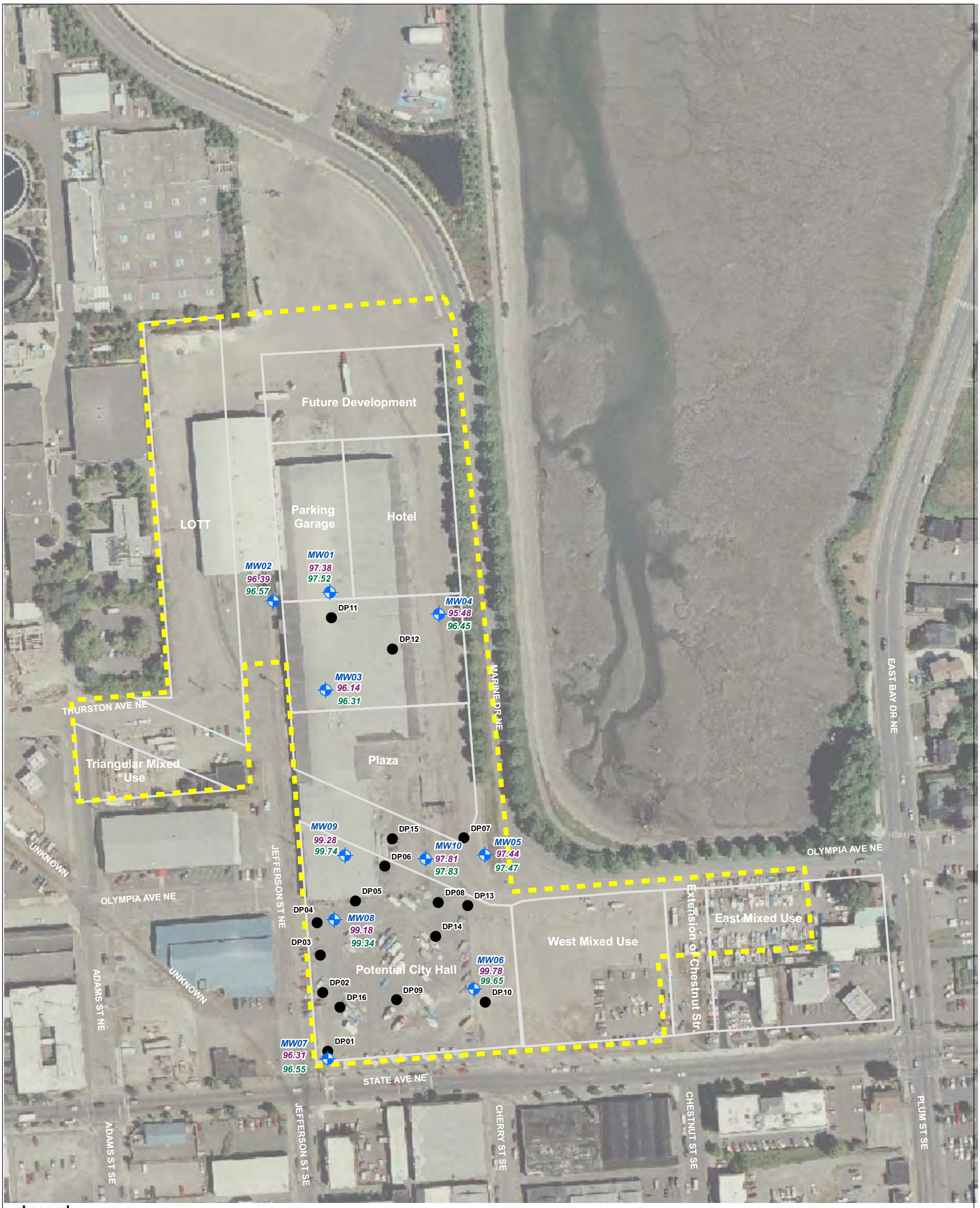
TACO:\0\0415052\03\Finals\041505203RI_FS_CAP Tables.xls

Table 2
Groundwater Elevation Data
Port of Olympia – East Bay Redevelopment Project
Olympia, Washington

Monitoring Well ID	Date and Time	Well Elevation[1] (ft)	Depth to Water (feet below top of well casing)	Groundwater Elevation (ft)
MW01	7/24/2007 16:03	101.82	4.30	97.52
MW02	7/24/2007 16:13	100.27	3.70	96.57
MW03	7/24/2007 16:09	100.96	4.64	96.31
MW04	7/24/2007 16:32	101.85	5.40	96.45
MW05	7/24/2007 15:50	101.66	4.19	97.47
MW06	7/24/2007 15:47	100.15	0.50	99.65
MW07	7/24/2007 15:40	101.12	4.57	96.55
MW08	7/24/2007 13:35	101.4	2.06	99.34
MW09	7/24/2007 16:25	101.79	2.05	99.74
MW10	7/24/2007 15:55	101.38	3.55	97.83

Note:
[1] The wells were surveyed by GeoEngineers staff as part of the City Hall and Hands On Children's Museum site redevelopment projects using the rim of a sewer manhole as a benchmark of 100 feet.

Office Location:TAC Path: P:\0\0615034\00\GIS\061503404_FIG-4.mxd KMB:TCK Map Revised: August 3, 2007



Legend

DP01 ● Direct-Push Boring Location and ID (GeoEngineers Inc.Sept. 2006, Jan. 2007)

MW05 ⊕ Monitoring Well Location and ID

97.44 Groundwater Elevation [ft] (GeoEngineers, Inc. June 28 & 29, 2007)

97.47 Groundwater Elevation [ft] (GeoEngineers, Inc. July 24, 2007)

East Bay Redevelopment Project Area

East Bay Redevelopment Lot Boundaries

N W E S

150 0 150
Feet

Reference: Aerial photograph (dated June 2003) from United States Geologic Survey (obtained January 2007).
East Bay Redevelopment Area and Lot Boundaries are provided by Port of Olympia.

Notes:
1. GeoEngineers, Inc. staff performed a field survey of the vertical elevation of monitoring wells at time of installation. Groundwater elevation data is based on an assumed datum of 100 feet.
2. Groundwater level measurements were also collected during the January 30 - February 2, 2007 hydraulic study. The potentiometric surface from that event was similar to the results of the June 2007 event.
3. This sampling event took two days to complete; June 28 (MW01-03 and MW09) and June 29 (MW04-MW08 and MW10), 2007.
4. The locations of all features shown are approximate.
5. This drawing is for infomation purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Groundwater Elevations June and July 2007

East Bay Redevelopment Project
Olympia, Washington

GeoEngineers

Figure 4

APPENDIX J

ANALYTICAL LABORATORY REPORTS FOR JULY 2008 SAMPLE FROM MW16

ANALYTICAL REPORT

Job Number: 580-10773-1

Job Description: 0186-595-08-Port of Olympia, East Bay

For:
GeoEngineers Inc
1101 Fawcett, Suite 200
Tacoma, WA 98402

Attention: Tricia Deome

Heather Curbow
Project Manager I
heather.curbow@testamericainc.com
08/13/2008

TestAmerica Tacoma is a part of TestAmerica Laboratories, Inc.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

METHOD SUMMARY

Client: GeoEngineers Inc

Job Number: 580-10773-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL TAC	SW846 8270C	
Separatory Funnel Liquid-Liquid Extraction (Low Level)	TAL TAC		SW846 3510C
Inductively Coupled Plasma - Mass Spectrometry	TAL TAC	SW846 6020	
Acid Digestion of Waters for Total Recoverable or	TAL TAC		SW846 3005A
Mercury in Liquid Waste (Manual Cold Vapor Technique)	TAL TAC	SW846 7470A	
Mercury in Liquid Waste (Manual Cold Vapor	TAL TAC		SW846 7470A

Lab References:

TAL TAC = TestAmerica Tacoma

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

SAMPLE SUMMARY

Client: GeoEngineers Inc

Job Number: 580-10773-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
580-10773-1	MW16-072908-W	Water	07/29/2008 1015	07/29/2008 1405

Client: GeoEngineers Inc

Job Number: 580-10773-1

Client Sample ID: MW16-072908-W

Lab Sample ID: 580-10773-1
Client Matrix: Water

Date Sampled: 07/29/2008 1015
Date Received: 07/29/2008 1405

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 08/10/2008 1501
Date Prepared: 08/05/2008 1008

Analysis Batch: 580-35076
Prep Batch: 580-34806

Instrument ID: SEA040
Lab File ID: ak017552.D
Initial Weight/Volume: 1002 mL
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	0.011	J	0.0014	0.20
2-Methylnaphthalene	0.0074	J	0.0055	0.10
1-Methylnaphthalene	ND		0.0052	0.030
Acenaphthylene	ND		0.0026	0.040
Acenaphthene	ND		0.0012	0.050
Fluorene	ND		0.0042	0.030
Phenanthrene	ND		0.0024	0.040
Anthracene	ND		0.0019	0.020
Fluoranthene	ND		0.0027	0.025
Pyrene	ND		0.0020	0.030
Benzo[a]anthracene	ND		0.0033	0.030
Chrysene	ND		0.0045	0.020
Benzo[b]fluoranthene	ND		0.0046	0.040
Benzo[k]fluoranthene	ND		0.0055	0.030
Benzo[a]pyrene	ND		0.0027	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0051	0.030
Dibenz(a,h)anthracene	ND		0.0046	0.030
Benzo[g,h,i]perylene	ND		0.0060	0.030

Surrogate	%Rec	Acceptance Limits
Nitrobenzene-d5	73	34 - 146
2-Fluorobiphenyl	78	35 - 143
Terphenyl-d14	83	35 - 166

Client: GeoEngineers Inc

Job Number: 580-10773-1

Client Sample ID: MW16-072908-W

Lab Sample ID: 580-10773-1
Client Matrix: Water

Date Sampled: 07/29/2008 1015
Date Received: 07/29/2008 1405

6020 Inductively Coupled Plasma - Mass Spectrometry-Total Recoverable

Method: 6020
Preparation: 3005A
Dilution: 5.0
Date Analyzed: 08/07/2008 1322
Date Prepared: 08/06/2008 1459

Analysis Batch: 580-34940
Prep Batch: 580-34893

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Lead	0.00076	J	0.00022	0.0020
Cadmium	ND		0.00016	0.0020
Barium	0.064		0.0018	0.0060
Silver	ND		0.000080	0.0020
Arsenic	ND		0.00060	0.0020
Selenium	0.00076	J	0.00065	0.0020
Chromium	0.0033		0.00055	0.0020

7470A Mercury in Liquid Waste (Manual Cold Vapor Technique)

Method: 7470A
Preparation: 7470A
Dilution: 1.0
Date Analyzed: 08/06/2008 1818
Date Prepared: 08/06/2008 1454

Analysis Batch: 580-34908
Prep Batch: 580-34889

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result (mg/L)	Qualifier	MDL	RL
Mercury	ND		0.000055	0.00020

Client: GeoEngineers Inc

Job Number: 580-10773-1

Method Blank - Batch: 580-34806

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 580-34806/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/10/2008 1132
Date Prepared: 08/05/2008 1008

Analysis Batch: 580-35076
Prep Batch: 580-34806
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak017542.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Result	Qual	MDL	RL
Naphthalene	ND		0.0014	0.20
2-Methylnaphthalene	ND		0.0055	0.10
1-Methylnaphthalene	ND		0.0052	0.030
Acenaphthylene	ND		0.0026	0.040
Acenaphthene	ND		0.0012	0.050
Fluorene	ND		0.0042	0.030
Phenanthrene	ND		0.0024	0.040
Anthracene	ND		0.0019	0.020
Fluoranthene	ND		0.0027	0.025
Pyrene	ND		0.0020	0.030
Benzo[a]anthracene	ND		0.0033	0.030
Chrysene	ND		0.0045	0.020
Benzo[b]fluoranthene	ND		0.0046	0.040
Benzo[k]fluoranthene	ND		0.0055	0.030
Benzo[a]pyrene	ND		0.0027	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0051	0.030
Dibenz(a,h)anthracene	ND		0.0046	0.030
Benzo[g,h,i]perylene	ND		0.0060	0.030

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	66	34 - 146
2-Fluorobiphenyl	71	35 - 143
Terphenyl-d14	92	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-10773-1

Lab Control Spike - Batch: 580-34806

Method: 8270C
Preparation: 3510C

Lab Sample ID: LCS 580-34806/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/10/2008 1153
Date Prepared: 08/05/2008 1008

Analysis Batch: 580-35076
Prep Batch: 580-34806
Units: ug/L

Instrument ID: SEA040
Lab File ID: ak017543.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume: 1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Naphthalene	1.00	0.778	78	49 - 130	
2-Methylnaphthalene	1.00	0.810	81	64 - 125	
1-Methylnaphthalene	1.00	0.809	81	47 - 148	
Acenaphthylene	1.00	0.815	82	71 - 126	
Acenaphthene	1.00	0.821	82	65 - 130	
Fluorene	1.00	0.860	86	69 - 129	
Phenanthrene	1.00	0.834	83	62 - 128	
Anthracene	1.00	0.856	86	73 - 128	
Fluoranthene	1.00	0.902	90	64 - 124	
Pyrene	1.00	0.920	92	58 - 140	
Benzo[a]anthracene	1.00	0.851	85	70 - 126	
Chrysene	1.00	0.854	85	70 - 126	
Benzo[b]fluoranthene	1.00	0.863	86	64 - 140	
Benzo[k]fluoranthene	1.00	0.939	94	62 - 142	
Benzo[a]pyrene	1.00	0.889	89	72 - 128	
Indeno[1,2,3-cd]pyrene	1.00	0.727	73	58 - 139	
Dibenz(a,h)anthracene	1.00	0.672	67	61 - 146	
Benzo[g,h,i]perylene	1.00	0.772	77	59 - 144	

Surrogate	% Rec	Acceptance Limits
Nitrobenzene-d5	78	34 - 146
2-Fluorobiphenyl	83	35 - 143
Terphenyl-d14	92	35 - 166

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-10773-1

Method Blank - Batch: 580-34893

Method: 6020
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 580-34893/17-A
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 08/07/2008 1152
Date Prepared: 08/06/2008 1459

Analysis Batch: 580-34940
Prep Batch: 580-34893
Units: mg/L

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Lead	ND		0.00022	0.0020
Cadmium	ND		0.00016	0.0020
Barium	ND		0.0018	0.0060
Silver	ND		0.000080	0.0020
Arsenic	ND		0.00060	0.0020
Selenium	ND		0.00065	0.0020
Chromium	ND		0.00055	0.0020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-34893

Method: 6020
Preparation: 3005A
Total Recoverable

LCS Lab Sample ID: LCS 580-34893/18-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 08/07/2008 1218
Date Prepared: 08/06/2008 1459

Analysis Batch: 580-34940
Prep Batch: 580-34893
Units: mg/L

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-34893/19-A
Client Matrix: Water
Dilution: 50
Date Analyzed: 08/07/2008 1222
Date Prepared: 08/06/2008 1459

Analysis Batch: 580-34940
Prep Batch: 580-34893
Units: mg/L

Instrument ID: SEA026
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Lead	102	104	80 - 120	2	20		
Cadmium	90	94	80 - 120	5	20		
Barium	99	100	80 - 120	1	20		
Silver	101	103	80 - 120	2	20		
Arsenic	101	103	80 - 120	2	20		
Selenium	101	103	80 - 120	2	20		
Chromium	101	105	80 - 120	4	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-10773-1

Method Blank - Batch: 580-34889

Method: 7470A
Preparation: 7470A

Lab Sample ID: MB 580-34889/7-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/06/2008 1808
Date Prepared: 08/06/2008 1454

Analysis Batch: 580-34908
Prep Batch: 580-34889
Units: mg/L

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Mercury	ND		0.000055	0.00020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 580-34889

Method: 7470A
Preparation: 7470A

LCS Lab Sample ID: LCS 580-34889/8-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/06/2008 1811
Date Prepared: 08/06/2008 1454

Analysis Batch: 580-34908
Prep Batch: 580-34889
Units: mg/L

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-34889/9-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/06/2008 1814
Date Prepared: 08/06/2008 1454

Analysis Batch: 580-34908
Prep Batch: 580-34889
Units: mg/L

Instrument ID: SEA029
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Mercury	110	98	75 - 125	11	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: GeoEngineers Inc

Job Number: 580-10773-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 580-34889

Method: 7470A
Preparation: 7470A

MS Lab Sample ID:	580-10773-1	Analysis Batch:	580-34908	Instrument ID:	SEA029
Client Matrix:	Water	Prep Batch:	580-34889	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	08/06/2008 1824			Final Weight/Volume:	50 mL
Date Prepared:	08/06/2008 1454				

MSD Lab Sample ID:	580-10773-1	Analysis Batch:	580-34908	Instrument ID:	SEA029
Client Matrix:	Water	Prep Batch:	580-34889	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	08/06/2008 1828			Final Weight/Volume:	50 mL
Date Prepared:	08/06/2008 1454				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	88	86	75 - 125	3	20		

Duplicate - Batch: 580-34889

Method: 7470A
Preparation: 7470A

Lab Sample ID:	580-10773-1	Analysis Batch:	580-34908	Instrument ID:	SEA029
Client Matrix:	Water	Prep Batch:	580-34889	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	50 mL
Date Analyzed:	08/06/2008 1821			Final Weight/Volume:	50 mL
Date Prepared:	08/06/2008 1454				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	ND	ND	NC	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

TestAmerica
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TestAmerica Tacoma
5755 8th Street E.
Tacoma, WA 98424
Tel. 253-922-2310
Fax 253-922-5047
www.testamericainc.com

Chain of Custody Record

Client: Geo Engineers Inc.	Project Manager: Jay Lucas	Date: 07/29/08	Chain of Custody Number: 2524
Address: 1101 S. Fawcett Ave. Suite 200	Telephone Number (Area Code)/Fax Number: 206-239-3221	Lab Number: 10773	Page 1 of 1
City: Tacoma; State: WA; Zip Code: 98401	Site Contact:	Lab Contact:	
Project Name and Location (State): Port of Olympia East Bay	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: Project # 0186-595-08			

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	RCRA metals EPA 6000/7000	PAHs EPA 8270 (LL)	Special Instructions/ Conditions of Receipt
MW16-072908-W	07/29/08	1015		X			2		1				X	X	

Cooler: ☐ Yes ☐ No Cooler Temp: ______

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ______

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Chad C. Opatz	07/29/08	1335	1. Received By: [signature]	7/29/08	1335
2. Relinquished By: [signature]	7/29/08	1405	2. Received By: [signature]	7/29/08	1405
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0508)

Login Sample Receipt Check List

Client: GeoEngineers Inc

Job Number: 580-10773-1

Login Number: 10773
List Source: TestAmerica Tacoma
Creator: Presley, Kim
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

19408 Park Row Suite 320 Houston, TX 77084 (713) 266-1599 (713) 266-0130 fax

Columbia Analytical Services INC.
An Employee - Owned Company

August 19, 2008 Service Request No: E0800739

Jay Lucas
Geo Engineers Inc
1101 S. Fawcett Ave, Suite 200
Tacoma, WA 98401

Laboratory Results for: Method 1613B/0615-034-02

Dear Jay:

Enclosed are the results of the sample(s) submitted to our laboratory on July 30, 2008. For your reference, these analyses have been assigned our service request number **E0800739**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2957. You may also contact me via email at JFreemyer@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Jane Freemyer
Project Manager; GC/HRMS

Page 1 of _____

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
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COLUMBIA ANALYTICAL SERVICES, INC

Client:	Geo Engineers, Inc	**Service Request No.:**	E0800739
Project:	0615-034-02	**Date Received:**	07/30/08
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 07/30/08. One sample was put on Hold status, as requested.

The following discrepancies were noted upon initial sample inspection: no custody seals on cooler(s). The exceptions are also noted on the cooler receipt and preservation form included in this data package.

The samples were received at 2°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

B flags – Method Blanks

The Method Blank EQ0800341-01/U129371 contained low levels of 123478-HcCDF at or below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Approved by Xiangqiu Liang **Date** 8/19/08

Xiangqiu Liang, Laboratory Director

The sample extracted originally had recoveries of labeled standards outside the acceptance criteria. The sample was re-extracted, met the acceptance criteria and was reported.

MS/DMS

EQ0800341: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch.

Detection Limits

Detection limits are calculated for each congener in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by CAS/Houston to include:

- The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

Approved by Xiangqiu Liang **Date** 8/19/08

Xiangqiu Liang, Laboratory Director

Client: Geo Engineers Inc
Project: Method 1613B/0615-034-02

Service Request: E0800739

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E0800739-001	MW-16-072908-W	07/29/08	10:15
E0800739-002	MW16-F-072908-W	07/29/08	10:18

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL)

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected'

- **S** Peak is saturated; data not reportable

- **Q** Lock-mass interference by ether compounds

CAS/HOU - Form Production, Peer Review & Project Review Signatures

SR# Unique ID: E0800739

First Level - Data Processing - to be filled by person generating the forms

Date	08/18/08	Person 1	MC
Date		Person 2	

Second Level - Data Review – to be filled by person doing peer review

Date	8/19/08	Primary Data Reviewer	QC
Date		Secondary Data Reviewer	

Project Level - Review - to be filled by person doing project compliance review

Date	8/19/8	Reviewer	OF

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
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Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	07/29/2008
Sample Matrix:	Water	**Date Received:**	07/30/2008
Sample Name:	MW-16-072908-W	**Units:**	pg/L
Lab Code:	E0800739-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/14/08 00:28:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1043mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129386	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129378

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.702	9.59			1
1,2,3,7,8-PeCDD	ND	U	0.585	47.9			1
1,2,3,4,7,8-HxCDD	ND	U	0.756	47.9			1
1,2,3,6,7,8-HxCDD	ND	U	0.912	47.9			1
1,2,3,7,8,9-HxCDD	ND	U	0.785	47.9			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.558	47.9			1
OCDD	**12.7**	J	1.56	95.9	0.87	1.000	1
2,3,7,8-TCDF	ND	U	0.675	9.59			1
1,2,3,7,8-PeCDF	ND	U	0.336	47.9			1
2,3,4,7,8-PeCDF	ND	U	0.307	47.9			1
1,2,3,4,7,8-HxCDF	ND	U	0.643	47.9			1
1,2,3,6,7,8-HxCDF	ND	U	0.710	47.9			1
1,2,3,7,8,9-HxCDF	ND	U	0.733	47.9			1
2,3,4,6,7,8-HxCDF	ND	U	0.644	47.9			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.731	47.9			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.669	47.9			1
OCDF	ND	U	1.62	95.9			1
Total Tetra-Dioxins	ND	U	0.702	9.59			1
Total Penta-Dioxins	ND	U	0.585	47.9			1
Total Hexa-Dioxins	ND	U	0.756	47.9			1
Total Hepta-Dioxins	**2.57**	J	0.558	47.9	1.00		1
Total Tetra-Furans	ND	U	0.675	9.59			1
Total Penta-Furans	ND	U	0.307	47.9			1
Total Hexa-Furans	ND	U	0.643	47.9			1
Total Hepta-Furans	ND	U	0.731	47.9			1

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: 07/29/2008
Date Received: 07/30/2008

Sample Name: MW-16-072908-W
Lab Code: E0800739-001

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1043mL

Data File Name: U129386
ICAL Name: 05/02/08

Date Analyzed: 8/14/08 00:28:0(
Date Extracted: 8/11/08
Instrument Name: E-HRMS-01
GC Column: DB-5
Blank File Name: U129371
Cal Ver. File Name: U129378

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1278.111	64		25-164	0.78	1.008
13C-1,2,3,7,8-PeCDD	2000	1567.553	78		25-181	1.51	1.169
13C-1,2,3,4,7,8-HxCDD	2000	1601.613	80		32-141	1.29	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1450.948	73		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1192.920	60		23-140	1.05	1.066
13C-OCDD	4000	1797.084	45		17-157	0.91	1.144
13C-2,3,7,8-TCDF	2000	1140.374	57		24-169	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1488.457	74		24-185	1.59	1.131
13C-2,3,4,7,8-PeCDF	2000	1455.204	73		21-178	1.58	1.157
13C-1,2,3,4,7,8-HxCDF	2000	1411.797	71		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1244.591	62		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1507.962	75		29-147	0.53	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1474.253	74		28-136	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1074.503	54		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1627.983	81		26-138	0.45	1.077
37Cl-2,3,7,8-TCDD	800	614.506	77		35-197	NA	1.008

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: 07/29/2008
Date Received: 07/30/2008

Sample Name: MW-16-072908-W
Lab Code: E0800739-001

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.702	1	1	
1,2,3,7,8-PeCDD	ND	0.585	1	1	
1,2,3,4,7,8-HxCDD	ND	0.756	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.912	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.785	1	0.1	
1,2,3,4,6,7,8-HpCDD	ND	0.558	1	0.01	
OCDD	**12.7**	1.56	1	0.0003	0.00381
2,3,7,8-TCDF	ND	0.675	1	0.1	
1,2,3,7,8-PeCDF	ND	0.336	1	0.03	
2,3,4,7,8-PeCDF	ND	0.307	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.643	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.710	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.733	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.644	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.731	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.669	1	0.01	
OCDF	ND	1.62	1	0.0003	
		Total TEQ			0.00381

2005 WHO TEFs, ND = 0

Comments:

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ0800341-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 11:59:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129371	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.47	10.0			1
1,2,3,7,8-PeCDD	ND	U	0.828	50.0			1
1,2,3,4,7,8-HxCDD	ND	U	1.24	50.0			1
1,2,3,6,7,8-HxCDD	ND	U	1.43	50.0			1
1,2,3,7,8,9-HxCDD	ND	U	1.26	50.0			1
1,2,3,4,6,7,8-HpCDD	ND	U	1.37	50.0			1
OCDD	ND	U	2.18	100			1
2,3,7,8-TCDF	ND	U	1.05	10.0			1
1,2,3,7,8-PeCDF	ND	U	0.908	50.0			1
2,3,4,7,8-PeCDF	ND	U	0.849	50.0			1
1,2,3,4,7,8-HxCDF	**5.35**	J	0.919	50.0	1.14	0.999	1
1,2,3,6,7,8-HxCDF	ND	U	1.01	50.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.25	50.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.973	50.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	1.38	50.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	1.30	50.0			1
OCDF	ND	U	3.06	100			1
Total Tetra-Dioxins	ND	U	1.47	10.0			1
Total Penta-Dioxins	ND	U	0.828	50.0			1
Total Hexa-Dioxins	ND	U	1.24	50.0			1
Total Hepta-Dioxins	**36.7**	J	1.37	50.0	1.11		1
Total Tetra-Furans	ND	U	1.05	10.0			1
Total Penta-Furans	ND	U	0.849	50.0			1
Total Hexa-Furans	**14.4**	J	0.919	50.0	1.22		1
Total Hepta-Furans	**23.9**	J	1.38	50.0	1.00		1

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ0800341-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 11:59:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129371	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1187.764	59		25-164	0.75	1.008
13C-1,2,3,7,8-PeCDD	2000	1426.579	71		25-181	1.57	1.168
13C-1,2,3,4,7,8-HxCDD	2000	1555.369	78		32-141	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1393.665	70		28-130	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1145.372	57		23-140	1.06	1.067
13C-OCDD	4000	1554.511	39		17-157	0.91	1.145
13C-2,3,7,8-TCDF	2000	1109.884	55		24-169	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1305.361	65		24-185	1.55	1.130
13C-2,3,4,7,8-PeCDF	2000	1289.956	64		21-178	1.58	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1369.987	68		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1187.453	59		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1259.727	63		29-147	0.54	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1377.310	69		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1034.307	52		28-143	0.44	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	1517.927	76		26-138	0.44	1.078
37Cl-2,3,7,8-TCDD	800	587.218	73		35-197	NA	1.008

Comments:

Columbia Analytical Services INC

Accuracy and Precision

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Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Analyzed: 08/13/2008

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Sample Name: Lab Control Sample
Lab Code: EQ0800341-02

Units: pg/L
Basis: NA

Analytical Method: 1613B
Prep Method: Method

Extraction Lot: 71538

Analyte Name	Lab Control Sample Result	Lab Control Sample Expected	Lab Control Sample % Rec	Duplicate Lab Control Sample Result	Duplicate Lab Control Sample Expected	Duplicate Lab Control Sample % Rec	% Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	259	200	129	267	200	134	67 - 158	4	50
1,2,3,7,8-PeCDD	999	1000	100	1030	1000	103	70 - 142	3	50
1,2,3,4,7,8-HxCDD	934	1000	93	957	1000	96	70 - 164	3	50
1,2,3,6,7,8-HxCDD	1120	1000	112	1050	1000	105	76 - 134	6	50
1,2,3,7,8,9-HxCDD	946	1000	95	939	1000	94	64 - 162	1	50
1,2,3,4,6,7,8-HpCDD	978	1000	98	991	1000	99	70 - 140	1	50
OCDD	1810	2000	90	1870	2000	94	78 - 144	4	50
2,3,7,8-TCDF	192	200	96	191	200	96	75 - 158	0	50
1,2,3,7,8-PeCDF	922	1000	92	947	1000	95	80 - 134	3	50
2,3,4,7,8-PeCDF	953	1000	95	986	1000	99	68 - 160	4	50
1,2,3,4,7,8-HxCDF	1000	1000	100	1080	1000	108	72 - 134	8	50
1,2,3,6,7,8-HxCDF	1140	1000	114	1140	1000	114	84 - 130	0	50
1,2,3,7,8,9-HxCDF	848	1000	85	885	1000	89	78 - 130	5	50
2,3,4,6,7,8-HxCDF	972	1000	97	1010	1000	101	70 - 156	4	50
1,2,3,4,6,7,8-HpCDF	966	1000	97	991	1000	99	82 - 132	2	50
1,2,3,4,7,8,9-HpCDF	834	1000	83	850	1000	85	78 - 138	2	50
OCDF	2000	2000	100	2350	2000	118	63 - 170	17	50

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ0800341-02

Units: pg/L
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1000mL

Data File Name: U129375
ICAL Name: 05/02/08

Date Analyzed: 8/13/08 15:10:0(
Date Extracted: 8/11/08
Instrument Name: E-HRMS-01
GC Column: DB-5
Blank File Name: U129371
Cal Ver. File Name: U129370

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**259**		0.880	10.0	0.77	1.001	1
1,2,3,7,8-PeCDD	**999**		0.619	50.0	1.56	1.000	1
1,2,3,4,7,8-HxCDD	**934**		0.634	50.0	1.28	1.000	1
1,2,3,6,7,8-HxCDD	**1120**		0.786	50.0	1.23	1.000	1
1,2,3,7,8,9-HxCDD	**946**		0.668	50.0	1.22	1.008	1
1,2,3,4,6,7,8-HpCDD	**978**		0.554	50.0	1.01	1.000	1
OCDD	**1810**		1.12	100	0.89	1.000	1
2,3,7,8-TCDF	**192**		0.955	10.0	0.82	1.001	1
1,2,3,7,8-PeCDF	**922**		0.438	50.0	1.54	1.000	1
2,3,4,7,8-PeCDF	**953**		0.413	50.0	1.50	1.000	1
1,2,3,4,7,8-HxCDF	**1000**		0.455	50.0	1.25	1.000	1
1,2,3,6,7,8-HxCDF	**1140**		0.523	50.0	1.18	1.000	1
1,2,3,7,8,9-HxCDF	**848**		0.575	50.0	1.26	1.000	1
2,3,4,6,7,8-HxCDF	**972**		0.472	50.0	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	**966**		0.894	50.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	**834**		0.847	50.0	1.02	1.000	1
OCDF	**2000**		1.05	100	0.92	1.004	1
Total Tetra-Dioxins	**259**		0.880	10.0	0.77		1
Total Penta-Dioxins	**999**		0.619	50.0	1.56		1
Total Hexa-Dioxins	**3000**		0.634	50.0	1.28		1
Total Hepta-Dioxins	**978**		0.554	50.0	1.01		1
Total Tetra-Furans	**192**		0.955	10.0	0.82		1
Total Penta-Furans	**1890**		0.413	50.0	1.63		1
Total Hexa-Furans	**3960**		0.455	50.0	1.25		1
Total Hepta-Furans	**1800**		0.894	50.0	1.05		1

Comments:

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ0800341-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 15:10:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129375	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1279.106	64		25-164	0.76	1.008
13C-1,2,3,7,8-PeCDD	2000	1560.908	78		25-181	1.56	1.167
13C-1,2,3,4,7,8-HxCDD	2000	1533.696	77		32-141	1.24	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1323.782	66		28-130	1.24	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1323.195	66		23-140	1.04	1.067
13C-OCDD	4000	2420.620	61		17-157	0.90	1.144
13C-2,3,7,8-TCDF	2000	1153.621	58		24-169	0.79	0.979
13C-1,2,3,7,8-PeCDF	2000	1404.463	70		24-185	1.55	1.130
13C-2,3,4,7,8-PeCDF	2000	1401.870	70		21-178	1.55	1.155
13C-1,2,3,4,7,8-HxCDF	2000	1358.501	68		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1174.684	59		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1316.726	66		29-147	0.51	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1396.278	70		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1172.725	59		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1752.880	88		26-138	0.45	1.077
37Cl-2,3,7,8-TCDD	800	644.104	81		35-197	NA	1.008

Comments:

Client:	Geo Engineers	**Service Request:**	E0800739
Project:	Method 1613B/0615-034-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	pg/L
Lab Code:	EQ0800341-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	1613B	**Date Analyzed:**	8/13/08 15:59:0(
Prep Method:	Method	**Date Extracted:**	8/11/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-01
		GC Column:	DB-5
Data File Name:	U129376	**Blank File Name:**	U129371
ICAL Name:	05/02/08	**Cal Ver. File Name:**	U129370

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**267**		1.00	10.0	0.77	1.001	1
1,2,3,7,8-PeCDD	**1030**		0.665	50.0	1.56	1.000	1
1,2,3,4,7,8-HxCDD	**957**		0.710	50.0	1.22	1.000	1
1,2,3,6,7,8-HxCDD	**1050**		0.834	50.0	1.22	1.000	1
1,2,3,7,8,9-HxCDD	**939**		0.728	50.0	1.22	1.008	1
1,2,3,4,6,7,8-HpCDD	**991**		0.736	50.0	1.06	1.000	1
OCDD	**1870**		1.56	100	0.90	1.000	1
2,3,7,8-TCDF	**191**		1.07	10.0	0.83	1.001	1
1,2,3,7,8-PeCDF	**947**		0.438	50.0	1.52	1.000	1
2,3,4,7,8-PeCDF	**986**		0.418	50.0	1.53	1.000	1
1,2,3,4,7,8-HxCDF	**1080**		0.436	50.0	1.27	1.000	1
1,2,3,6,7,8-HxCDF	**1140**		0.484	50.0	1.26	1.000	1
1,2,3,7,8,9-HxCDF	**885**		0.535	50.0	1.31	1.000	1
2,3,4,6,7,8-HxCDF	**1010**		0.467	50.0	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	**991**		1.16	50.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	**850**		1.04	50.0	1.02	1.000	1
OCDF	**2350**		1.99	100	0.88	1.004	1
Total Tetra-Dioxins	**267**		1.00	10.0	0.77		1
Total Penta-Dioxins	**1030**		0.665	50.0	1.56		1
Total Hexa-Dioxins	**2950**		0.710	50.0	1.22		1
Total Hepta-Dioxins	**991**		0.736	50.0	1.06		1
Total Tetra-Furans	**191**		1.07	10.0	0.83		1
Total Penta-Furans	**1950**		0.418	50.0	1.52		1
Total Hexa-Furans	**4110**		0.436	50.0	1.27		1
Total Hepta-Furans	**1840**		1.16	50.0	1.05		1

Comments:

Client: Geo Engineers
Project: Method 1613B/0615-034-02
Sample Matrix: Water

Service Request: E0800739
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample Dup
Lab Code: EQ0800341-03

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 1613B
Prep Method: Method
Sample Amount: 1000mL

Data File Name: U129376
ICAL Name: 05/02/08

Date Analyzed: 8/13/08 15:59:0(
Date Extracted: 8/11/08
Instrument Name: E-HRMS-01
GC Column: DB-5
Blank File Name: U129371
Cal Ver. File Name: U129370

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1284.753	64		25-164	0.76	1.008
13C-1,2,3,7,8-PeCDD	2000	1496.503	75		25-181	1.55	1.168
13C-1,2,3,4,7,8-HxCDD	2000	1546.083	77		32-141	1.25	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1375.398	69		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1122.480	56		23-140	1.06	1.067
13C-OCDD	4000	1582.160	40		17-157	0.90	1.145
13C-2,3,7,8-TCDF	2000	1188.272	59		24-169	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1389.024	69		24-185	1.57	1.130
13C-2,3,4,7,8-PeCDF	2000	1339.852	67		21-178	1.57	1.156
13C-1,2,3,4,7,8-HxCDF	2000	1327.350	66		26-152	0.54	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1147.159	57		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1379.013	69		29-147	0.51	1.006
13C-2,3,4,6,7,8-HxCDF	2000	1340.763	67		28-136	0.55	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1015.145	51		28-143	0.43	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	1539.706	77		26-138	0.45	1.078
37Cl-2,3,7,8-TCDD	800	647.741	81		35-197	NA	1.008

Comments:

Columbia Analytical Services INC

Chain of Custody

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www.caslab.com

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Columbia Analytical Services
19408 Park Road
Suite 320
Houston, Texas 77084

Chain of Custody Record

Client: GeoEngineers Inc.	Project Manager: Jay Lucas	Date: 07/29/08	Chain of Custody Number: 2523
Address: 1101 S. Fawcett Ave Suite 200	Telephone Number (Area Code)/Fax Number: 206-239-3221	Lab Number	Page ___ of ___
City: Tacoma / State: WA / Zip Code: 98401	Site Contact / Lab Contact		
Project Name and Location (State): Port of Olympia East Bay	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.: Project # ~~0446-595-08~~ 0615-034-02			

Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Dioxins/furans EPA 1613	Hold	Special Instructions/ Conditions of Receipt
MW16-072908-W	07/29/08	1015		X				2						X		Std TAT
MW16-F-072908-W	07/29/08	1018		X				2					(DF)	~~X~~	X	(DF) 7/30/08

Cooler: ☒ Yes ☐ No Cooler Temp: ______

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required (business days): ☒ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other ______

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Chad C. Opatz	07/29/08	1305	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By: [signature]	7/30/08	10:00

Comments: 2° C

DISTRIBUTION: WHITE – Stays with the Samples; CANARY – Returned to Client with Report; PINK – Field Copy

TAL-8274-580 (0508)

Reset Form

Print Form

Columbia Analytical Services, Inc.
Cooler Receipt Form

Client/Project: Geo Engineers Service Request: E0800739

Received: 7/30/08 Opened (Date/Time): 10:00 By: AE

1. Samples were received via? ☐*US Mail* ☐*Fedex* ☑*UPS* ☐*DHL* ☐*Courier* ☐*Hand Delivered*
2. Samples were received in: (circle) ☑*Cooler* ☐*Box* ☐ *Other*_____ ☐*NA*
3. Were custody seals present on coolers? ☐Y ☑N If yes, how many and where?_____
   If present, were custody seals intact? ☐Y ☐N If present, were they signed and dated? ☐Y ☐N
4. Is shipper's air-bill filed? ☐NA ☑Y ☐N If not, record air bill number:_____
5. Temperature of cooler(s) upon receipt (°C): 2
6. If applicable, list Chain of Custody numbers: _____
7. Were custody papers properly filled our (ink, signed, etc.)? ☐NA ☑Y ☐N
8. Packing material used: ☐*Inserts* ☑*Bubble Wrap* ☐*Blue Ice* ☑*Wet Ice* ☐*Sleeves* ☐*Other*_____
9. Were the correct types of bottles used for the tests indicated? ☑Y ☐N
   Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* ☑Y ☐N

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Initials
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	

10. Were all bottle labels complete (i.e. analysis, ID, etc.)? ☑Y ☐N
    Did all bottle labels and tags agree with custody papers? *Indicate in the table below.* ☑Y ☐N

Sample ID on Bottle	Sample ID on COC		Sample ID on Bottle	Sample ID on COC

11. Additional notes, discrepancies, and resolutions:

_____

_____

_____

Page 1 of: ☑1 ☐2

Sample Acceptance Policy

Custody Seals (desirable, mandatory if specified in SAP):

- ✓ On outside of cooler
- ✓ Seals intact, signed and dated

Chain-of-Custody documentation (mandatory):

- ✓ Properly filled out in ink & signed by the client
- ✓ Sign and date the coc for CAS/HOU upon cooler receipt
- ✓ Coc must list method number
- ✓ If no coc was submitted with the samples, complete a CAS/HOU coc for the client

Sample Integrity (mandatory):

- ✓ Sample containers must arrive in good condition (not broken or leaking)
- ✓ Sample IDs on the bottles must match the sample IDs on the coc
- ✓ The correct type of sample bottle must be used for the method requested
- ✓ The correct number of sample containers received must agree with the documentation on the coc
- ✓ The correct sample matrix must appear on the coc
- ✓ An appropriate sample volume or weight must be received

Temperature Preservatives (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C
- ✓ The sample temperature must be recorded on the coc
- ✓ Notify a Project Chemist if any samples are outside the acceptance temperature or have compromised sample integrity – the client must decide re: replacement sample submittal or continue with the analysis

Cooler Receipt Form, CRF (mandatory):

- ✓ Cooler receipt forms must be completed for each coc & SR#
- ✓ Sample integrity issues must be documented on the CRF
- ✓ A scan of the carrier and the airbill number must be recorded in CAS LIMS

Sample Integrity Issues/Resolutions (mandatory):

- ✓ Sample integrity issues are documented on the CRF and given to the Project Chemist for resolution with the client
- ✓ Client resolution is documented in writing (typically email or on the CRF) and filed in the project folder(s)

Service Request Summary

Folder #: **E0800739**
Client Name: Geo Engineers
Project Name: Method 1613B
Project Number: 0615-034-02

Report To: Jay Lucas
Geo Engineers Inc
1101 S. Fawcett Ave, Suite 200
Tacoma, WA 98401
Phone Number:
Cell Number:
Fax Number:
E-mail: jlucas@geoengineers.com

Project Chemist: Jane Freemyer
Originating Lab: HOUSTON
Logged By: AENNIS
Date Received: 07/30/2008
Internal Due Date: 08/13/2008
QAPP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: N
Report to MDL?: Y
P.O. Number: 0615-034-02
EDD: BASIC_WQC_CASNo

4 - 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserv

Location: E-WIC01

CAS Samp No.	Client Samp No.	Matrix	Collected		SVM Dioxins Furans/ 1613B
E0800739-001	MW-16-072908-W	Water	7/29/08	1015	IV
E0800739-002	MW16-F-072908-W	Water	7/29/08	1018	IV(H)

Preparation Information Benchsheet

Prep Run#: 71538
Team: Semivoa GCMS/SMALHOTRA

Prep WorkFlow: OrgExtAq(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 08/11/2008 03:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ0800341-01	MB		1613B/Dioxins Furans		Liquid	1000mL	
2	EQ0800341-02	LCS		1613B/Dioxins Furans		Liquid	1000mL	
3	EQ0800341-03	DLCS		1613B/Dioxins Furans		Liquid	1000mL	
4	E0800735-001RE	2008-07-23-I	.01	1613B/Dioxins Furans	3	Water	1010mL	Yellow clear liquid
5	E0800735-002RE	2008-07-25-G	.01	1613B/Dioxins Furans	4	Water	1017mL	Yellow clear liquid
6	E0800739-001RE	MW-16-072908-W	.01	1613B/Dioxins Furans	8	Water	1043mL	Very pale yellow clear liquid
7	E0800742-001RE	01F	.01	1613B/Dioxins Furans	7	Water	898mL	Colorless clear liquid
8	E0800742-002RE	02F	.01	1613B/Dioxins Furans	7	Water	945mL	Colorless clear liquid
9	E0800762-001	A-Line Bl. Plant	.01	1613B/Dioxins Furans	2	Water	1080mL	Yellow, cloudy liquid
10	E0800762-002	B-Line Bl. Plant	.01	1613B/Dioxins Furans	4	Water	973mL	Yellow, cloudy liquid
11	E0800763-001	01I	.01	1613B/Dioxins Furans	7	Water	983mL	Clear, colorless liquid
12	E0800769-014	08A-0067-C3FR	.01	1613B/Dioxins Furans	5	Misc. Aqueous	0mL	Hexane, clear
13	E0800770-001	18H 0018-01 WW effluent	.01	1613B/Dioxins Furans	7	Water	940mL	Very light yellow clear liquid
14	E0800772-001	OUTFALL 004	.01	1613B/Dioxins Furans	4	Wastewater	983mL	Orange, cloudy liquid
15	E0800772-002	OUTFALL 005	.01	1613B/Dioxins Furans	7	Wastewater	945mL	Orange, cloudy liquid
16	E0800774-001	08080726	.01	1613B/Dioxins Furans	8	Water	1023mL	White, slightly cloudy liquid
17	E0800776-001	01H	.01	1613B/Dioxins Furans	7	Water	998mL	Clear, colorless liquid
18	E0800777-001	01H	.01	1613B/Dioxins Furans	7	Water	998mL	Clear, colorless liquid
19	J0803766-002	Dioxins/21-2	.01	1613B/Dioxins Furans	3	Water	983mL	Yellow, cloudy liquid
20	J0803766-004	Dioxins/13-3	.01	1613B/Dioxins Furans	3	Water	967mL	Yellow, cloudy liquid
21	J0803766-006	Dioxins/13-4	.01	1613B/Dioxins Furans	3	Water	986mL	Yellow, cloudy liquid
22	K0806915-001RE	Bogue Losa	.05	1613B/Dioxins Furans	6	Drinking Water	980mL	Colorless clear liquid
23	P0802464-001	1133924	.01	1613B/Dioxins Furans	7	Water	973mL	Tan, cloudy liquid

Preparation Information Benchsheet

Prep Run#: 71538
Team: Semivoa GCMS/SMALHOTRA
Prep WorkFlow: OrgExtAq(365)
Prep Method: Method
Status: Prepped
Prep Date/Time: 08/11/2008 03:00 PM

Spiking Solutions

Name:	1613B Matrix Working Standard	Inventory ID	4296	Logbook Ref:	D9-65-2B	Expires On:	06/13/2018

EQ0800341-02	100.00uL	EQ0800341-03	100.00uL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	4863	Logbook Ref:	D9-73-5A/B	Expires On:	08/11/2018

E0800735-001	100.00uL	E0800735-002	100.00uL	E0800739-001	100.00uL	E0800742-001	100.00uL	E0800742-002	100.00uL	E0800762-001	100.00uL
E0800762-002	100.00uL	E0800763-001	100.00uL	E0800769-014	100.00uL	E0800770-001	100.00uL	E0800772-001	100.00uL	E0800772-002	100.00uL
E0800774-001	100.00uL	E0800776-001	100.00uL	E0800777-001	100.00uL	EQ0800341-01	100.00uL	EQ0800341-02	100.00uL	EQ0800341-03	100.00uL
J0803766-002	100.00uL	J0803766-004	100.00uL	J0803766-006	100.00uL	K0806915-001	100.00uL	P0802464-001	100.00uL		

Name:	1613B Labeled Working Standard	Inventory ID	4911	Logbook Ref:	D9-73-4B	Expires On:	02/09/2009

E0800735-001	1,000.00uL	E0800735-002	1,000.00uL	E0800739-001	1,000.00uL	E0800742-001	1,000.00uL	E0800742-002	1,000.00uL	E0800762-001	1,000.00uL
E0800762-002	1,000.00uL	E0800763-001	1,000.00uL	E0800769-014	1,000.00uL	E0800770-001	1,000.00uL	E0800772-001	1,000.00uL	E0800772-002	1,000.00uL
E0800774-001	1,000.00uL	E0800776-001	1,000.00uL	E0800777-001	1,000.00uL	EQ0800341-01	1,000.00uL	EQ0800341-02	1,000.00uL	EQ0800341-03	1,000.00uL
J0803766-002	1,000.00uL	J0803766-004	1,000.00uL	J0803766-006	1,000.00uL	K0806915-001	1,000.00uL	P0802464-001	1,000.00uL		

Preparation Materials

Silica Gel Reagent Grade	C2-6-004 (3305)	Carbon, High Purity	C2-9-004 (3628)	Glass Wool	C2-1-004 (3060)
Acetone 99.5% Minimum	C1-124-004 (3063)	Nonane (n-Nonane) 99%	C2-4-003 (3304)	Sodium Chloride Reagent Grade I	C1-104-2 (3306)
Sodium Sulfate Anhydrous Reage	C2-10-001 (3635)	Dichloromethane (Methylene Chl	C2-9-007 (3629)	Toluene 99.9% Minimum	C2-9-005 (3634)
Ethyl Acetate 99.9% Minimum Et	C2-1-005 (3059)	Hexane (n-Hexane) 98.5% Minim	C2-9-006 (3631)	Tridecane (n-Tridecane)	C2-7-002 (3360)
Sulfuric Acid Reagent Grade H2S	C2-7-005 (3357)	pH Paper 0-14	(1008)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/11/08 15:00	Started:	8/12/08 08:00	Started:	8/12/08 15:00	Started:	8/13/08 08:00
Finished:	8/11/08 18:00	Finished:	8/12/08 08:00	Finished:	8/12/08 18:00	Finished:	8/13/08 12:00
By:	NBROWN	By:	NBROWN	By:	NBROWN	By:	NBROWN

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Columbia Analytical Services, Inc.

Nonconformity and Corrective Action Report

NONCONFORMITY

PROCEDURE (SOP or METHOD): 1613

EVENT:
- ☐ Missed Holding Time
- ☒ QC Failure
- ☐ Lab Error (spilled sample, spiking error, etc.)
- ☐ Method Blank Contamination
- ☐ Login Error
- ☐ Project Management Error
- ☐ Equipment Failure
- ☐ Unacceptable PT Sample Result
- ☐ SOP Deviation
- ☐ Other (describe):

SAMPLES / PROJECTS / CUSTOMERS / SYSTEMS AFFECTED

EQ0800332-01 MB E0800735 E0800738 E0800739 E0800742 E08007347 E0800748 E0800749 J0803628 K0806915

DETAILED DESCRIPTION

Low internal standard recovery.

ORIGINATOR: Rolando Diaz DATE: *08/08/08*

CORRECTIVE ACTION AND OUTCOME

Re-establishment of conformity must be demonstrated and documented. Describe the steps that were taken, or are planned to be taken, to correct the particular Nonconformity and prevent its reoccurrence. Include any Project Manager instructions here.

Re-extract ½ original sample size.

Is the data to be flagged in the Analytical Report with an appropriate qualifier? ☐ **No** ☒ **Yes**

APPROVAL AND NOTIFICATION

Supervisor Verification and Approval of Corrective Action _____ Date: 8/19/08

Comments:

QA PM Verification and Approval of Corrective Action Andrew Biddle Date: 08/08/08

Comments:

Customer Notified by ☐ Telephone ☐ Fax ☑ E-mail ☑ Narrative ☐ Not notified

Project Manager Verification and Approval of Corrective Action _____ Date: 8/19/8

Comments:

(Attach record or cite reference where record is located.) Project folder archives

APPENDIX K

ANALYTICAL REPORTS AND DATA QUALITY REVIEW FOR JUNE 2009 GROUNDWATER MONITORING EVENT

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

GWM

Samples Collected By: TB/KR
Contact Number:

Client: PTC
Address: 2612 Yelm Hwy SE, Olympia, WA 98501
Phone: 570-1700
Fax:
Email: bussey1@msn.com
Project Name: East Bay RI - June Gwm
Project Location: Port of Olympia
Project Number:
Project P.O.:
Contact Person: Troy Bussey
DAL Project No.: 090630-08 A

* PLEASE SEE PREVIOUS EMAIL RE: RL EXPECTATIONS (e.g., SLIGHTLY LOWER RLs for PAHs)

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type
MW07-063009	GW	06/30/09	1115	9 vials 1 L Amber plastic
MW25S-063009			1130	
~~DUP~~ MW08-063009			1230	
MW14-063009			1400	
MW22S-063009			1430	
MW13-063009			1515	
~~MW13-063009-FILT~~			1520	1 plastic
MW05-063009			1630	9 vials 1 L Amber plastic
FIELD BLANK	W	06/30/09	0900	3 vials
MW13-063009-FLT	GW	06/30/09	1520	1 plastic
~~FILT BLANK~~				

MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA ~~8021b~~ 8260)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)
MW07-063009	X		X		X				X							X				
MW25S-063009	↓		↓		↓				↓							↓				
~~DUP~~ MW08-063009																				
MW14-063009																				
MW22S-063009																				
MW13-063009																				
~~MW13-063009-FILT~~																				
MW05-063009	↓		↓		↓				↓							↓				
FIELD BLANK	X				X															
MW13-063009-FLT																X				
~~FILT BLANK~~	X				X															

RCRA 8 + Copper + Nickel

TB

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Troy Bussey	063009 1745	John McCall	6/30/09 1745
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other:

***Heavy Metals**: Please circle the desired analytes.

(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V (Zn) - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

wet RE QC samples 9-11

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	7/8/2009	nd	nd	93.6	
MW07-063009	7/8/2009	nd	nd	90.7	
MW25S-063009	7/8/2009	nd	nd	92.1	
MW08-0630009	7/8/2009	nd	nd	77.2	
MW14-063009	7/8/2009	nd	nd	85.5	
MW22S-063009	7/8/2009	nd	nd	92.6	
MW13-063009	7/8/2009	nd	nd	74.5	
MW09-063009	7/8/2009	nd	nd	67.1	
FIELD BLANK	7/8/2009	nd	nd	89.1	
LCS	7/8/2009	112%	n/a	n/a	
MW07-063009 Dup.	7/8/2009	nd	nd	93.5	
090708-MS	7/8/2009	103%	n/a	n/a	
090708-MSD	7/8/2009	102%	n/a	n/a	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by: R Lewis

DRAGON ANALYTICAL LABORATORY

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN WATER

Sample Identification	Date Analyzed	Gasoline NWTPH-Gx (ug/L)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	7/7/2009	nd	72.8	
Method Blank	7/8/2009	nd	123	
MW07-063009	7/7/2009	nd	105	
MW25S-063009	7/8/2009	nd	88.1	
MW08-0630009	7/8/2009	nd	66.5	
MW14-063009	7/8/2009	nd	131	
MW22S-063009	7/8/2009	nd	124	
MW13-063009	7/8/2009	nd	120	
MW09-063009	7/8/2009	nd	135	
FIELD BLANK	7/8/2009	nd	101	
LCS	7/7/2009	101%	n/a	
MW07-063009 Dup.	7/7/2009	nd	95.7%	
090630-MS	7/7/2009	115%	n/a	
090630-MSD	7/7/2009	120%	n/a	
Method Reporting Limits		50		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by: R Lewis

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF TOTAL RECOVERABLE HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	7/13/2009	nd	nd	nd	nd	0.7	nd	nd	nd	nd	nd
MW07-063009	7/14/2009	**2.7**	**14.6**	nd	nd	nd	**0.7**	nd	nd	nd	nd
MW255-063009	7/14/2009	**3.4**	**57.2**	nd	**0.8**	**1.9**	**3.2**	nd	**1.2**	nd	nd
MW08-063009	7/14/2009	**1.4**	**36.1**	nd	**1.0**	**0.6**	nd	nd	nd	nd	nd
MW14-063009	7/14/2009	**2.8**	**45.6**	nd	**38.3**	**12.4**	**4.2**	nd	**1.5**	nd	nd
MW22S-063009	7/14/2009	**4.4**	**25.9**	nd	**1.6**	**2.7**	**1.2**	nd	**1.0**	nd	nd
MW13-063009	7/14/2009	**7.9**	**22.7**	nd	**2.7**	**4.3**	**1.1**	nd	**3.1**	nd	**0.6**
MW09-063009	7/13/2009	**0.9**	**32.5**	nd	**1.4**	**1.3**	**0.7**	nd	**1.0**	nd	nd
090713 LCS	7/13/2009	102%	103%	99.2%	99.0%	99.0%	100%	98.0%	98.6%	94.6%	96.2%
090713 MS	7/13/2009	105%	101%	98.8%	98.4%	96.4%	101%	102%	95.4%	83.6%	93.2%
090713 MSD	7/13/2009	103%	103%	99.4%	96.2%	94.8%	100%	102%	93.2%	100%	94.6%
MW09-063009 Dup.	7/13/2009	**0.8**	**32.8**	nd	**1.5**	**1.3**	**0.7**	**nd**	**1.0**	nd	nd
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by: R. Lewis

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF DISSOLVED HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	7/13/2009	3.5	2.2	nd	nd	3.0	0.6	nd	0.9	nd	nd
MW13-063009	7/13/2009	**6.5**	**18.9**	nd	nd	**1.4**	nd	nd	**0.8**	nd	nd
090713 LCS	7/13/2009	97.6%	105%	94.4%	96.6%	96.0%	95.8%	99.5%	93.0%	95.0%	91.0%
090713 MS	7/13/2009	104%	108%	99.8%	98.4%	94.0%	102%	102%	93.6%	98.8%	93.8%
090713 MSD	7/13/2009	105%	107%	98.0%	98.6%	93.6%	102%	103%	93.0%	103%	92.2%
MW13-063009 Dup.	7/13/2009	**6.3**	**18.6**	nd	nd	**1.4**	nd	nd	**0.8**	nd	nd
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data Reviewed by R Lewis

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN WATER BY EPA METHOD 8270

Sample Identification			Blank	MW07-06309	MW25S-063009	MW08-063009	MW14-063009	MW13-063009	MW22S-063009	MW09-063009	LCS	090710-MS	090710-MSD
Date Extracted	CAS	MRL		7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009
Date Anlayzed	Number	(ug/L)		7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009
Benzo(a)anthracene	56-55-3	0.01	nd	**0.2**	**0.2**	nd	nd	**0.2**	**0.2**	**0.2**	82.8%	100%	100%
Benzo(a)pyrene	50-32-8	0.01	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chrysene	218-01-9	0.01	nd	nd	nd	nd	nd	nd	nd	nd	88.4%	100%	100%
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	**1.8**	nd	**1.8**	nd	nd	nd	**1.8**	n/a	n/a	n/a
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	nd	nd	**2.5**	nd	nd	n/a	n/a	n/a
2-Methylnaphthalene	91-57-6	0.01	nd	nd	nd	nd	nd	**0.7**	nd	nd	n/a	n/a	n/a
Naphthalene	91-20-3	0.01	nd	nd	nd	nd	nd	nd	nd	nd	81.3%	100%	100%
Surrogate Recovery (%)													
2-Fluorophenol			98.1	88.1	79.3	73.2	85.4	89.3	83.0	67.8	87.1	92.1	108
Phenol-d6			105	103	89.4	82.9	97.1	102	93.1	77.5	90.6	107	110
Nitrobenzene-d5			106	100	97.2	93.4	96.8	93.1	96.0	95.4	110	109	109
2-Fluorobiphenol			106	110	108	106	106	105	107	104	106	107	109
2,4,6-Tribromophenol			93.6	79.6	75.7	70.8	78.4	83.5	76.0	64.8	97.5	105	102
Terphenyl-d14			113	88.3	90.0	85.0	86.0	84.1	88.8	83.1	105	105	106
Data Flags													

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

DRAGON ANALYTICAL LABORATORY

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-June GWM
DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW07-063009	MW25S-063009	MW08-063009	MW14-063009	MW22S-063009	MW13-063009
Date Anlayzed	CAS No.	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Acetonitrile	705-05-8	2.0	nd	nd	nd	nd	nd	nd	nd
Acrylonitrile	107-13-1	2.0	nd	nd	nd	nd	nd	nd	nd
Allyl chloride	107-05-1	0.5	nd	nd	nd	nd	nd	nd	nd
Benzene	71-43-2	0.5	nd	nd	nd	nd	nd	nd	nd
Bromobenzene	108-86-1	0.5	nd	nd	nd	nd	nd	nd	nd
Bromochloromethane	74-97-5	0.5	nd	nd	nd	nd	nd	nd	nd
Bromodichloromethane	75-27-4	0.5	nd	nd	nd	nd	nd	nd	nd
Bromoform	75-25-2	0.5	nd	nd	nd	nd	nd	nd	nd
Bromomethane	74-83-9	0.5	nd	nd	nd	nd	nd	nd	nd
n-Butylbenzene	104-51-8	0.5	nd	nd	nd	nd	nd	nd	nd
sec-Butylbenzene	135-98-8	0.5	nd	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	98-06-6	0.5	nd	nd	nd	nd	nd	nd	nd
Carbon disulfide	75-15-0	0.5	nd	nd	nd	nd	nd	nd	nd
Carbon tetrachloride	56-23-5	0.5	nd	nd	nd	nd	nd	nd	nd
Chlorobenzene	108-90-7	0.5	nd	nd	nd	nd	nd	nd	nd
2-Chloro-1,3-butadiene	126-99-3	3.0	nd	nd	nd	nd	nd	nd	nd
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd
2-Chloroethyl vinyl ether	110-75-8	0.5	nd	nd	nd	nd	nd	nd	nd
Chloroform	67-66-3	0.5	nd	nd	nd	nd	nd	nd	nd
Chloromethane	74-87-3	0.5	nd	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	95-49-8	0.5	nd	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	106-43-4	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-chloropropane	96-12-8	0.5	nd	nd	nd	nd	nd	nd	nd
Dibromochloromethane	124-48-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane	106-93-4	0.5	nd	nd	nd	nd	nd	nd	nd
Dibromomethane	74-95-3	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	95-50-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	541-73-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	106-46-7	0.5	nd	nd	nd	nd	nd	nd	nd
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	nd	nd	nd	nd	nd	nd	nd
trans-1,4-Dichloro-2-butene	764-41-0	0.5	nd	nd	nd	nd	nd	nd	nd
Dichlorodifluoromethane	75-71-8	0.5	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	75-34-3	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	107-06-2	0.5	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	75-35-4	0.5	nd	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	156-59-2	0.5	nd	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	156-60-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	563-58-6	0.5	nd	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	10061-01-5	0.5	nd	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	10061-02-6	0.5	nd	nd	nd	nd	nd	nd	nd
Ethyl benzene	100-41-4	0.5	nd	nd	nd	nd	**0.6**	nd	nd

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Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-June GWM
DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW07-063009	MW25S-063009	MW08-063009	MW14-063009	MW22S-063009	MW13-063009
Date Anlayzed	CAS No.	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Ethyl ether	60-29-7	0.5	nd	nd	nd	nd	nd	nd	nd
Hexachlorobutadiene	87-68-3	0.5	nd	nd	nd	nd	nd	nd	nd
Iodomethane	74-88-4	1.0	nd	nd	nd	nd	nd	nd	nd
Isopropylbenzene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd
p-Isopropyltoluene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd
Methacrynitrile	126-98-7	0.5	nd	nd	nd	nd	nd	nd	nd
Methyl acrylate	96-33-3	0.5	nd	nd	nd	nd	nd	nd	nd
Methyl methacrylate	80-62-6	0.5	nd	nd	nd	nd	nd	nd	nd
Methylene chloride	75-09-2	2.5	**2.4 LC**	**1.4 LC**	**1.3 LC**	**1.4 LC**	**1.3 LC**	**1.2 LC**	**1.2 LC**
Naphthalene	91-20-3	0.5	nd	nd	nd	nd	nd	nd	nd
Nitrobenzene	98-95-3	0.5	nd	nd	nd	nd	nd	nd	nd
Pentachlorobenzene	608-93-5	0.5	nd	nd	nd	nd	nd	nd	nd
Propionitrile	107-12-0	0.5	nd	nd	nd	nd	nd	nd	nd
n-Propylbenzene	103-65-1	0.5	nd	nd	nd	nd	nd	nd	nd
Styrene	100-42-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	630-20-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	79-34-5	0.5	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene	127-18-4	0.5	nd	nd	nd	nd	nd	nd	nd
Tetrahydrofuran	109-99-9	nd	nd	nd	nd	nd	nd	nd	nd
Toluene	108-88-3	0.5	nd	nd	nd	nd	**18.3**	nd	nd
1,2,3-Trichlorobenzene	87-61-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	120-82-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	71-55-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	79-00-5	0.5	nd	nd	nd	nd	nd	nd	nd
Trichloroethene	79-01-6	0.5	nd	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	75-69-4	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	96-18-4	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenene	95-63-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenene	108-67-8	0.5	nd	nd	nd	nd	nd	nd	nd
m&p-Xylene	n/a	0.5	nd	nd	nd	nd	nd	nd	nd
o-Xylene	95-47-6	0.5	nd	nd	nd	nd	nd	nd	nd
Vinyl chloride	75-01-4	0.5	nd	nd	nd	nd	nd	nd	nd
Surrogate Recovery (%)									
Dibromofluoromethane			103	104	105	102	92.8	100	105
Toluene-d8			98.8	101	98.4	98.6	98.8	97.4	100
4-Bromofluorobenzene			92.0	92.6	94.4	91.4	93.2	93.8	96.6
Data Flags									

WA-DOE-Laboratory Certification No.: C2013 Acceptable surrogate recovery limits: 65% to 135%

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit. "n/a" indicates not applicable

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation

Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification		MW09-063009	FIELD BLANK	MW07-063009 Dup.	090713-MS	090713-MSD	LCS
Date Anlayzed	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Acetonitrile	2.0	nd	nd	nd	n/a	n/a	n/a
Acrylonitrile	2.0	nd	nd	nd	n/a	n/a	n/a
Allyl chloride	0.5	nd	nd	nd	n/a	n/a	n/a
Benzene	0.5	nd	nd	nd	109%	115%	107%
Bromobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
Bromochloromethane	0.5	nd	nd	nd	n/a	n/a	n/a
Bromodichloromethane	0.5	nd	**2.1**	nd	n/a	n/a	n/a
Bromoform	0.5	nd	nd	nd	n/a	n/a	n/a
Bromomethane	0.5	nd	nd	nd	n/a	n/a	n/a
n-Butylbenzene	0.5	nd	nd	nd	n/a	n/a	n/a
sec-Butylbenzene	0.5	nd	nd	nd	n/a	n/a	n/a
tert-Butylbenzene	0.5	nd	nd	nd	n/a	n/a	n/a
Carbon disulfide	0.5	nd	nd	nd	n/a	n/a	n/a
Carbon tetrachloride	0.5	nd	nd	nd	n/a	n/a	n/a
Chlorobenzene	0.5	nd	nd	nd	84.0%	104%	102%
2-Chloro-1,3-butadiene	3.0	nd	nd	nd	n/a	n/a	n/a
Chloroethane	0.5	nd	nd	nd	n/a	n/a	n/a
2-Chloroethyl vinyl ether	0.5	nd	nd	nd	n/a	n/a	n/a
Chloroform	0.5	nd	nd	nd	n/a	n/a	n/a
Chloromethane	0.5	nd	nd	nd	n/a	n/a	n/a
2-Chlorotoluene	0.5	nd	nd	nd	n/a	n/a	n/a
4-Chlorotoluene	0.5	nd	nd	nd	n/a	n/a	n/a
1,2-Dibromo-3-chloropropane	0.5	nd	nd	nd	n/a	n/a	n/a
Dibromochloromethane	0.5	nd	**1.6**	nd	n/a	n/a	n/a
1,2-Dibromoethane	0.5	nd	nd	nd	n/a	n/a	n/a
Dibromomethane	0.5	nd	nd	nd	n/a	n/a	n/a
1,2-Dichlorobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
1,3-Dichlorobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
1,4-Dichlorobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
cis-1,4-Dichloro-2-butene	0.5	nd	nd	nd	n/a	n/a	n/a
trans-1,4-Dichloro-2-butene	0.5	nd	nd	nd	n/a	n/a	n/a
Dichlorodifluoromethane	0.5	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloroethane	0.5	nd	nd	nd	118%	115%	108%
1,2-Dichloroethane	0.5	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloroethene	0.5	nd	nd	nd	n/a	n/a	n/a
cis-1,2-Dichloroethene	0.5	nd	nd	nd	n/a	n/a	n/a
trans-1,2-Dichloroethene	0.5	nd	nd	nd	n/a	n/a	n/a
1,2-Dichloropropane	0.5	nd	nd	nd	n/a	n/a	n/a
1,3-Dichloropropane	0.5	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloropropene	0.5	nd	nd	nd	n/a	n/a	n/a
cis-1,3-Dichloropropene	0.5	nd	nd	nd	n/a	n/a	n/a
trans-1,3-Dichloropropene	0.5	nd	nd	nd	n/a	n/a	n/a
Ethyl benzene	0.5	nd	nd	nd	n/a	n/a	n/a

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Pioneer Technologies Corporation

Project: East Bay RI-June GWM

DAL Number: 090630-08 A

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification		MW09-063009	FIELD BLANK	MW07-063009 Dup.	090713-MS	090713-MSD	LCS
Date Anlayzed	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Ethyl ether	0.5	nd	nd	nd	n/a	n/a	n/a
Hexachlorobutadiene	0.5	nd	nd	nd	n/a	n/a	n/a
Iodomethane	1.0	nd	nd	nd	n/a	n/a	n/a
Isopropylbenzene	0.5	nd	nd	nd	n/a	n/a	n/a
p-Isopropyltoluene	0.5	nd	nd	nd	n/a	n/a	n/a
Methacrynitrile	0.5	nd	nd	nd	n/a	n/a	n/a
Methyl acrylate	0.5	nd	nd	nd	n/a	n/a	n/a
Methyl methacrylate	0.5	nd	nd	nd	n/a	n/a	n/a
Methylene chloride	2.5	**1.5 LC**	**1.5 LC**	**1.4 LC**	n/a	n/a	n/a
Naphthalene	0.5	nd	nd	nd	n/a	n/a	n/a
Nitrobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
Pentachlorobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
Propionitrile	0.5	nd	nd	nd	n/a	n/a	n/a
n-Propylbenzene	0.5	nd	nd	nd	n/a	n/a	n/a
Styrene	0.5	nd	nd	nd	n/a	n/a	n/a
1,1,1,2-Tetrachloroethane	0.5	nd	nd	nd	n/a	n/a	n/a
1,1,2,2-Tetrachloroethane	0.5	nd	nd	nd	n/a	n/a	n/a
Tetrachloroethene	0.5	nd	nd	nd	n/a	n/a	n/a
Tetrahydrofuran	nd	nd	nd	n/a	n/a	n/a	n/a
Toluene	0.5	nd	nd	nd	91.6	108%	103%
1,2,3-Trichlorobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
1,2,4-Trichlorobenzene	0.5	nd	nd	nd	n/a	n/a	n/a
1,1,1-Trichloroethane	0.5	nd	nd	nd	n/a	n/a	n/a
1,1,2-Trichloroethane	0.5	nd	nd	nd	n/a	n/a	n/a
Trichloroethene	0.5	nd	nd	nd	116%	122%	105%
Trichlorofluoromethane	0.5	nd	**1.6**	nd	n/a	n/a	n/a
1,2,3-Trichloropropane	0.5	nd	nd	nd	n/a	n/a	n/a
1,2,4-Trimethylbenene	0.5	nd	nd	nd	n/a	n/a	n/a
1,3,5-Trimethylbenene	0.5	nd	nd	nd	n/a	n/a	n/a
m&p-Xylene	0.5	nd	nd	nd	n/a	n/a	n/a
o-Xylene	0.5	nd	nd	nd	n/a	n/a	n/a
Vinyl chloride	0.5	nd	nd	nd	n/a	n/a	n/a
Surrogate Recovery (%)							
Dibromofluoromethane		102	105	112	106	107	101
Toluene-d8		101	100	98.6	102	103	101
4-Bromofluorobenzene		95.8	95.4	78.4	85.6	101	101
Data Flags							

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

ADD GW

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

GW/A

Samples Collected By: _____
Contact Number: _____

Client: PTZ
Address: 2612 4ELM HWY, SUITE B, OLYMPIA, WA 98501
Phone: 360 570-1700
Fax:
Email: bussyte@uspioneer.com
Project Name: EAST BAY RE - JUNE 6TH
Project Location: PORT OF OLYMPIA
Project Number:
Project P.O.:
Contact Person: TROY BUSSYE
DAL Project No.: 090630-CB b

* SEE PREVIOUS RL FOR RL EXPLANATIONS (e.g., SLIGHTLY LOWER RLs for PAHs)

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type
MW20-070109	GW	07/01/09	0800	4 VOAs 1L Amber 1 plastic
MW01-070109			1140	
MW23S-070109			1340	
MW21S-070109			1115	4 VOAs 1L Amber 1 plastic
MW02-070109			1215	
MW16-070109			1430	
MW04-070109			1500	4 VOAs 2L Amber 2 plastic
MW11-070109			1600	4 VOAs 2L Amber 2 plastic
MW18-~~070109~~ TB			1630	
~~TRIP~~ TB MW03-070109			1245	
~~TRIP~~ BLANK	W	N/A	→	2 VOAs

Sample Identification	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	TOTAL Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	DISSOLVED METALS (7000 Series)
MW20-070109		X		X					X	X							X					
MW01-070109																						
MW23S-070109																						
MW21S-070109																						X
MW02-070109																						
MW16-070109																						
MW04-070109								X														
MW11-070109																						
MW18-~~070109~~ TB																						
~~TRIP~~ TB MW03-070109																						
~~TRIP~~ BLANK		X							X													

TOTAL METALS FOR RCRA 8 + Copper & Nickel

PLEASE FILTER AND RUN FOR RCRA 8 + Copper + Nickel (DISSOLVED)

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
~~Troy Bussye~~ TB	~~070109~~ 070109 1430	Jim McCall	7/1/09 1735
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

Turn-Around-Time
- ☐ Same Day
- ☐ 24 Hour
- ☐ 48 Hour
- ☐ 5 Day
- ☒ 10 Day
- ☐ Other: _____

***Heavy Metals**: Please circle the desired analytes.

Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn (Total)
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn (Dissolved)
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	7/8/2009	nd	nd	93.6	
MW20-070109	7/9/2009	nd	nd	71.3	
MW01-070109	7/9/2009	nd	nd	77.8	
MW23S-070109	7/9/2009	nd	nd	75.6	
MW21S-070109	7/9/2009	nd	nd	131	
MW02-070109	7/9/2009	nd	nd	74.5	
MW16-070109	7/9/2009	nd	nd	70.7	
MW04-070109	7/9/2009	nd	nd	66.5	
MW11-070109	7/9/2009	nd	nd	90.2	
MW18-070109	7/9/2009	nd	nd	76.8	
MW03-070109	7/9/2009	nd	nd	75.2	
LCS	7/8/2009	112%	n/a	n/a	
090708-MS	7/8/2009	103%	n/a	n/a	
090708-MSD	7/8/2009	102%	n/a	n/a	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN WATER

Sample Identification	Date Analyzed	Gasoline NWTPH-Gx (ug/L)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	7/7/2009	nd	72.8	
Method Blank	7/9/2009	nd	109	
MW20-070109	7/8/2009	nd	70.8	
MW01-070109	7/8/2009	nd	72.3	
MW23S-070109	7/8/2009	nd	82.3	
MW21S-070109	7/9/2009	nd	68.9	
MW02-070109	7/9/2009	nd	71.3	
MW16-070109	7/9/2009	nd	80.5	
MW04-070109	7/9/2009	nd	81.9	
MW11-070109	7/9/2009	nd	65.9	
MW18-070109	7/9/2009	nd	87.8	
MW03-070109	7/9/2009	nd	80.0	
TRIP BLANK	7/9/2009	nd	69.6	
LCS	7/7/2009	101%	n/a	
090707-MS	7/7/2009	115%	n/a	
090707-MSD	7/7/2009	120%	n/a	
MW01-070109 Dup.	7/8/2009	nd	73.2%	
Method Reporting Limits		50		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by: R Lewis

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Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-June GWM
DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF TOTAL RECOVERABLE HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	7/13/2009	nd	nd	nd	nd	0.7	nd	nd	nd	nd	nd
MW20-070109	7/13/2009	**1.6**	**104**	nd	**0.6**	**1.9**	**1.9**	nd	**0.6**	nd	nd
MW01-070109	7/13/2009	**3.2**	**51.6**	nd	**1.2**	**2.4**	**1.1**	nd	**1.5**	nd	nd
MW23S-070109	7/13/2009	**0.9**	**55.8**	nd	**1.2**	**2.9**	**2.9**	nd	**0.7**	nd	nd
MW21S-070109	7/13/2009	**4.8**	**103**	nd	**0.5**	**0.5**	nd	nd	**1.1**	nd	nd
MW02-070109	7/13/2009	**1.1**	**11.2**	nd	**0.6**	**1.5**	**1.0**	nd	nd	nd	nd
MW16-070109	7/13/2009	**2.0**	**38.0**	nd	**4.3**	**5.4**	**4.8**	nd	**2.8**	nd	nd
MW04-070109	7/13/2009	**9.5**	**60.8**	nd	**4.3**	**8.4**	**1.9**	nd	**2.8**	**0.5**	nd
MW11-070109	7/13/2009	**1.2**	**13.9**	nd	nd	**1.2**	nd	nd	nd	nd	nd
MW18-070109	7/13/2009	**2.2**	**180**	**0.7**	**0.9**	**3.6**	**nd**	nd	**2.3**	nd	nd
MW03-070109	7/13/2009	**7.3**	**232**	nd	**3.8**	**4.6**	**1.9**	nd	**5.6**	**1.2**	nd
090713 LCS	7/13/2009	102%	103%	99.2%	99.0%	100.0%	100%	98.0%	98.7%	94.6%	96.2%
090713-MS	7/13/2009	105%	101%	98.7%	98.4%	96.5%	101%	102%	95.5%	83.3%	93.2%
090713-MSD	7/13/2009	103%	103%	99.3%	96.2%	94.7%	100%	102%	93.3%	100%	103%
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by: R Lewis

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF DISSOLVED HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	7/13/2009	3.5	2.2	nd	nd	3.0	0.6	nd	0.9	nd	nd
MW21S-070109	7/13/2009	**5.1**	**47.2**	nd	nd	**0.8**	nd	nd	**1.1**	nd	nd
MW02-070109	7/13/2009	**5.4**	**6.8**	nd	nd	**2.7**	nd	nd	nd	nd	nd
MW16-070109	7/13/2009	**4.4**	**32.9**	nd	**1.7**	**1.7**	**1.4**	nd	**0.8**	nd	nd
MW04-070109	7/13/2009	**8.7**	**18.3**	nd	**0.6**	**0.7**	**0.7**	nd	**1.1**	nd	nd
MW11-070109	7/13/2009	**5.3**	**10.1**	nd	nd	**0.5**	nd	nd	**1.1**	nd	nd
MW18-070109	7/13/2009	**6.2**	**220**	**1.0**	nd	nd	nd	nd	nd	nd	nd
MW03-070109	7/13/2009	**10.1**	**191**	nd	**0.8**	**2.3**	nd	nd	**1.7**	**1.1**	nd
090713 LCS	7/13/2009	97.6%	105%	94.4%	96.6%	96.0%	95.8%	99.5%	93.0%	95.0%	91.0%
090713 MS	7/13/2009	104%	108%	99.8%	98.4%	94.0%	102%	102%	93.6%	98.8%	93.8%
090713 MSD	7/13/2009	105%	107%	98.0%	98.6%	93.6%	102%	103%	93.0%	103%	92.2%
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by: R Lewis

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN WATER BY EPA METHOD 8270

Sample Identification			Blank	MW20-070109	MW01-070109	MW23S-070109	MW21S-070109	MW02-070109	MW16-070109	MW04-070109	MW11-070109	MW18-070109	MW03-070109
Date Extracted	CAS	MRL		7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009
Date Anlayzed	Number	(ug/L)		7/10/2009	7/9/2009	7/10/2009	7/10/2009	7/9/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/9/2009
Benzo(a)anthracene	56-55-3	0.01	nd	nd	**0.2**	nd	nd	nd	**0.2**	**0.2**	**0.2**	nd	**0.2**
Benzo(a)pyrene	50-32-8	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene	218-01-9	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	**0.2**	**1.8**	**0.2**	**1.8**	nd	**1.8**	nd	**1.8**	**1.8**	nd
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	nd	nd	nd	nd	nd	**0.4**	nd	nd
2-Methylnaphthalene	91-57-6	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	91-20-3	0.01	nd	nd	nd	nd	nd	nd	nd	nd	**0.5**	nd	**0.1**
Surrogate Recovery (%)													
2-Fluorophenol			98.1	83.3	95.1	85.1	90.8	84.0	94.3	95.2	86.8	82.1	101
Phenol-d6			105	95.0	108	96.8	103	94.9	107	110	101	92.7	97.7
Nitrobenzene-d5			106	92.0	98.4	90.9	96.1	98.7	93.1	104	84.2	98.4	98.6
2-Fluorobiphenol			106	104	111	103	108	112	105	116	96.1	109	106
2,4,6-Tribromophenol			93.6	76.7	82.4	79.5	88.2	72.4	86.5	90.7	82.0	72.8	96.5
Terphenyl-d14			113	82.1	92.2	87.6	87.5	92.7	87.5	97.4	78.2	91.5	89.4
Data Flags													

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

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DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN WATER BY EPA METHOD 8270

Sample Identification			MW01-070109 Dup.	MW20-070109 Dup.	LCS	090710-MS	090710-MSD
Date Extracted	CAS	MRL	7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009
Date Anlayzed	Number	(ug/L)	7/9/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009
Benzo(a)anthracene	56-55-3	0.01	**0.2**	nd	82.8%	100%	100%
Benzo(a)pyrene	50-32-8	0.01	nd	nd	n/a	n/a	n/a
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	n/a	n/a	n/a
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	n/a	n/a	n/a
Chrysene	218-01-9	0.01	nd	nd	88.4%	100%	100%
Dibenzo(a,h)anthracene	53-70-3	0.01	**1.8**	nd	n/a	n/a	n/a
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	n/a	n/a	n/a
1-Methylnaphthalene	90-12-0	0.01	nd	nd	n/a	n/a	n/a
2-Methylnaphthalene	91-57-6	0.01	nd	nd	n/a	n/a	n/a
Naphthalene	91-20-3	0.01	nd	nd	81.3%	100%	100%
Surrogate Recovery (%)							
2-Fluorophenol			93.1	84.3	87.1	92.1	108
Phenol-d6			107	94.4	90.6	107	110
Nitrobenzene-d5			98.7	91.5	110	109	109
2-Fluorobiphenol			112	102	106	107	109
2,4,6-Tribromophenol			86.7	74.6	97.5	105	102
Terphenyl-d14			92.0	83.7	105	105	106
Data Flags							

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R Lewis

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DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW20-070109	MW01-070109	MW23S-070109	MW21S-070109	MW02-070109	MW16-070109
Date Anlayzed	CAS No.	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Acetonitrile	705-05-8	2.0	nd	nd	nd	nd	nd	nd	nd
Acrylonitrile	107-13-1	2.0	nd	nd	nd	nd	nd	nd	nd
Allyl chloride	107-05-1	0.5	nd	nd	nd	nd	nd	nd	nd
Benzene	71-43-2	0.5	nd	nd	nd	nd	nd	nd	nd
Bromobenzene	108-86-1	0.5	nd	nd	nd	nd	nd	nd	nd
Bromochloromethane	74-97-5	0.5	nd	nd	nd	nd	nd	nd	nd
Bromodichloromethane	75-27-4	0.5	nd	nd	nd	nd	nd	nd	nd
Bromoform	75-25-2	0.5	nd	nd	nd	nd	nd	nd	nd
Bromomethane	74-83-9	0.5	nd	nd	nd	nd	nd	nd	nd
n-Butylbenzene	104-51-8	0.5	nd	nd	nd	nd	nd	nd	nd
sec-Butylbenzene	135-98-8	0.5	nd	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	98-06-6	0.5	nd	nd	nd	nd	nd	nd	nd
Carbon disulfide	75-15-0	0.5	nd	nd	nd	nd	nd	nd	nd
Carbon tetrachloride	56-23-5	0.5	nd	nd	nd	nd	nd	nd	nd
Chlorobenzene	108-90-7	0.5	nd	nd	nd	nd	nd	nd	nd
2-Chloro-1,3-butadiene	126-99-3	3.0	nd	nd	nd	nd	nd	nd	nd
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd
2-Chloroethyl vinyl ether	110-75-8	0.5	nd	nd	nd	nd	nd	nd	nd
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd
Chloroform	67-66-3	0.5	nd	nd	nd	nd	nd	nd	nd
Chloromethane	74-87-3	0.5	nd	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	95-49-8	0.5	nd	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	106-43-4	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-chloropropane	96-12-8	0.5	nd	nd	nd	nd	nd	nd	nd
Dibromochloromethane	124-48-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane	106-93-4	0.5	nd	nd	nd	nd	nd	nd	nd
Dibromomethane	74-95-3	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	95-50-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	541-73-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	106-46-7	0.5	nd	nd	nd	nd	nd	nd	nd
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	nd	nd	nd	nd	nd	nd	nd
trans-1,4-Dichloro-2-butene	764-41-0	0.5	nd	nd	nd	nd	nd	nd	nd
Dichlorodifluoromethane	75-71-8	0.5	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	75-34-3	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	107-06-2	0.5	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	75-35-4	0.5	nd	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	156-59-2	0.5	nd	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	156-60-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,2-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	563-58-6	0.5	nd	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	10061-01-5	0.5	nd	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	10061-02-6	0.5	nd	nd	nd	nd	nd	nd	nd
Ethyl benzene	100-41-4	0.5	nd	nd	nd	nd	nd	nd	nd

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Pioneer Technologies Corporation
Project: East Bay RI-June GWM
DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification		MW04-070109	MW11-070109	MW18-070109	MW03-070109	TRIP BLANK	MW01-070109 Dup.	090713-MS	090713-MSD	LCS
Date Anlayzed	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/13/2009	7/13/2009	7/13/2009
Acetonitrile	2.0	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Acrylonitrile	2.0	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Allyl chloride	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Benzene	0.5	nd	**4.2**	nd	nd	nd	nd	109%	115%	107%
Bromobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromochloromethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromodichloromethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromoform	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromomethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
n-Butylbenzene	0.5	nd	**1.1**	nd	nd	nd	nd	n/a	n/a	n/a
sec-Butylbenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
tert-Butylbenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Carbon disulfide	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Carbon tetrachloride	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chlorobenzene	0.5	nd	nd	nd	nd	nd	nd	84.0%	104%	102%
2-Chloro-1,3-butadiene	3.0	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
2-Chloroethyl vinyl ether	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloroform	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloromethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
2-Chlorotoluene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
4-Chlorotoluene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dibromo-3-chloropropane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Dibromochloromethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dibromoethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Dibromomethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,3-Dichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,4-Dichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
cis-1,4-Dichloro-2-butene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
trans-1,4-Dichloro-2-butene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Dichlorodifluoromethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloroethane	0.5	nd	nd	nd	nd	nd	nd	118%	115%	108%
1,2-Dichloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloroethene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
cis-1,2-Dichloroethene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
trans-1,2-Dichloroethene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dichloropropane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,3-Dichloropropane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloropropene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
cis-1,3-Dichloropropene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
trans-1,3-Dichloropropene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Ethyl benzene	0.5	nd	**0.7**	nd	nd	nd	nd	n/a	n/a	n/a

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DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW20-070109	MW01-070109	MW23S-070109	MW21S-070109	MW02-070109	MW16-070109
Date Anlayzed	CAS No.	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Ethyl ether	60-29-7	0.5	nd	nd	nd	nd	nd	nd	nd
Hexachlorobutadiene	87-68-3	0.5	nd	nd	nd	nd	nd	nd	nd
Iodomethane	74-88-4	1.0	nd	nd	nd	nd	nd	nd	nd
Isopropylbenzene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd
p -Isopropyltoluene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd
Methacrynitrile	126-98-7	0.5	nd	nd	nd	nd	nd	nd	nd
Methyl acrylate	96-33-3	0.5	nd	nd	nd	nd	nd	nd	nd
Methyl methacrylate	80-62-6	0.5	nd	nd	nd	nd	nd	nd	nd
Methylene chloride	75-09-2	2.5	**2.4 LC**	**1.2 LC**	**1.4 LC**	**1.4 LC**	**1.4 LC**	**1.4 LC**	**1.4 LC**
Naphthalene	91-20-3	0.5	nd	nd	nd	nd	nd	nd	nd
Nitrobenzene	98-95-3	0.5	nd	nd	nd	nd	nd	nd	nd
Pentachlorobenzene	608-93-5	0.5	nd	nd	nd	nd	nd	nd	nd
Propionitrile	107-12-0	0.5	nd	nd	nd	nd	nd	nd	nd
n -Propylbenzene	103-65-1	0.5	nd	nd	nd	nd	nd	nd	nd
Styrene	100-42-5	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	630-20-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	79-34-5	0.5	nd	nd	nd	nd	nd	nd	nd
Tetrachloroethene	127-18-4	0.5	nd	nd	nd	nd	nd	nd	nd
Tetrahydrofuran	109-99-9	0.5	nd	nd	nd	nd	nd	nd	nd
Toluene	108-88-3	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	87-61-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	120-82-1	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	71-55-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	79-00-5	0.5	nd	nd	nd	nd	nd	nd	nd
Trichloroethene	79-01-6	0.5	nd	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	75-69-4	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	96-18-4	0.5	nd	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbezene	95-63-6	0.5	nd	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbezene	108-67-8	0.5	nd	nd	nd	nd	nd	nd	nd
m&p -Xylene	n/a	0.5	nd	nd	nd	nd	nd	nd	nd
o -Xylene	95-47-6	0.5	nd	nd	nd	nd	nd	nd	nd
Vinyl chloride	75-01-4	0.5	nd	nd	nd	nd	nd	nd	nd
Surrogate Recovery (%)									
Dibromofluoromethane			103	107	101	104	102	100	97.8
Toluene-d8			98.8	99	99	103	101	101	100
4-Bromofluorobenzene			92.0	93.2	94.6	93	96.4	95.4	95
Data Flags									

WA-DOE-Laboratory Certification No.: C2013 Acceptable surrogate recovery limits: 65% to 135%

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit. "n/a" indicates not applicable

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

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ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification		MW04-070109	MW11-070109	MW18-070109	MW03-070109	TRIP BLANK	MW01-070109 Dup.	090713-MS	090713-MSD	LCS
Date Anlayzed	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Ethyl ether	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Hexachlorobutadiene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Iodomethane	1.0	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Isopropylbenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
p -Isopropyltoluene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methacrynitrile	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methyl acrylate	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methyl methacrylate	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methylene chloride	2.5	**1.4 LC**	**1.4 LC**	**1.4 LC**	**1.4 LC**	**1.1 LC**	**1.4 LC**	n/a	n/a	n/a
Naphthalene	0.5	nd	**1.6**	nd	nd	nd	nd	n/a	n/a	n/a
Nitrobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Pentachlorobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Propionitrile	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
n -Propylbenzene	0.5	nd	**1.9**	nd	nd	nd	nd	n/a	n/a	n/a
Styrene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,1,2-Tetrachloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,2,2-Tetrachloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Tetrachloroethene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Tetrahydrofuran	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Toluene	0.5	nd	**1.7**	nd	nd	nd	nd	91.6	108%	103%
1,2,3-Trichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2,4-Trichlorobenzene	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,1-Trichloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,2-Trichloroethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Trichloroethene	0.5	nd	nd	nd	nd	nd	nd	116%	122%	105%
Trichlorofluoromethane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2,3-Trichloropropane	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2,4-Trimethylbezene	0.5	nd	**5.5**	nd	nd	nd	nd	n/a	n/a	n/a
1,3,5-Trimethylbezene	0.5	nd	**5.6**	nd	nd	nd	nd	n/a	n/a	n/a
m&p -Xylene	0.5	nd	**3.9**	nd	nd	nd	nd	n/a	n/a	n/a
o -Xylene	0.5	nd	**1.3**	nd	nd	nd	nd	n/a	n/a	n/a
Vinyl chloride	0.5	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Surrogate Recovery (%)										
Dibromofluoromethane		98.2	105	107	109	106	101	106	107	101
Toluene-d8		101	101	104	101	101	99.4	102	103	101
4-Bromofluorobenzene		95	95.8	96	96	93.4	96.4	85.6	101	101
Data Flags										

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-June GWM

DAL Number: 090630-08 B

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN NON-POTABLE WATER BY EPA METHOD 8082

Sample Identification	Date Analyzed	Aroclor 1016 EPA 8082 (ug/L)	Aroclor 1221 EPA 8082 (ug/L)	Aroclor 1232 EPA 8082 (ug/L)	Aroclor 1248 EPA 8082 (ug/L)	Aroclor 1254 EPA 8082 (ug/L)	Aroclor 1260 EPA 8082 (ug/L)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)	Data Flags
Method Blank	7/13/2009	nd	nd	nd	nd	nd	nd	134	132	
MW04-070109	7/13/2009	nd	nd	nd	nd	nd	nd	86.3	89.1	
MW04-070109 Dup.	7/13/2009	nd	nd	nd	nd	nd	nd	117	104	
LCS	7/13/2009	101%	n/a	n/a	n/a	n/a	111%	n/a	n/a	
090713-MS	7/13/2009	89.3%	n/a	n/a	n/a	n/a	107%	n/a	n/a	
090713-MSD	7/13/2009	92.1%	n/a	n/a	n/a	n/a	101%	n/a	n/a	
Method Reporting Limits		.01	.01	.01	.01	.01	.01			

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R. Lewis

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Samples Collected By: MF
Contact Number:

Client: Pioneer TC
Address: 2612 Yelm Hwy SE, Olympia, WA 98501
Phone: 570-1700
Fax:
Email: busseyt@uspioneer.com
Project Name: East Bay RI- July GW
Project Location: Port of Olympia
Project Number:
Project P.O.:
Contact Person:
DAL Project No.: 090630-08 C

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MTBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Total ~~Heavy~~ Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	Dissolved metals (7000)	please filter in lab							
MW15-070209	GW	07/02/09	0745	9 voa 1 amber 1 plastic		X		X					X	X							X													
MW24S-070209	GW	07/02/09	0845	9 voa 8 amber 2 plastic		X		X				X	X	X							X					X								
trip blank	GW			2 voas		X		~~X~~					X																					

Relinquished by (Signature): Melody Farn Date/Time: 07/02/09 1400
Received by (Signature): Mistel Elliott Date/Time: 7-2-09 1417
Relinquished by (Signature): Date/Time:
Received by (Signature): Date/Time:

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☑ 10 Day
☐ Other: ____

***Heavy Metals**: Please circle the desired analytes.

(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V Zn (Total)
(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V Zn (Dissolved)
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

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Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	7/11/2009	nd	nd	105	
MW15-070209	7/11/2009	nd	nd	77.5	
MW24S-070209	7/11/2009	nd	nd	103	
LCS	7/8/2009	112%	n/a	n/a	
090708-MS	7/8/2009	103%	n/a	n/a	
090708-MSD	7/8/2009	102%	n/a	n/a	
MW15-070209 Dup.	7/11/2009	nd	nd	92.6	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation

Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN WATER

Sample Identification	Date Analyzed	Gasoline NWTPH-Gx (ug/L)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	7/11/2009	nd	103	
MW15-070209	7/11/2009	nd	70.8	
MW24S-070209	7/11/2009	nd	74.7	
TRIP BLANK	7/11/2009	nd	69.5	
LCS	7/11/2009	108%	n/a	
090711-MS	7/11/2009	109%	n/a	
090711-MSD	7/11/2009	109%	n/a	
MW15-070209 Dup.	7/8/2009	nd	101	
Method Reporting Limits		50		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

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Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF TOTAL RECOVERABLE HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	7/13/2009	nd	nd	nd	nd	0.7	nd	nd	nd	nd	nd
MW15-070209	7/14/2009	**0.8**	**50.5**	nd	nd	nd	nd	nd	nd	nd	nd
MW24S-070209	7/14/2009	**13.7**	**22.1**	nd	nd	**3.0**	**0.6**	nd	nd	nd	nd
090713 LCS	7/13/2009	102%	103%	99.2%	99.0%	100.0%	100%	98.0%	98.7%	94.6%	96.2%
090713-MS	7/13/2009	105%	101%	98.7%	98.4%	96.5%	101%	102%	95.5%	83.3%	93.2%
090713-MSD	7/13/2009	103%	103%	99.3%	96.2%	94.7%	100%	102%	93.3%	100%	103%
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by:

Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DRAGON ANALYTICAL LABORATORY

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Mobile Environmental Laboratory

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF DISSOLVED HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	7/13/2009	3.5	2.2	nd	nd	3.0	0.6	nd	0.9	nd	nd
MW24S-070209	7/14/2009	**15.5**	**16.8**	nd	**0.2**	**1.6**	**0.5**	nd	**0.6**	nd	nd
090713 LCS	7/13/2009	97.6%	105%	94.4%	96.6%	96.0%	95.8%	99.5%	93.0%	95.0%	91.0%
090713 MS	7/13/2009	104%	108%	99.8%	98.4%	94.0%	102%	102%	93.6%	98.8%	93.8%
090713 MSD	7/13/2009	105%	107%	98.0%	98.6%	93.6%	102%	103%	93.0%	103%	92.2%
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

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"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by:

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Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN WATER BY EPA METHOD 8270

Sample Identification			Blank	MW15-070209	MW24S-07209	LCS	090710-MS	090710-MSD
Date Extracted	CAS	MRL		7/8/2009	7/8/2009	7/8/2009	7/8/2009	7/8/2009
Date Anlayzed	Number	(ug/L)		7/10/2009	7/10/2009	7/10/2009	7/10/2009	7/10/2009
Benzo(a)anthracene	56-55-3	0.01	nd	**0.2**	**0.2**	82.8%	100%	100%
Benzo(a)pyrene	50-32-8	0.01	nd	nd	nd	n/a	n/a	n/a
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	n/a	n/a	n/a
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	n/a	n/a	n/a
Chrysene	218-01-9	0.01	nd	nd	nd	88.4%	100%	100%
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	**1.8**	nd	n/a	n/a	n/a
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	nd	n/a	n/a	n/a
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	n/a	n/a	n/a
2-Methylnaphthalene	91-57-6	0.01	nd	nd	**0.1**	n/a	n/a	n/a
Naphthalene	91-20-3	0.01	nd	nd	**0.1**	81.3%	100%	100%
Surrogate Recovery (%)								
2-Fluorophenol			98.1	82.1	80.6	87.1	92.1	108
Phenol-d6			105	92.7	90.4	90.6	107	110
Nitrobenzene-d5			106	97.3	98.3	110	109	109
2-Fluorobiphenol			106	107	107	106	107	109
2,4,6-Tribromophenol			93.6	74.9	75.7	97.5	105	102
Terphenyl-d14			113	87.0	88.4	105	105	106
Data Flags								

WA-DOE-Laboratory Certification No.: C2013

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"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
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Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW15-070209	MW24S-070209	TRIP BLANK	MW24S-070209 Dup.	090713-MS	090713-MSD	LCS
Date Anlayzed	CAS No.	(ug/L)	7/12/2009	7/13/2009	7/13/2009	7/13/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Acetonitrile	705-05-8	2.0	nd	nd	nd	nd	nd	n/a	n/a	n/a
Acrylonitrile	107-13-1	2.0	nd	nd	nd	nd	nd	n/a	n/a	n/a
Allyl chloride	107-05-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Benzene	71-43-2	0.5	nd	nd	nd	nd	nd	109%	115%	107%
Bromobenzene	108-86-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromochloromethane	74-97-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromodichloromethane	75-27-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromoform	75-25-2	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Bromomethane	74-83-9	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
n-Butylbenzene	104-51-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
sec-Butylbenzene	135-98-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
tert-Butylbenzene	98-06-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Carbon disulfide	75-15-0	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Carbon tetrachloride	56-23-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chlorobenzene	108-90-7	0.5	nd	nd	nd	nd	nd	84.0%	104%	102%
2-Chloro-1,3-butadiene	126-99-3	3.0	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
2-Chloroethyl vinyl ether	110-75-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloroform	67-66-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chloromethane	74-87-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
2-Chlorotoluene	95-49-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
4-Chlorotoluene	106-43-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dibromo-3-chloropropane	96-12-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Dibromochloromethane	124-48-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dibromoethane	106-93-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Dibromomethane	74-95-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dichlorobenzene	95-50-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,3-Dichlorobenzene	541-73-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,4-Dichlorobenzene	106-46-7	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
trans-1,4-Dichloro-2-butene	764-41-0	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Dichlorodifluoromethane	75-71-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloroethane	75-34-3	0.5	nd	nd	nd	nd	nd	118%	115%	108%
1,2-Dichloroethane	107-06-2	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloroethene	75-35-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
cis-1,2-Dichloroethene	156-59-2	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
trans-1,2-Dichloroethene	156-60-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,3-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1-Dichloropropene	563-58-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
cis-1,3-Dichloropropene	10061-01-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
trans-1,3-Dichloropropene	10061-02-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Ethyl benzene	100-41-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW15-070209	MW24S-070209	TRIP BLANK	MW24S-070209 Dup.	090713-MS	090713-MSD	LCS
Date Anlayzed	CAS No.	(ug/L)	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009	7/12/2009
Ethyl ether	60-29-7	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Hexachlorobutadiene	87-68-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Iodomethane	74-88-4	1.0	nd	nd	nd	nd	nd	n/a	n/a	n/a
Isopropylbenzene	98-82-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
p-Isopropyltoluene	98-82-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methacrynitrile	126-98-7	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methyl acrylate	96-33-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methyl methacrylate	80-62-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Methylene chloride	75-09-2	2.5	**2.4 LC**	**1.6 LC**	**1.5 LC**	**1.1 LC**	**1.5 LC**	n/a	n/a	n/a
Naphthalene	91-20-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Nitrobenzene	98-95-3	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Pentachlorobenzene	608-93-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Propionitrile	107-12-0	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
n-Propylbenzene	103-65-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Styrene	100-42-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,1,2-Tetrachloroethane	630-20-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,2,2-Tetrachloroethane	79-34-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Tetrachloroethene	127-18-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Tetrahydrofuran	109-99-9	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Toluene	108-88-3	0.5	nd	nd	nd	nd	nd	91.6	108%	103%
1,2,3-Trichlorobenzene	87-61-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2,4-Trichlorobenzene	120-82-1	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,1-Trichloroethane	71-55-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,1,2-Trichloroethane	79-00-5	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Trichloroethene	79-01-6	0.5	nd	nd	nd	nd	nd	116%	122%	105%
Trichlorofluoromethane	75-69-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2,3-Trichloropropane	96-18-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,2,4-Trimethylbezene	95-63-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
1,3,5-Trimethylbezene	108-67-8	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
m&p-Xylene	n/a	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
o-Xylene	95-47-6	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Vinyl chloride	75-01-4	0.5	nd	nd	nd	nd	nd	n/a	n/a	n/a
Surrogate Recovery (%)										
Dibromofluoromethane			103	101	101	100	101	106	107	101
Toluene-d8			98.8	101	104	98.4	103	102	103	101
4-Bromofluorobenzene			92.0	96.4	95.8	93.8	111	85.6	101	101
Data Flags										

WA-DOE-Laboratory Certification No.: C2013 Acceptable surrogate recovery limits: 65% to 135%

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

DRAGON ANALYTICAL LABORATORY

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090630-08 C

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN NON-POTABLE WATER BY EPA METHOD 8082

Sample Identification	Date Analyzed	Aroclor 1016 EPA 8082 (ug/L)	Aroclor 1221 EPA 8082 (ug/L)	Aroclor 1232 EPA 8082 (ug/L)	Aroclor 1242 EPA 8082 (ug/L)	Aroclor 1248 EPA 8082 (ug/L)	Aroclor 1254 EPA 8082 (ug/L)	Aroclor 1260 EPA 8082 (ug/L)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)
Method Blank	7/13/2009	nd	nd	nd	nd	nd	nd	nd	134	132
MW24S-070209	7/13/2009	nd	nd	nd	nd	nd	nd	nd	123	101
LCS	7/13/2009	101%	n/a	n/a	n/a	n/a	n/a	111%	n/a	n/a
090713-MS	7/13/2009	89.30%	n/a	n/a	n/a	n/a	n/a	107%	n/a	n/a
090713-MSD	7/13/2009	92.10%	n/a	n/a	n/a	n/a	n/a	1015	n/a	n/a
Method Reporting Limits		.01	.01	.01	.01	.01	.01	.01		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

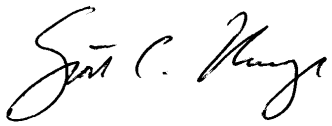
Pace Project #: 1098595
Sample Receipt Date: 07/03/2009
Client Project #: East Bay RI-June GWM
Client Sub PO #: N/A
State Cert #: C218

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
July 15, 2009

Report of Laboratory Analysis

The results relate only to the samples included in this report.

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on two samples submitted by a representative of Pioneer Technologies Corporation. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements. The samples were received outside of the recommended temperature range of 0-6 degrees Celsius.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 50-90%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results table and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory spike samples were also prepared with the sample batch using clean water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 89-129%, with relative percent differences of 0.0-8.9%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample batch.

Appendix A

Sample Management

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

1/3

1098595

Page: 1 of 1

1304879

Report No. 1098595_8290

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Pioneer	Report To: Troy Bussey	Attention: Katie Waldron
Address: 2612 Yelm Hwy SE Olympia, WA 98501	Copy To:	Company Name: Pioneer
Email To: tbussey@auspioneer.com	Purchase Order No.: Credit card	Address: 2612 Yelm Hwy SE
Phone: 360-570-1700 Fax:	Project Name: East Bay RI - June GWM	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number:	Pace Project Manager: Scott U.
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION °C	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Dioxin/furans 1613 @8290	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW24S - 070209	WT	G	~~7/1/09~~		7/02/09	0845	18	2	X									X		001
2	MW16 - 070109	WT	G			7/01/09	1430	17	2	X									X		002
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12	① Method per Troy @ 07/06/09																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
	Melody Feden / PTC	07/02/09	1200		7/3/09	0840	8.2	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 07/02/09

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

*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

Sample Condition Upon Receipt

Pace Analytical

Client Name: Pioneer Project # 1098595

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

Tracking #: 7906-7168-1007

Optional: Proj. Due Date: Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used 80344042, 179425 Type of Ice: Wet (Blue) None ☐ Samples on Ice, cooling process has begun

Cooler Temperature 8.2 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 7/3/09

Temp should be above freezing to 6°C

		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 & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed ✓ / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: Troy Date/Time: 07/06/09

Comments/ Resolution:

- Waived temp req.
- Run by method 8290.

Project Manager Review: NEW 7/3/09 SH Date: 07/06/09

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)

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-070209		
Lab Sample ID	1098595001		
Filename	R90710B_14		
Injected By	BAL		
Total Amount Extracted	938 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	07/02/2009 08:45
ICAL ID	R90512GC2	Received	07/03/2009 08:40
CCal Filename(s)	R90710B_02 & R90710B_16	Extracted	07/08/2009 19:30
Method Blank ID	BLANK-20541	Analyzed	07/11/2009 03:06

Native Isomers	**Conc** pg/L	**EMPC** pg/L	**RL** pg/L		**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	1.50		2,3,7,8-TCDF-13C	2.00	61
Total TCDF	ND	-----	1.50		2,3,7,8-TCDD-13C	2.00	79
					1,2,3,7,8-PeCDF-13C	2.00	69
2,3,7,8-TCDD	ND	-----	1.10		2,3,4,7,8-PeCDF-13C	2.00	72
Total TCDD	ND	-----	1.10		1,2,3,7,8-PeCDD-13C	2.00	90
					1,2,3,4,7,8-HxCDF-13C	2.00	73
1,2,3,7,8-PeCDF	ND	-----	2.10		1,2,3,6,7,8-HxCDF-13C	2.00	72
2,3,4,7,8-PeCDF	ND	-----	1.30		2,3,4,6,7,8-HxCDF-13C	2.00	72
Total PeCDF	ND	-----	1.70		1,2,3,7,8,9-HxCDF-13C	2.00	70
					1,2,3,4,7,8-HxCDD-13C	2.00	85
1,2,3,7,8-PeCDD	ND	-----	0.97		1,2,3,6,7,8-HxCDD-13C	2.00	83
Total PeCDD	ND	-----	0.97		1,2,3,4,6,7,8-HpCDF-13C	2.00	69
					1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	ND	-----	1.50		1,2,3,4,6,7,8-HpCDD-13C	2.00	83
1,2,3,6,7,8-HxCDF	ND	-----	1.60		OCDD-13C	4.00	76
2,3,4,6,7,8-HxCDF	ND	-----	1.10				
1,2,3,7,8,9-HxCDF	ND	-----	1.40		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	1.40		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.86		2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	ND	-----	0.79				
1,2,3,7,8,9-HxCDD	ND	-----	0.88				
Total HxCDD	ND	-----	0.85				
1,2,3,4,6,7,8-HpCDF	-----	5.0	1.60	I	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	1.70		Equivalence: 1.9 pg/L		
Total HpCDF	8.7	-----	1.60	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	9.5	-----	2.00	J			
Total HpCDD	18.0	-----	2.00	BJ			
OCDF	11.0	-----	2.90	J			
OCDD	91.0	-----	3.20	BJ			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW16-070109		
Lab Sample ID	1098595002		
Filename	R90710B_13		
Injected By	BAL		
Total Amount Extracted	917 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	07/01/2009 14:30
ICAL ID	R90512GC2	Received	07/03/2009 08:40
CCal Filename(s)	R90710B_02 & R90710B_16	Extracted	07/08/2009 19:30
Method Blank ID	BLANK-20541	Analyzed	07/11/2009 02:13

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	2.8		2,3,7,8-TCDF-13C	2.00	50
Total TCDF	ND	-----	2.8		2,3,7,8-TCDD-13C	2.00	65
					1,2,3,7,8-PeCDF-13C	2.00	56
2,3,7,8-TCDD	ND	-----	1.3		2,3,4,7,8-PeCDF-13C	2.00	59
Total TCDD	ND	-----	1.3		1,2,3,7,8-PeCDD-13C	2.00	76
					1,2,3,4,7,8-HxCDF-13C	2.00	61
1,2,3,7,8-PeCDF	ND	-----	4.4		1,2,3,6,7,8-HxCDF-13C	2.00	59
2,3,4,7,8-PeCDF	ND	-----	2.2		2,3,4,6,7,8-HxCDF-13C	2.00	59
Total PeCDF	ND	-----	3.3		1,2,3,7,8,9-HxCDF-13C	2.00	58
					1,2,3,4,7,8-HxCDD-13C	2.00	69
1,2,3,7,8-PeCDD	ND	-----	1.7		1,2,3,6,7,8-HxCDD-13C	2.00	69
Total PeCDD	ND	-----	1.7		1,2,3,4,6,7,8-HpCDF-13C	2.00	55
					1,2,3,4,7,8,9-HpCDF-13C	2.00	53
1,2,3,4,7,8-HxCDF	ND	-----	2.3		1,2,3,4,6,7,8-HpCDD-13C	2.00	67
1,2,3,6,7,8-HxCDF	ND	-----	2.3		OCDD-13C	4.00	55
2,3,4,6,7,8-HxCDF	ND	-----	2.5				
1,2,3,7,8,9-HxCDF	ND	-----	2.5		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	4.2	-----	2.4	BJ	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	1.4		2,3,7,8-TCDD-37Cl4	0.20	86
1,2,3,6,7,8-HxCDD	ND	-----	1.7				
1,2,3,7,8,9-HxCDD	ND	-----	1.6				
Total HxCDD	ND	-----	1.6				
1,2,3,4,6,7,8-HpCDF	-----	11	3.2	I	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	3.3		Equivalence: 2.8 pg/L		
Total HpCDF	ND	-----	3.2		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	-----	19	2.5	I			
Total HpCDD	17.0	-----	2.5	BJ			
OCDF	27.0	-----	5.6	J			
OCDD	190.0	-----	7.6				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

J = Value below calibration range
B = Less than 10x higher than method blank level
I = Interference present

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-20541	Matrix	Water
Filename	R90713A_04	Dilution	NA
Total Amount Extracted	929 mL	Extracted	07/08/2009 19:30
ICAL ID	R90512GC2	Analyzed	07/13/2009 15:58
CCal Filename(s)	R90713A_02 & R90713A_09	Injected By	SMT

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.94		2,3,7,8-TCDF-13C	2.00	52
Total TCDF	ND	-----	0.94		2,3,7,8-TCDD-13C	2.00	73
					1,2,3,7,8-PeCDF-13C	2.00	61
2,3,7,8-TCDD	ND	-----	1.30		2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	1.40	-----	1.30	J	1,2,3,7,8-PeCDD-13C	2.00	94
					1,2,3,4,7,8-HxCDF-13C	2.00	62
1,2,3,7,8-PeCDF	ND	-----	1.30		1,2,3,6,7,8-HxCDF-13C	2.00	62
2,3,4,7,8-PeCDF	ND	-----	0.83		2,3,4,6,7,8-HxCDF-13C	2.00	63
Total PeCDF	ND	-----	1.10		1,2,3,7,8,9-HxCDF-13C	2.00	64
					1,2,3,4,7,8-HxCDD-13C	2.00	75
1,2,3,7,8-PeCDD	ND	-----	1.20		1,2,3,6,7,8-HxCDD-13C	2.00	77
Total PeCDD	ND	-----	1.20		1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	1.10	-----	0.86	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	84
1,2,3,6,7,8-HxCDF	-----	0.90	0.71	I	OCDD-13C	4.00	91
2,3,4,6,7,8-HxCDF	0.79	-----	0.76	J			
1,2,3,7,8,9-HxCDF	2.00	-----	0.84	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	3.80	-----	0.79	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.79		2,3,7,8-TCDD-37Cl4	0.20	80
1,2,3,6,7,8-HxCDD	-----	1.40	0.71	I			
1,2,3,7,8,9-HxCDD	-----	0.99	0.97	I			
Total HxCDD	2.00	-----	0.82	J			
1,2,3,4,6,7,8-HpCDF	-----	2.20	0.83	I	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	-----	1.80	1.10	I	Equivalence: 2.0 pg/L		
Total HpCDF	ND	-----	0.98		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	-----	2.20	1.20	I			
Total HpCDD	3.70	-----	1.20	J			
OCDF	-----	3.50	1.60	I			
OCDD	19.00	-----	2.10	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

J = Value below calibration range
I = Interference present

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-20542		
Filename	U90710A_03	Matrix	Water
Total Amount Extracted	954 mL	Dilution	NA
ICAL ID	U90629	Extracted	07/08/2009 19:30
CCal Filename(s)	U90709B_17 & U90710A_16	Analyzed	07/10/2009 18:10
Method Blank ID	BLANK-20541	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.00	61
Total TCDF				2,3,7,8-TCDD-13C	2.00	68
				1,2,3,7,8-PeCDF-13C	2.00	77
2,3,7,8-TCDD	0.20	0.18	91	2,3,4,7,8-PeCDF-13C	2.00	85
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	94
				1,2,3,4,7,8-HxCDF-13C	2.00	73
1,2,3,7,8-PeCDF	1.00	1.03	103	1,2,3,6,7,8-HxCDF-13C	2.00	72
2,3,4,7,8-PeCDF	1.00	1.00	100	2,3,4,6,7,8-HxCDF-13C	2.00	75
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	77
				1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	1.00	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.00	75
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	80
				1,2,3,4,7,8,9-HpCDF-13C	2.00	86
1,2,3,4,7,8-HxCDF	1.00	0.96	96	1,2,3,4,6,7,8-HpCDD-13C	2.00	96
1,2,3,6,7,8-HxCDF	1.00	1.01	101	OCDD-13C	4.00	67
2,3,4,6,7,8-HxCDF	1.00	0.99	99			
1,2,3,7,8,9-HxCDF	1.00	0.97	97	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.98	98	2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	1.00	1.00	100			
1,2,3,7,8,9-HxCDD	1.00	1.02	102			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.03	103			
1,2,3,4,7,8,9-HpCDF	1.00	0.98	98			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	0.92	92			
Total HpCDD						
OCDF	2.00	2.27	113			
OCDD	2.00	2.58	129			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCSD-20543		
Filename	U90710A_04	Matrix	Water
Total Amount Extracted	956 mL	Dilution	NA
ICAL ID	U90629	Extracted	07/08/2009 19:30
CCal Filename(s)	U90709B_17 & U90710A_16	Analyzed	07/10/2009 18:57
Method Blank ID	BLANK-20541	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.21	106	2,3,7,8-TCDF-13C	2.00	65
Total TCDF				2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	78
2,3,7,8-TCDD	0.20	0.19	94	2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	95
				1,2,3,4,7,8-HxCDF-13C	2.00	70
1,2,3,7,8-PeCDF	1.00	1.02	102	1,2,3,6,7,8-HxCDF-13C	2.00	68
2,3,4,7,8-PeCDF	1.00	1.01	101	2,3,4,6,7,8-HxCDF-13C	2.00	73
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	74
				1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	1.00	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	75
				1,2,3,4,7,8,9-HpCDF-13C	2.00	82
1,2,3,4,7,8-HxCDF	1.00	0.97	97	1,2,3,4,6,7,8-HpCDD-13C	2.00	92
1,2,3,6,7,8-HxCDF	1.00	1.04	104	OCDD-13C	4.00	66
2,3,4,6,7,8-HxCDF	1.00	0.98	98			
1,2,3,7,8,9-HxCDF	1.00	0.97	97	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.94	94	2,3,7,8-TCDD-37Cl4	0.20	76
1,2,3,6,7,8-HxCDD	1.00	1.03	103			
1,2,3,7,8,9-HxCDD	1.00	1.02	102			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.01	101			
1,2,3,4,7,8,9-HpCDF	1.00	0.95	95			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	0.90	90			
Total HpCDD						
OCDF	2.00	2.29	115			
OCDD	2.00	2.35	118			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290

Spike Recovery Relative Percent Difference (RPD) Results

Client Pioneer Technologies Corporation

Spike 1 ID LCS-20542 Spike 2 ID LCSD-20543
Spike 1 Filename U90710A_03 Spike 2 Filename U90710A_04

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	104	106	1.9
2,3,7,8-TCDD	91	94	3.2
1,2,3,7,8-PeCDF	103	102	1.0
2,3,4,7,8-PeCDF	100	101	1.0
1,2,3,7,8-PeCDD	89	89	0.0
1,2,3,4,7,8-HxCDF	96	97	1.0
1,2,3,6,7,8-HxCDF	101	104	2.9
2,3,4,6,7,8-HxCDF	99	98	1.0
1,2,3,7,8,9-HxCDF	97	97	0.0
1,2,3,4,7,8-HxCDD	98	94	4.2
1,2,3,6,7,8-HxCDD	100	103	3.0
1,2,3,7,8,9-HxCDD	102	102	0.0
1,2,3,4,6,7,8-HpCDF	103	101	2.0
1,2,3,4,7,8,9-HpCDF	98	95	3.1
1,2,3,4,6,7,8-HpCDD	92	90	2.2
OCDF	113	115	1.8
OCDD	129	118	8.9

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

Data Quality Review
East Bay Redevelopment Site – June 2009 GWM Event

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs are within acceptable ranges.

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks, trip blanks, and field blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. No analytes were detected in the laboratory method blanks, trip blanks, or field blanks, with the following exceptions. Trihalomethanes, which are disinfection byproducts in drinking water supplies, were detected in the 6/30/09 field blank, which is to be expected since the field blank was filled with tap water. Copper was detected in the method blank for total metals analyses at a concentration of 0.7 ug/L. As a result, a BJ-flag was added to all total copper detections. Arsenic, barium, copper, lead, and nickel were detected in the method blank for dissolved metals analyses at concentrations of 3.5 ug/L, 2.2 ug/L, 3.0 ug/L, 0.6 ug/L, and 0.9 ug/L, respectively. As a result, a BJ-flag was added to all dissolved arsenic, dissolved barium, dissolved copper, dissolved lead, and dissolved nickel detections. A J-flag was added to all dissolved cadmium, dissolved chromium, dissolved mercury, dissolved selenium, and dissolved silver detections based on the method blank detections for other analytes and the fact that dissolved metals concentrations in primary samples were often greater than total metals concentrations. Trace levels of select congeners were detected in the dioxins/furans method blank and were B-flagged by the laboratory. As shown in the analytical reports, recoveries for blank spikes, matrix spikes, and surrogates for all analyses were within acceptable ranges. A NJ-flag was added to all of the benzo(a)anthracene and dibenzo(a,h)anthracene detections for the reasons discussed in the report text.

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. Samples were collected, preserved, handled, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), which was designed to obtain representative samples (GeoEngineers and PIONEER 2008). In addition, samples were extracted and analyzed within appropriate holding times listed in the QAPP, with the following exceptions. Samples collected on 6/30/09 for polycyclic aromatic hydrocarbon (PAH) analysis were extracted one day after the recommended seven day extraction holding time. The laboratory reports do not indicate when the two samples for polychlorinated biphenyls (PCB) analysis were extracted (although both samples were analyzed well before 40 day analysis holding time). The PAH and possible PCB extraction holding time exceedances are not deemed significant enough to warrant qualification.

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with project-specific PQL expectations (Ecology 2009b). The actual PQLs were equal to or less than the expected PQLs.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 1,960 sample analyses were performed. All of the analyte results are useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

APPENDIX L

ANALYTICAL REPORTS AND DATA QUALITY REVIEW FOR SEPTEMBER 2009 GROUNDWATER MONITORING EVENT

DRAGON

Analytical Laboratory

CWA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net
Website: dragonlaboratory.com

Samples Collected By: KAREN ROBERTS
Contact Number: 570-1700

Client: PTC
Address: 2612 YELM HWY SE, SUITE B, OLYMPIA, WA 98501
Phone: 570-1700
Fax:
Email: busseyt@cvisionez.com
Project Name: EAST BAY SEPT 2009 GW
Project Location: PORT OF OLYMPIA
Project Number:
Project P.O.:
Contact Person: TROY BUSSEY
DAL Project No.: 090918 - 08

PLEASE SEE PREVIOUS TROY BUSSEY CORRESPONDENCE FOR REPORTING LIMIT EXPECTATIONS

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	Alkalinity	BOD or cBOD	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Total Coliform	Hardness, Total	Metals[1] (TOTAL METALS - RCRA 8 + Cu + Ni 6020/7470)	~~Nitrogen, Ammonia~~ DISSOLVED ARSENIC - PLEASE FILTER IN LAB	Nitrogen, Nitrate	Nitrogen, Nitrite	Nitrogen, Nitrate-Nitrite	Nitrogen, Total Kjeldahl	Oil and Grease	~~pH~~ TPH-G by NWTPH-G	Phosphorus, Ortho	Phosphorus, Total	Specific Conductance	~~Solids, Total~~ TPH-D, TPH-HO by NWTPH-Dx	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	~~Turbidity~~ PAHs 8270	PCBs 8082	Pesticides	Semi-Volatile Compounds	Volatile Organic Compounds 8260			
MW15-091809	GW	9/18	1000	9 VOAs 2 plastic 2 ambers								X	X						X				X				X	X			X			
MW04-091809	↓	↓	1130	↓								↓	↓						↓				↓				↓	↓			↓			
MW16-091809	↓	↓	1245	↓								↓	↓						↓				↓				↓	↓			↓			
MW23S-091809	↓	↓	1330	↓								↓	↓						↓				↓				↓	↓			↓			
MW24S-091809	↓	↓	1430	↓								↓	↓						↓				↓				↓	↓			↓			
MW11-091809	↓	↓	1530	↓								↓	↓						↓				↓				↓	↓			↓			
TRIP BLANK	NA →	→	→	→															X												X			

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
[signature]	9/18/09 1800	[signature]	9/18/09 1910

Relinquished by (Signature) Date/Time Received by (Signature) Date/Time

Turn-Around-Time
- ☐ Same Day
- ☐ 24 Hour
- ☐ 48 Hour
- ☐ 5 Day
- ☒ 10 Day (Approx.)
- ☐ Other: ______

[1]**Metals**: Please circle the desired analytes. (Total) or Dissolved

(Ag) Al (As) (Ba) Be Ca (Cd) (Cr) Cr-VI (Cu) Fe (Hg) K Mg Mn Mo Na (Ni) (Pb) Sb (Se) Sn Tl Zn

Comments: • TOTAL METALS FOR RCRA 8 + Cu + Ni
• DISSOLVED ARSENIC ONLY - PLEASE FILTER IN LAB

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept 2009 GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	10/2/2009	nd	nd	95.9	
MW15-091809	10/2/2009	nd	nd	106	
MW04-091809	10/2/2009	nd	nd	155	
MW16-091809	10/2/2009	nd	nd	133	
MW23S-091809	10/2/2009	nd	nd	108	
MW24S-091809	10/2/2009	nd	nd	82.4	
MW11-091809	10/2/2009	nd	nd	127	
LCS	10/2/2009	112%	n/a	n/a	
091001-MS	10/2/2009	96.0%	n/a	n/a	
091001-MSD	10/2/2009	104%	n/a	n/a	
MW24S-091809 Dup	10/2/2009	nd	nd	84.1	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept 2009 GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Gasoline NWTPH-Gx (ug/L)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	10/5/2009	nd	105	
MW15-091809	10/5/2009	nd	118	
MW04-091809	10/5/2009	nd	118	
MW16-091809	10/5/2009	nd	94.7	
MW23S-091809	10/5/2009	nd	111	
MW24S-091809	10/5/2009	nd	71.8	
MW11-091809	10/5/2009	nd	120	
LCS	10/3/2009	94.6%	n/a	
091001-MS	10/3/2009	111%	n/a	
Method Reporting Limits		50		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF TOTAL RECOVERABLE HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	10/3/2009	nd	nd	nd	nd	0.70	nd	nd	nd	nd	nd
MW15-091809	10/3/2009	**0.52**	**55.3**	nd	nd	**1.45**	nd	nd	nd	nd	nd
MW04-091809	10/3/2009	**7.96**	**59.3**	nd	**2.35**	**1.34**	**0.61**	nd	**1.53**	nd	nd
MW16-091809	10/3/2009	**0.91**	**51.0**	nd	**2.10**	**2.58**	**2.85**	nd	**1.44**	nd	nd
MW23S-091809	10/3/2009	**0.56**	**81.8**	nd	**0.52**	**0.95**	**1.77**	nd	**0.51**	nd	nd
MW24S-091809	10/3/2009	**5.29**	**30.0**	nd	nd	1.30	nd	nd	nd	nd	nd
MW11-091809	10/3/2009	**1.11**	**10.7**	nd	nd	nd	**1.43**	nd	nd	nd	nd
LCS	10/3/2009	99.7%	110%	106%	91.9%	102%	109%	110%	91%	102%	122%
090924-MS	10/3/2009	99.1%	96.8%	99.2%	88.4%	96.5%	97.2%	85.0%	90.6%	113%	102%
090924-MSD	10/3/2009	102%	105%	105%	93.2%	101%	101%	96.5%	95.4%	99.5%	106%
MW24S-091809 Dup.	10/3/2009	5.34	28.0	nd	nd	nd	nd	nd	nd	nd	nd
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by:

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept 2009 GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF DISSOLVED HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)
Chemical Abstract Number (CAS)		7440-38-2
Analytical Method		EPA 200.8
Units		(ug/L)
Method Blank	10/3/2009	**2.45**
MW15-091809	10/3/2009	**3.51**
MW04-091809	10/3/2009	**9.90**
MW16-091809	10/3/2009	**4.73**
MW23S-091809	10/3/2009	**3.92**
MW24S-091809	10/3/2009	**8.57**
MW11-091809	10/3/2009	**5.17**
LCS	10/3/2009	117%
091003-MS	10/3/2009	102%
091003-MSD	10/3/2009	97.9%
MW24S-091809 Dup.	10/3/2009	9.68
Method Reporting Limit (MRL)		0.5
Data Flags		J

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: "J" flag indicates an estimated value because of analyte present in the blank.

Analyst: Z. Froyland
Data reviewed by:

DRAGON ANALYTICAL LABORATORY

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Pioneer Technologies Corporation
Project: East Bay Sept 2009 GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN NON-POTABLE WATER BY EPA METHOD 8270

Sample Identification			Blank	MW15-091809	MW04-091809	MW16-091809	MW23S-091809	MW24S-091809	MW11-091809	LCS	090926-MS	090926-MSD	MW04-091809 Dup.
Date Extracted	CAS	MRL	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009
Date Anlayzed	Number	(ug/L)	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009
Benzo(a)anthracene	56-55-3	0.01	nd	nd	nd	nd	nd	nd	nd	98.1%	93.2%	94.7%	nd
Benzo(a)pyrene	50-32-8	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Chrysene	218-01-9	0.01	nd	nd	nd	nd	nd	nd	nd	94.2%	89.6%	90.6%	nd
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	nd	nd	nd	nd	nd	73.9%	59.5%	73.7%	nd
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
2-Methylnaphthalene	91-57-6	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Naphthalene	91-20-3	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Surrogate Recovery (%)													
2-Fluorophenol			81.4	36.5	26.9	69.2	65.3	50	62.2	45.5	28.4	28.3	27
Phenol-d6			97.8	50.0	41	83	78.9	63	78	56.5	25.2	25.4	41
Nitrobenzene-d5			107	77.7	92.7	92.7	99.1	88	74.3	95.5	81.3	80.5	92
2-Fluorobiphenol			110	89.6	101	98.8	109	102	93.2	97.4	87.4	87.4	101.0
2,4,6-Tribromophenol			62.1	54.0	47.7	58.3	53.9	49.0	55.3	53.3	60.7	60.6	46.5
Terphenyl-d14			101	86.7	108	101	110	111	102	85.6	75.9	75.6	86.8
Data Flags													

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

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Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept 2009 GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN NON-POTABLE WATER BY EPA METHOD 8082

Sample Identification	Date Analyzed	Aroclor 1016 (ug/L)	Aroclor 1221 (ug/L)	Aroclor 1232 (ug/L)	Aroclor 1242 (ug/L)	Aroclor 1248 (ug/L)	Aroclor 1254 (ug/L)	Aroclor 1260 (ug/L)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)	Data Flags
Method Blank	9/21/2009	nd	nd	nd	nd	nd	nd	nd	104	75.5	
MW15-091809	9/21/2009	nd	nd	nd	nd	nd	nd	nd	102	73.5	
MW04-091809	9/21/2009	nd	nd	nd	nd	nd	nd	nd	104	74.2	
MW16-091809	9/21/2009	nd	nd	nd	nd	nd	nd	nd	103	135	
MW23S-091809	9/21/2009	nd	nd	nd	nd	nd	nd	nd	121	88.3	
MW24S-091809	9/21/2009	nd	nd	nd	nd	nd	nd	nd	101	84.2	
MW11-091809	9/21/2009	nd	nd	nd	nd	nd	nd	nd	99.3	71.4	
LCS	9/21/2009	122%	n/a	n/a	n/a	n/a	n/a	97.6%	110	83.6	
090917-MS	9/21/2009	99.1%	n/a	n/a	n/a	n/a	n/a	81.4%	108	80.1	
090917-MSD	9/21/2009	99.0%	n/a	n/a	n/a	n/a	n/a	103%	134	133.4	
Method Reporting Limits		0.01	0.01	0.01	0.01	0.01	0.01	0.01			

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

All results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R. Lewis

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Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW15-091809	MW04-091809	MW16-091809	MW23s-091809	MW24s-091809	MW11-091809	TRIP BLANK	091001-MS	LCS
Date Anlayzed	CAS No.	(ug/L)	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009
Acetonitrile	705-05-8	2.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Acrylonitrile	107-13-1	2.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Allyl chloride	107-05-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Benzene	71-43-2	0.5	nd	nd	nd	nd	nd	nd	**1.1**	nd	100%	100%
Bromobenzene	108-86-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromochloromethane	74-97-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromodichloromethane	75-27-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromoform	75-25-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromomethane	74-83-9	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
n-Butylbenzene	104-51-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
sec-Butylbenzene	135-98-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
tert-Butylbenzene	98-06-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Carbon disulfide	75-15-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Carbon tetrachloride	56-23-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chlorobenzene	108-90-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	93.4%	93.0%
2-Chloro-1,3-butadiene	126-99-3	3.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
2-Chloroethyl vinyl ether	110-75-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloroform	67-66-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloromethane	74-87-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
2-Chlorotoluene	95-49-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
4-Chlorotoluene	106-43-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dibromo-3-chloropropane	96-12-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Dibromochloromethane	124-48-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dibromoethane	106-93-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Dibromomethane	74-95-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dichlorobenzene	95-50-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,3-Dichlorobenzene	541-73-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,4-Dichlorobenzene	106-46-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
trans-1,4-Dichloro-2-butene	764-41-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Dichlorodifluoromethane	75-71-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1-Dichloroethane	75-34-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	93.5%	93.5%
1,2-Dichloroethane	107-06-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1-Dichloroethene	75-35-4	0.5	nd	nd	nd	nd	**0.68**	**0.84**	nd	nd	n/a	n/a
cis-1,2-Dichloroethene	156-59-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
trans-1,2-Dichloroethene	156-60-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,3-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1-Dichloropropene	563-58-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
cis-1,3-Dichloropropene	10061-01-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
trans-1,3-Dichloropropene	10061-02-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Ethyl benzene	100-41-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a

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Pioneer Technologies Corporation
Project: East Bay RI-July GWM

DAL Number: 090918-08

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW15-091809	MW04-091809	MW16-091809	MW23s-091809	MW24s-091809	MW11-091809	TRIP BLANK	091001-MS	LCS
Date Anlayzed	CAS No.	(ug/L)	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009	10/1/2009
Ethyl ether	60-29-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Hexachlorobutadiene	87-68-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Iodomethane	74-88-4	1.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Isopropylbenzene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
p-Isopropyltoluene	98-82-8	0.5	nd	nd	nd	nd	**0.62**	nd	nd	nd	n/a	n/a
Methacrynitrile	126-98-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Methyl acrylate	96-33-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Methyl methacrylate	80-62-6	0.5	nd	nd	**0.64**	**0.63**	**0.67**	**0.78**	nd	nd	n/a	n/a
Methylene chloride	75-09-2	2.5	1.8 LC	nd	2.6 LC	5.4 LC	2.8 LC	nd	7.9 LC	6.4 LC	n/a	n/a
Naphthalene	91-20-3	0.5	nd	**0.86**	nd	nd	nd	nd	nd	nd	n/a	n/a
Nitrobenzene	98-95-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Pentachlorobenzene	608-93-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Propionitrile	107-12-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
n-Propylbenzene	103-65-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Styrene	100-42-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,1,2-Tetrachloroethane	630-20-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,2,2-Tetrachloroethane	79-34-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Tetrachloroethene	127-18-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Tetrahydrofuran	109-99-9	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Toluene	108-88-3	0.5	nd	nd	nd	nd	**0.59**	nd	nd	nd	108%	108%
1,2,3-Trichlorobenzene	87-61-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2,4-Trichlorobenzene	120-82-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,1-Trichloroethane	71-55-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,2-Trichloroethane	79-00-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Trichloroethene	79-01-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	113%	112%
Trichlorofluoromethane	75-69-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2,3-Trichloropropane	96-18-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2,4-Trimethylbezene	95-63-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,3,5-Trimethylbezene	108-67-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
m&p-Xylene	n/a	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
o-Xylene	95-47-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Vinyl chloride	75-01-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Surrogate Recovery (%)												
Dibromofluoromethane			102	102	105	100	93.2	95.8	98.8	103	100	98.4
Toluene-d8			104	107	108	107	109	107	109	107	103	107
4-Bromofluorobenzene			110.0	104	104	106	105	107	102	110	109	110
Data Flags												

WA-DOE-Laboratory Certification No.: C2013 Acceptable surrogate recovery limits: 65% to 135%

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

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Samples Collected By: Melody Feden
Contact Number: 570-1700

Client: PTC
Phone: 570-1700
Project Name: East Bay Sept 2009 GWM
Project P.O.:
Address: 2612 Yelm Hwy SE Suite B, Olympia, WA 98501
Fax:
Project Location: Port of Olympia
Contact Person: Troy Bussey
Email: busseyt@uspioneer.com
Project Number:
DAL Project No.: 090921-01

Please see previous Troy Bussey correspondence for reporting limit expectations

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	~~VOC's (EPA 8021b)~~ 8260 TB	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	TOTAL Heavy Metals* (EPA 7000 Series) RCRA 8 + Cu + Ni	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	Dissolved Arsenic – please filter in lab
MW12-092109	GW	9/21	0915	9 VOAs, 3 plastic, 3 amber		X		X		X		X	X	X							X					X
MW13-092109	↓	↓	1000	↓		↓		↓				↓	↓	↓							↓					↓
MW22S-092109	↓	↓	1200	↓		↓		↓				↓	↓	↓							↓					↓
MW14-092109	↓	↓	1230	↓		↓		↓				↓	↓	↓							↓					↓
MW25S-092109	↓	↓	1300	↓		↓		↓				↓	↓	↓							↓					↓
MW07-092109	↓	↓	1430	↓		↓		↓				↓	↓	↓							↓					↓
MW08-092109	↓	↓	1515	↓		↓		↓				↓	↓	↓							↓					↓
MW09-092109	↓	↓	1545	↓		↓		↓				↓	↓	↓							↓					↓
Trip Blank	W	→	→	1 VOA									X													

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Melody Feden	9/21/09 1630	[signature]	9/21/09 1650

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: ______

***Heavy Metals**: Please circle the desired analytes. RCRA 8 + Copper + Nickel for total metals
(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V Zn - Total
Ag Al (As) Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP
Arsenic only for dissolved metals

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN WATER

Sample Identification	Date Analyzed	Gasoline NWTPH-Gx (ug/L)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	10/6/2009	nd	86.8	
MW12-092109	10/6/2009	nd	111	
MW13-092109	10/6/2009	nd	110	
MW22S-092109	10/6/2009	nd	110	
MW14-092109	10/6/2009	nd	109	
MW25S-092109	10/6/2009	nd	107	
MW07-092109	10/6/2009	nd	106	
MW08-092109	10/6/2009	nd	95.6	
MW09-092109	10/6/2009	nd	108	
LCS	10/3/2009	94.6%	n/a	
091003-MS	10/3/2009	111%	n/a	
Method Reporting Limits		50		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

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DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	10/3/2009	nd	nd	96.0	
MW12-092109	10/3/2009	nd	nd	121	
MW13-092109	10/3/2009	nd	nd	102	
MW22S-092109	10/3/2009	nd	nd	105	
MW14-092109	10/3/2009	nd	nd	56.3	
MW25S-092109	10/3/2009	nd	nd	126	
MW07-092109	10/3/2009	nd	nd	89.2	
MW08-092109	10/3/2009	nd	nd	130	
MW09-092109	10/3/2009	nd	nd	94.1	
LCS	10/2/2009	112%	n/a	n/a	
091002-MS	10/2/2009	96.0%	n/a	n/a	
091002-MSD	10/2/2009	104%	n/a	n/a	
MW09-092109 Dup.	10/3/2009	nd	nd	76.1	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

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Project: East Bay Sept. 2009 GWM

DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF TOTAL RECOVERABLE HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	10/7/2009	nd	nd	nd	nd	0.73	nd	nd	0.57	nd	nd
MW12-092109	10/7/2009	**1.52**	**418**	nd	**23.4**	**4.16 J**	nd	nd	**38.1**	nd	nd
MW13-092109	10/7/2009	**7.51**	**47.6**	nd	**9.64**	**24.4**	**7.71**	nd	**14.5**	nd	nd
MW22S-092109	10/7/2009	**3.01**	**35.0**	nd	**2.14**	**5.68 J**	**1.99**	nd	**2.44 J**	nd	nd
MW14-092109	10/7/2009	**2.38**	**50.9**	nd	**44.1**	**21.0**	**6.53**	nd	**3.72 J**	nd	nd
MW25S-092109	10/7/2009	**2.27**	**33.0**	nd	nd	**1.27 J**	**1.99**	nd	**0.55 J**	nd	nd
MW07-092109	10/7/2009	**6.17**	**22.0**	nd	nd	**0.75 J**	nd	nd	**0.50 J**	nd	nd
MW08-092109	10/7/2009	**1.25**	**43.2**	nd	**1.33**	**0.70 J**	**0.87**	nd	**0.67 J**	nd	nd
MW09-092109	10/7/2009	**0.89**	**66.7**	nd	**1.71**	**2.10 J**	**1.10**	nd	**1.36 J**	nd	nd
LCS	10/7/2009	108%	108%	105%	108%	110%	104%	105%	108%	106%	105%
091007-MS	10/7/2009	106%	101%	101%	93.8%	96.6%	101%	58.5%	99.5%	88.2%	97.5%
091007-MSD	10/7/2009	107%	95.9%	96.9%	99.0%	99.3%	96.5%	56.0%	101%	95.4%	91.8%
MW14-092109 Dup.	10/7/2009	2.29	50.3	nd	42.1	20.1	6.48	nd	3.61	nd	nd
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: A "J" flag indicates an estimated value because analyte was detected in Method Blank.

Analyst: Z. Froyland

Data reviewed by:

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Project: East Bay Sept. 2009 GWM

DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF DISSOLVED HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)
Chemical Abstract Number (CAS)		7440-38-2
Analytical Method		EPA 200.8
Units		(ug/L)
Method Blank	10/7/2009	2.80
MW12-092109	10/7/2009	**5.14 J**
MW13-092109	10/7/2009	**6.91 J**
MW22S-092109	10/7/2009	**3.19 J**
MW14-092109	10/7/2009	**4.85 J**
MW25S-092109	10/7/2009	**4.16 J**
MW07-092109	10/7/2009	**10.4 J**
MW08-092109	10/7/2009	**6.13 J**
MW09-092109	10/7/2009	**2.36 J**
LCS	10/3/2009	117%
091003-MS	10/3/2009	102%
091003-MSD	10/3/2009	100%
Method Reporting Limit (MRL)		0.5
Data Flags		

WA-DOE-Laboratory Certification No.: C2013

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"n/a" indicates not applicable

Comments and Explanations: A "J" flag indicates an estimated value because analyte was detected in Method Blank.

Analyst: Z. Froyland

Data reviewed by:

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DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN WATER BY EPA METHOD 8270

Sample Identification			Blank	MW12-092109	MW13-092109	MW22S-092109	MW14-092109	MW25S-092109	MW07-092109	MW08-092109	MW09-092109	LCS	090926-MS	090926-MSD	MW07-092109 Dup.
Date Extracted	CAS	MRL	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009
Date Anlayzed	Number	(ug/L)	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009
Benzo(a)anthracene	56-55-3	0.01	nd	**1.00**	**1.00**	nd	nd	**0.50**	nd	nd	nd	98.1%	93.2%	94.7%	nd
Benzo(a)pyrene	50-32-8	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Chrysene	218-01-9	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	94.2%	89.6%	90.6%	nd
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	nd	nd	nd	nd	**0.50**	nd	n/a	n/a	n/a	nd
2-Methylnaphthalene	91-57-6	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a	nd
Naphthalene	91-20-3	0.01	nd	nd	nd	nd	nd	nd	nd	**0.50**	nd	99.7%	98.5%	98.6%	nd
Surrogate Recovery (%)															
2-Fluorophenol			81.4	82.7	80.9	66.1	75.4	52.9	84.3	23.8	68.8	45.5	28.4	28.3	86.8
Phenol-d6			97.8	89.6	98.3	86.5	93.5	65.2	105	25.9	83.4	56.5	25.2	25.4	107
Nitrobenzene-d5			107	82.3	87.4	74.2	76.2	82.6	97.6	80.6	85.4	95.5	81.3	80.5	97.7
2-Fluorobiphenol			110	97.4	96.5	91.1	86.3	96.3	99.9	94.6	101	97.4	87.4	87.4	101
2,4,6-Tribromophenol			62.1	51.5	49.3	46.8	49.5	52.5	49.7	49.5	49.0	53.3	60.7	60.6	49.0
Terphenyl-d14			101	98.6	102	97.1	79.2	100	96.2	95.8	102	85.6	75.9	75.6	100
Data Flags															

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

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DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN NON-POTABLE WATER BY EPA METHOD 8082

Sample Identification	Date Analyzed	Aroclor 1016 EPA 8082 (ug/L)	Aroclor 1221 EPA 8082 (ug/L)	Aroclor 1232 EPA 8082 (ug/L)	Aroclor 1242 EPA 8082 (ug/L)	Aroclor 1248 EPA 8082 (ug/L)	Aroclor 1254 EPA 8082 (ug/L)	Aroclor 1260 EPA 8082 (ug/L)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)	Data Flags
Method Blank	10/7/2009	nd	nd	nd	nd	nd	nd	nd	95.2	88.7	
MW12-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	109	112	
MW13-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	85.9	121	
MW22S-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	108	112	
MW14-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	115	121	
MW25S-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	103	115	
MW07-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	105	92.8	
MW08-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	99.1	122	
MW09-092109	10/7/2009	nd	nd	nd	nd	nd	nd	nd	95.7	131	
LCS	10/7/2009	99.2%	n/a	n/a	n/a	n/a	n/a	127%	123	128	
091007-MS	10/7/2009	93.2%	n/a	n/a	n/a	n/a	n/a	97.5%	105	113	
091007-MSD	10/7/2009	110%	n/a	n/a	n/a	n/a	n/a	107%	100	99.6	
MW07-092109 Dup.	10/7/2009	nd	nd	nd	nd	nd	nd	nd	105	92.8	
Method Reporting Limits		0.01	0.01	0.01	0.01	0.01	0.01	0.01			

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: T. McCall

Data reviewed by:

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DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification		MRL	Blank	MW12-092109	MW13-092109	MW22S-092109	MW14-092109	MW25S-092109	MW07-092109	MW08-092109	MW09-092109	Trip Blank	LCS	091001-MS	MW12-092109 Dup.
Date Anlayzed	CAS No.	(ug/L)	10/2/2009	10/1/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/1/2009	10/1/2009	10/2/2009
Acetonitrile	705-05-8	2.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Acrylonitrile	107-13-1	2.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Allyl chloride	107-05-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Benzene	71-43-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	100%	100%	nd
Bromobenzene	108-86-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Bromochloromethane	74-97-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Bromodichloromethane	75-27-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Bromoform	75-25-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Bromomethane	74-83-9	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
n -Butylbenzene	104-51-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
sec- Butylbenzene	135-98-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
tert- Butylbenzene	98-06-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Carbon disulfide	75-15-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Carbon tetrachloride	56-23-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Chlorobenzene	108-90-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	93.4%	93.4%	nd
2-Chloro-1,3-butadiene	126-99-3	3.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
2-Chloroethyl vinyl ether	110-75-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Chloroform	67-66-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Chloromethane	74-87-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
2-Chlorotoluene	95-49-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
4-Chlorotoluene	106-43-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2-Dibromo-3-chloropropane	96-12-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Dibromochloromethane	124-48-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2-Dibromoethane	106-93-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Dibromomethane	74-95-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2-Dichlorobenzene	95-50-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,3-Dichlorobenzene	541-73-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,4-Dichlorobenzene	106-46-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
cis -1,4-Dichloro-2-butene	1476-11-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
trans -1,4-Dichloro-2-butene	764-41-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Dichlorodifluoromethane	75-71-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,1-Dichloroethane	75-34-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	122%	93.5%	nd
1,2-Dichloroethane	107-06-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,1-Dichloroethene	75-35-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
cis -1,2-Dichloroethene	156-59-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
trans -1,2-Dichloroethene	156-60-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,3-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,1-Dichloropropene	563-58-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
cis -1,3-Dichloropropene	10061-01-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
trans -1,3-Dichloropropene	10061-02-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Ethyl benzene	100-41-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Ethyl ether	60-29-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Hexachlorobutadiene	87-68-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Iodomethane	74-88-4	1.0	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Isopropylbenzene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
p -Isopropyltoluene	98-82-8	0.5	nd	nd	nd	nd	nd	**0.66**	nd	nd	nd	nd	n/a	n/a	nd
Methacrynitrile	126-98-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Methyl acrylate	96-33-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Methyl methacrylate	80-62-6	0.5	nd	**0.70**	nd	nd	**0.66**	**0.69**	nd	nd	nd	nd	n/a	n/a	**0.69**
Methylene chloride	75-09-2	2.5	nd	**2.28 LC**	nd	nd	**2.72 LC**	**3.58 LC**	**3.14 LC**	**3.56 LC**	nd	**6.38 LC**	n/a	n/a	nd
Naphthalene	91-20-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Nitrobenzene	98-95-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Pentachlorobenzene	608-93-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Propionitrile	107-12-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
n -Propylbenzene	103-65-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Styrene	100-42-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,1,1,2-Tetrachloroethane	630-20-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,1,2,2-Tetrachloroethane	79-34-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Tetrachloroethene	127-18-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Tetrahydrofuran	109-99-9	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Toluene	108-88-3	0.5	nd	nd	**0.70**	**11.7**	nd	nd	nd	nd	nd	nd	108%	108%	nd
1,2,3-Trichlorobenzene	87-61-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2,4-Trichlorobenzene	120-82-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,1,1-Trichloroethane	71-55-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd

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Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090921-01

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification		MRL	Blank	MW12-092109	MW13-092109	MW22S-092109	MW14-092109	MW25S-092109	MW07-092109	MW08-092109	MW09-092109	Trip Blank	LCS	091001-MS	MW12-092109 Dup.
Date Anlayzed	CAS No.	(ug/L)	10/2/2009	10/1/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/1/2009	10/1/2009	10/2/2009
1,1,2-Trichloroethane	79-00-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Trichloroethene	79-01-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	113%	113%	nd
Trichlorofluoromethane	75-69-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2,3-Trichloropropane	96-18-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,2,4-Trimethylbezene	95-63-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
1,3,5-Trimethylbezene	108-67-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
m&p -Xylene	n/a	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
o -Xylene	95-47-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	nd
Vinyl chloride	75-01-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	nd	**5.16**	n/a	n/a	nd
Surrogate Recovery (%)															
Dibromofluoromethane			102	103	106	103	107	103	105	106	93.0	103	98.4	100	99.8
Toluene-d8			104	108	110	108	107	108	106	109	109	107	107	103	108
4-Bromofluorobenzene			110	108	106	104	110	101	103	106	111	110	110	109	109
Data Flags															

WA-DOE-Laboratory Certification No.: C2013 Acceptable surrogate recovery limits: 65% to 135%
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall
Data reviewed by: R. Lewis

DRAGON
Analytical Laboratory

CWA CHAIN OF CUSTODY RECORD

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Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net
Website: dragonlaboratory.com

Page 1 of 1

Samples Collected By: Kara Roberts
Contact Number: 570-1700

Client: PTC Phone: (360)570-1700 Project Name: East Bay Sept 2009 GWM Project P.O.:
Address: 2612 Yelm Hwy SE, Suite B Fax: Project Location: Port of Olympia Contact Person: Troy Bussey
Olympia, WA 98501 Email: busseyt@uspioneer. Project Number: DAL Project No.: D10927-05

please see previous Troy Bussey correspondence for RL expectations

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	Alkalinity	BOD or cBOD	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Total Coliform	Hardness, Total	Metals[1,2] Total metals RCRA 8 + Cu + Ni (200.7/6020)	Nitrogen, Ammonia, dissolved arsenic please filter in lab	Nitrogen, Nitrate	Nitrogen, Nitrite	Nitrogen, Nitrate-Nitrite	Nitrogen, Total Kjeldahl	Oil and Grease	TPH-D + TPH-G by NWTPH-Gx	Phosphorus, Ortho	Phosphorus, Total	Specific Conductance	Solids, Total TPH-D, TPH-HCID by NWTPH-Dx	Solids, Total Dissolved	Solids, Total Suspended	Solids, Total Volatile	Turbidity PAHs 8270	PCBs 8082	Pesticides	Semi-Volatile Compounds	Volatile Organic Compounds 8260
MW20-092209	SL	9/22	0900	9 VOA 3 plastic 3 amber								X	X						X				X				X	X			X
MW21S-092209	|	|	0800								|	|						|				|			|	|			|
MW02R-092209	|	|	1000								|	|						|				|			|	|			|
MW01-092209	|	|	1100								|	|						|				|			|	|			|
MW03-092209	|	|	1200								|	|						|				|			|	|			|
MW18-092209	|	|	1400	9 VOA 3 plast. 3								X	X						X				X				X	X			Y
																											↓	↓			↓
																											Limited	Sample			Volume
MW18_092309	S	9/23	900	2 amber																							X	X			

Relinquished by (Signature) Date/Time Received by (Signature) Date/Time
Troy Bussey 9/22/09 5:00 Joe Thorland 9/22/09 17:20
Relinquished by (Signature) Date/Time Received by (Signature) Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☐ 10 Day (Approx.)
☐ Other:

[1] **Metals:** Please circle the desired analytes. [2] **Total or Dissolved**
(Ag) Al (As) (Ba) Be Ca (Cd) (Cr) Cr-VI (Cu) Fe (Hg) K Mg Mn Mo Na (Ni) (Pb) Sb (Se) Sn Tl Zn

0°C

Comments: Total metals for RCRA 8 + Cu + Ni Cooler 3°C
Dissolved arsenic Please filter in lab

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Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	10/3/2009	nd	nd	96.0	
MW20-092209	10/3/2009	nd	nd	100	
MW21S-092209	10/3/2009	nd	nd	91.3	
MW02R-092209	10/3/2009	nd	**R**	42.7	
MW01-092209	10/3/2009	nd	nd	92.1	
MW03-092209	10/3/2009	nd	nd	83	
MW18-092209	10/3/2009	nd	nd	109	
LCS	10/2/2009	112%	n/a	n/a	
091002-MS	10/2/2009	96.0%	n/a	n/a	
091002-MSD	10/2/2009	104%	n/a	n/a	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable

Comments and Explanations: An "R" indicates a rejected sample. The sample was rejected because the sample and the sample duplicate had conflicting results. The sample was re-sampled and analyzed. See data report for DAL #091020-05.

Analyst: T. McCall
Data reviewed by:

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Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF GASOLINE RANGE ORGANICS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Gasoline NWTPH-Gx (ug/L)	Surrogate Recovery BFB (%)	Data Flags
Method Blank	10/5/2009	nd	105	
MW20-092209	10/5/2009	nd	111	
MW21S-092209	10/5/2009	nd	112	
MW02R-092209	10/5/2009	nd	108	
MW01-092209	10/5/2009	nd	75.3	
MW03-092209	10/5/2009	nd	110	
MW18-092209	10/6/2009	nd	106	
LCS	10/3/2009	94.6%	n/a	
091003-MS	10/3/2009	111%	n/a	
MW18-092209 Dup.	10/6/2009	nd	80.4	
Method Reporting Limits		50		

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by:

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Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF TOTAL RECOVERABLE HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Silver (Ag)
Chemical Abstract Number (CAS)		7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7440-02-0	7782-49-2	7440-22-4
Analytical Method		EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8	EPA 200.8
Units		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Method Blank	10/6/2009	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MW20-092209	10/6/2009	nd	**76.8**	nd	nd	**0.54**	nd	nd	nd	nd	nd
MW21S-092209	10/6/2009	**4.56**	**98.1**	nd	**0.65**	**0.62**	**nd**	nd	**0.92**	nd	nd
MW02R-092209	10/6/2009	**9.81**	**14.8**	nd	**0.50**	**3.36**	**44.7**	nd	**0.73**	nd	nd
MW01-092209	10/6/2009	**1.12**	**174**	nd	**0.59**	**2.47**	**2.72**	nd	**1.47**	nd	nd
MW03-092209	10/6/2009	**2.68**	**117**	nd	**0.69**	**0.91**	nd	nd	**1.04**	nd	nd
MW18-092209	10/6/2009	**1.31**	**207**	nd	nd	**2.18**	nd	nd	**1.18**	**1.26**	nd
LCS	10/6/2009	104%	101%	101%	105%	106%	101%	103%	107%	102%	114%
091006-MS	10/6/2009	105%	96.0%	97.7%	95.6%	97.4%	104%	113%	88.5%	97%	106%
091006-MSD	10/6/2009	114%	114%	99.6%	102.0%	103%	105%	114.0%	97.8%	96.8%	106%
MW18-092209 Dup.	10/6/2009	1.05	197	nd	nd	2.02	nd	nd	1.20	0.81	nd
Method Reporting Limit (MRL)		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Data Flags											

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None.

Analyst: Z. Froyland

Data reviewed by:

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Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF DISSOLVED HEAVY METALS IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Arsenic (As)
Chemical Abstract Number (CAS)		7440-38-2
Analytical Method		EPA 200.8
Units		(ug/L)
Method Blank	10/6/2009	1.66
MW20-092209	10/6/2009	**5.20 J**
MW21S-092209	10/6/2009	**5.87 J**
MW02R-092209	10/6/2009	**12.9 J**
MW01-092209	10/6/2009	**4.73 J**
MW03-092209	10/6/2009	**9.67 J**
MW18-092209	10/6/2009	**3.57 J**
LCS	10/3/2009	117%
091003-MS	10/3/2009	102%
091003-MSD	10/3/2009	100%
Method Reporting Limit (MRL)		0.5

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Comments and Explanations: A "J" flag indicates estimated value due to analyte in the method blank.

Analyst: Z. Froyland
Data reviewed by:

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DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF SEMI-VOLATILE COMPOUNDS IN NON-POTABLE WATER BY EPA METHOD 8270

Sample Identification			Blank	MW20-092209	MW21S-092209	MW02R-092209	MW01-092209	MW03-092209	MW18-092209	LCS	090928-MS	090928-MSD
Date Extracted	CAS	MRL	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009	9/26/2009
Date Anlayzed	Number	(ug/L)	9/26/2009	9/27/2009	9/27/2009	9/27/2009	9/27/2009	9/27/2009	9/27/2009	9/27/2009	9/27/2009	9/27/2009
Benzo(a)anthracene	56-55-3	0.01	nd	nd	nd	nd	nd	nd	nd	86.5%	93.2%	94.7%
Benzo(a)pyrene	50-32-8	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Benzo(b)fluoranthene	205-99-2	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Benzo(k)fluoranthene	207-08-9	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Chrysene	218-01-9	0.01	nd	nd	nd	nd	nd	nd	nd	80.1%	89.6%	90.6%
Dibenzo(a,h)anthracene	53-70-3	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Ideno(1,2,3-cd)pyrene	193-39-5	0.01	nd	nd	nd	nd	nd	nd	nd	58.5%	59.5%	73.7%
1-Methylnaphthalene	90-12-0	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
2-Methylnaphthalene	91-57-6	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Naphthalene	91-20-3	0.01	nd	nd	nd	nd	nd	nd	nd	n/a	n/a	n/a
Surrogate Recovery (%)												
2-Fluorophenol			81.4	65.7	65.1	81.8	88.3	60.1	104	72.1	28.4	28.3
Phenol-d6			97.8	86.9	87.7	103	90.7	84.8	109	107	25.2	25.4
Nitrobenzene-d5			107	43.3	72.0	107	94.8	72.9	102	50.3	81.3	80.5
2-Fluorobiphenol			110	82.3	100	98.6	91.1	104	92.1	77.8	87.4	87.4
2,4,6-Tribromophenol			62.1	44.7	47.5	47.0	45.5	51.0	46.8	68.0	60.7	60.6
Terphenyl-d14			101	98.3	114	94.8	103	88.4	103	62.2	75.9	75.6
Data Flags												

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
Sample results based on dry weight.
Comments and Explanations: None
Analyst: T. McCall

Data reviewed by:

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Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF PCB's IN NON-POTABLE WATER BY EPA METHOD 8082

Sample Identification	Date Analyzed	Aroclor 1016 (ug/L)	Aroclor 1221 (ug/L)	Aroclor 1232 (ug/L)	Aroclor 1242 (ug/L)	Aroclor 1248 (ug/L)	Aroclor 1254 (ug/L)	Aroclor 1260 (ug/L)	Surrogate Recovery TCMX (%)	Surrogate Recovery DCBP (%)	Data Flags
Method Blank	10/6/2009	nd	nd	nd	nd	nd	nd	nd	105	89.5	
MW20-092209	10/6/2009	nd	nd	nd	nd	nd	nd	nd	89.2	85.3	
MW21S-092209	10/6/2009	nd	nd	nd	nd	nd	nd	nd	129	133	
MW02R-092209	10/6/2009	nd	nd	nd	nd	nd	nd	nd	132	134	
MW01-092209	10/6/2009	nd	nd	nd	nd	nd	nd	nd	123	129	
MW03-092209	10/6/2009	nd	nd	nd	nd	nd	nd	nd	100	97.2	
MW18-092209	10/6/2009	nd	nd	nd	nd	nd	nd	nd	95.6	93.9	
LCS	10/6/2009	112%	n/a	n/a	n/a	n/a	n/a	97.3%	94.2	86.2	
091006-MS	10/6/2009	103%	n/a	n/a	n/a	n/a	n/a	102%	77.7	105	
091006-MSD	10/6/2009	101%	n/a	n/a	n/a	n/a	n/a	117%	106	133	
Method Reporting Limits		0.01	0.01	0.01	0.01	0.01	0.01	0.01			

WA-DOE-Laboratory Certification No.: C2013
"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.
"n/a" indicates not applicable
All results based on dry weight.

Comments and Explanations: None

Analyst: T. McCall
Data reviewed by: R. Lewis

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Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW20-092209	MW21S-092209	MW02R-092209	MW01-092209	MW03-092209	MW18-092209	MW18-092209 Dup.	091001-MS	LCS
Date Anlayzed	CAS No.	(ug/L)	10/1/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/1/2009	10/1/2009
Acetonitrile	705-05-8	2.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Acrylonitrile	107-13-1	2.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Allyl chloride	107-05-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Benzene	71-43-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	100%	100%
Bromobenzene	108-86-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromochloromethane	74-97-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromodichloromethane	75-27-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromoform	75-25-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Bromomethane	74-83-9	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
n-Butylbenzene	104-51-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
sec-Butylbenzene	135-98-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
tert-Butylbenzene	98-06-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Carbon disulfide	75-15-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Carbon tetrachloride	56-23-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chlorobenzene	108-90-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	93.4%	93%
2-Chloro-1,3-butadiene	126-99-3	3.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
2-Chloroethyl vinyl ether	110-75-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloroethane	75-00-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloroform	67-66-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Chloromethane	74-87-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
2-Chlorotoluene	95-49-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
4-Chlorotoluene	106-43-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dibromo-3-chloropropane	96-12-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Dibromochloromethane	124-48-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dibromoethane	106-93-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Dibromomethane	74-95-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dichlorobenzene	95-50-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,3-Dichlorobenzene	541-73-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,4-Dichlorobenzene	106-46-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
trans-1,4-Dichloro-2-butene	764-41-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Dichlorodifluoromethane	75-71-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1-Dichloroethane	75-34-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	158/%	158%
1,2-Dichloroethane	107-06-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1-Dichloroethene	75-35-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
cis-1,2-Dichloroethene	156-59-2	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
trans-1,2-Dichloroethene	156-60-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,3-Dichloropropane	78-87-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1-Dichloropropene	563-58-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
cis-1,3-Dichloropropene	10061-01-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
trans-1,3-Dichloropropene	10061-02-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Ethyl benzene	100-41-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay Sept. 2009 GWM

DAL Number: 090922-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF VOLATILE ORGANIC COMPOUNDS IN WATER BY EPA METHOD 8260

Sample Identification			Blank	MW20-092209	MW21S-092209	MW02R-092209	MW01-092209	MW03-092209	MW18-092209	MW18-092209 Dup.	090713-MS	LCS
Date Anlayzed	CAS No.	(ug/L)	10/1/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/2/2009	10/1/2009	10/1/2009
Ethyl ether	60-29-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Hexachlorobutadiene	87-68-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Iodomethane	74-88-4	1.0	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Isopropylbenzene	98-82-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
p -Isopropyltoluene	98-82-8	0.5	nd	nd	nd	**0.62**	nd	nd	nd	nd	n/a	n/a
Methacrynitrile	126-98-7	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Methyl acrylate	96-33-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Methyl methacrylate	80-62-6	0.5	nd	nd	nd	nd	nd	**0.55**	nd	nd	n/a	n/a
Methylene chloride	75-09-2	2.5	**1.18 LC**	**2.55 LC**	**3.73 LC**	**5.16 LC**	**4.36 LC**	**4.50 LC**	**7.04 LC**	**6.38 LC**	n/a	n/a
Naphthalene	91-20-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Nitrobenzene	98-95-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Pentachlorobenzene	608-93-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Propionitrile	107-12-0	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
n -Propylbenzene	103-65-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Styrene	100-42-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,1,2-Tetrachloroethane	630-20-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,2,2-Tetrachloroethane	79-34-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Tetrachloroethene	127-18-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Tetrahydrofuran	109-99-9	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Toluene	108-88-3	0.5	nd	nd	nd	nd	nd	nd	nd	nd	108%	108%
1,2,3-Trichlorobenzene	87-61-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2,4-Trichlorobenzene	120-82-1	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,1-Trichloroethane	71-55-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,1,2-Trichloroethane	79-00-5	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Trichloroethene	79-01-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	113%	113%
Trichlorofluoromethane	75-69-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,2,3-Trichloropropane	96-18-4	0.5	nd	nd	nd	nd	nd	nd	**12.9**	nd	n/a	n/a
1,2,4-Trimethylbezene	95-63-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
1,3,5-Trimethylbezene	108-67-8	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
m&p -Xylene	n/a	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
o -Xylene	95-47-6	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Vinyl chloride	75-01-4	0.5	nd	nd	nd	nd	nd	nd	nd	nd	n/a	n/a
Surrogate Recovery (%)												
Dibromofluoromethane			102	102	102	100	100	99	104	108	100	98.4
Toluene-d8			104	110	109	109	108	108	107	110	103	107
4-Bromofluorobenzene			110	109	96.8	112	109	109	112	105	109	110
Data Flags												

WA-DOE-Laboratory Certification No.: C2013 Acceptable surrogate recovery limits: 65% to 135%

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

Comments and Explanations: "LC" indicate Laboratory Contaminant.

Analyst: T. McCall

Data reviewed by: R. Lewis

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

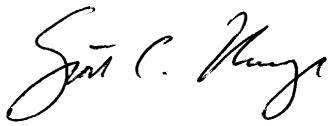
Pace Project #: 10112884
Sample Receipt Date: 09/19/2009
Client Project #: EastBay Sept2009 GWM
Client Sub PO #: N/A
State Cert #: C218

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed and prepared by:



Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

Report Prepared Date:
September 29, 2009

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analysis performed on two samples submitted by a representative of Pioneer Technologies Corporation. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise calculations. The samples were received above the recommended temperature range of 0-6 degrees Celsius.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 40-108%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Since the quantification of the native 2,3,7,8-substituted isomers was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In one case, an interfering substance impacted the determination of a PCDD congener. The affected value was flagged "I" where an incorrect isotope ratio was obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of 1,2,3,4,6,7,8-HpCDD and Total HpCDD. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

A laboratory spike sample was also prepared with the sample batch using clean water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 93-123%. These results indicate a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

Appendix A

Sample Management

10112884

Pace Analytical® www.pacelabs.com

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

1269465

Section A Required Client Information:
- Company: PTC
- Address: 2612 YELM HWY SE, OLYMPIA, WA 98501
- Email To: bussey@...
- Phone: ...70-1700 Fax:
- Requested Due Date/TAT:

Section B Required Project Information:
- Report To: TROY BUSSEY
- Copy To:
- Purchase Order No.: CREDIT CARD
- Project Name: EAST BAY SEPT 2009 GWM
- Project Number:

Section C Invoice Information:
- Attention: TROY BUSSEY
- Company Name: SAME
- Address:
- Pace Quote Reference:
- Pace Project Manager: SCOTT UNZE
- Pace Profile #:

REGULATORY AGENCY: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER (X)

Site Location STATE: WA

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

Requested Analysis Filtered (Y/N): N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	PAHs 8270	Dioxins/Furans 8290	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW15-091809	WT	G			9/18	1000	20°C	2	X								X			
2	MW04-091809	↓	↓			↓	1130	↓	2	↓								↓			
3	MW16-091809	↓	↓			↓	1245	↓	4	↓								↓	X		001
4	MW23S-091809	↓	↓			↓	1330	↓	2	↓								↓			
5	MW24S-091809	↓	↓			↓	1430	↓	4	↓								↓	X		002
6	MW11-091809	↓	↓			↓	1530	↓	2	↓								↓			
7																					
8																					
9																					
10																					
11																					
12																					

Contact Troy Bussey for reporting limit specification on PAHs

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Kara Roberts / PTC	9/18/09	1600	[illegible] / Pace MN	9-19-09	1046	14.3°C	Y	Y	Y

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: KARA ROBERTS
- SIGNATURE of SAMPLER: [signature]
- DATE Signed (MM/DD/YY): 09/18/09

3

*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

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC **Project #** 10112884

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

Tracking #: 7928 0578 2551 / 7901 8822 1572

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

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes X No _____

Thermometer Used 80344042 or 179925 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 11.1°c / 14.3°c **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and initials of person examining contents: BD 9-19-09

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 & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☒No ☐N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☒N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☒No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☒No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☒No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Kara Date/Time: 09/21/09

Comments/ Resolution:

Waived temp. neg.

Project Manager Review: [signature] **Date:** 09/21/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW16-091809		
Lab Sample ID	10112884001		
Filename	F90926B_11		
Injected By	BAL		
Total Amount Extracted	953 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/18/2009 12:45
ICAL ID	F90817	Received	09/19/2009 10:46
CCal Filename(s)	F90926A_15 & F90926B_15	Extracted	09/25/2009 09:20
Method Blank ID	BLANK-21489	Analyzed	09/27/2009 00:31

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.6		2,3,7,8-TCDF-13C	2.00	79
Total TCDF	ND	-----	1.6		2,3,7,8-TCDD-13C	2.00	79
					1,2,3,7,8-PeCDF-13C	2.00	90
2,3,7,8-TCDD	ND	-----	1.5		2,3,4,7,8-PeCDF-13C	2.00	93
Total TCDD	ND	-----	1.5		1,2,3,7,8-PeCDD-13C	2.00	81 Y
					1,2,3,4,7,8-HxCDF-13C	2.00	70
1,2,3,7,8-PeCDF	ND	-----	1.8		1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	-----	1.9		2,3,4,6,7,8-HxCDF-13C	2.00	71
Total PeCDF	2.5	-----	1.9	J	1,2,3,7,8,9-HxCDF-13C	2.00	71
					1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	ND	-----	2.1		1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	ND	-----	2.1		1,2,3,4,6,7,8-HpCDF-13C	2.00	56
					1,2,3,4,7,8,9-HpCDF-13C	2.00	54
1,2,3,4,7,8-HxCDF	1.8	-----	1.4	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	56
1,2,3,6,7,8-HxCDF	ND	-----	1.6		OCDD-13C	4.00	40
2,3,4,6,7,8-HxCDF	ND	-----	1.0				
1,2,3,7,8,9-HxCDF	ND	-----	1.3		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	4.5	-----	1.4	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	2.0		2,3,7,8-TCDD-37Cl4	0.20	100
1,2,3,6,7,8-HxCDD	ND	-----	2.4				
1,2,3,7,8,9-HxCDD	ND	-----	2.0				
Total HxCDD	ND	-----	2.1				
1,2,3,4,6,7,8-HpCDF	8.4	-----	1.7	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.3		Equivalence: 3.2 pg/L		
Total HpCDF	8.4	-----	2.0	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	17.0	-----	3.3	BJ			
Total HpCDD	30.0	-----	3.3	J			
OCDF	31.0	-----	5.2	J			
OCDD	160.0	-----	8.6				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

J = Value below calibration range
B = Less than 10x higher than method blank level
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-091809		
Lab Sample ID	10112884002		
Filename	F90926B_12		
Injected By	BAL		
Total Amount Extracted	962 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/18/2009 14:30
ICAL ID	F90817	Received	09/19/2009 10:46
CCal Filename(s)	F90926A_15 & F90926B_15	Extracted	09/25/2009 09:20
Method Blank ID	BLANK-21489	Analyzed	09/27/2009 01:17

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.20		2,3,7,8-TCDF-13C	2.00	89
Total TCDF	ND	-----	1.20		2,3,7,8-TCDD-13C	2.00	92
					1,2,3,7,8-PeCDF-13C	2.00	105
2,3,7,8-TCDD	ND	-----	1.30		2,3,4,7,8-PeCDF-13C	2.00	108
Total TCDD	ND	-----	1.30		1,2,3,7,8-PeCDD-13C	2.00	95 Y
					1,2,3,4,7,8-HxCDF-13C	2.00	81
1,2,3,7,8-PeCDF	ND	-----	1.70		1,2,3,6,7,8-HxCDF-13C	2.00	79
2,3,4,7,8-PeCDF	ND	-----	1.30		2,3,4,6,7,8-HxCDF-13C	2.00	81
Total PeCDF	ND	-----	1.50		1,2,3,7,8,9-HxCDF-13C	2.00	81
					1,2,3,4,7,8-HxCDD-13C	2.00	82
1,2,3,7,8-PeCDD	ND	-----	1.50		1,2,3,6,7,8-HxCDD-13C	2.00	84
Total PeCDD	ND	-----	1.50		1,2,3,4,6,7,8-HpCDF-13C	2.00	63
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	ND	-----	0.91		1,2,3,4,6,7,8-HpCDD-13C	2.00	62
1,2,3,6,7,8-HxCDF	ND	-----	0.88		OCDD-13C	4.00	45
2,3,4,6,7,8-HxCDF	ND	-----	0.72				
1,2,3,7,8,9-HxCDF	ND	-----	0.87		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.85		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	1.40		2,3,7,8-TCDD-37Cl4	0.20	102
1,2,3,6,7,8-HxCDD	ND	-----	1.50				
1,2,3,7,8,9-HxCDD	ND	-----	0.99				
Total HxCDD	ND	-----	1.30				
1,2,3,4,6,7,8-HpCDF	2.1	-----	1.30	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	1.70		Equivalence: 2.1 pg/L		
Total HpCDF	8.7	-----	1.50	J	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	5.8	-----	2.20	BJ			
Total HpCDD	12.0	-----	2.20	BJ			
OCDF	8.3	-----	3.10	J			
OCDD	54.0	-----	6.70	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

J = Value below calibration range
B = Less than 10x higher than method blank level
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-21489	Matrix	Water
Filename	F90926B_05	Dilution	NA
Total Amount Extracted	967 mL	Extracted	09/25/2009 09:20
ICAL ID	F90817	Analyzed	09/26/2009 19:53
CCal Filename(s)	F90926A_15 & F90926B_15	Injected By	BAL

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	0.90		2,3,7,8-TCDF-13C	2.00	91	
Total TCDF	ND	-----	0.90		2,3,7,8-TCDD-13C	2.00	92	
					1,2,3,7,8-PeCDF-13C	2.00	105	
2,3,7,8-TCDD	ND	-----	1.10		2,3,4,7,8-PeCDF-13C	2.00	108	
Total TCDD	ND	-----	1.10		1,2,3,7,8-PeCDD-13C	2.00	96	Y
					1,2,3,4,7,8-HxCDF-13C	2.00	80	
1,2,3,7,8-PeCDF	ND	-----	1.50		1,2,3,6,7,8-HxCDF-13C	2.00	75	
2,3,4,7,8-PeCDF	ND	-----	0.95		2,3,4,6,7,8-HxCDF-13C	2.00	77	
Total PeCDF	ND	-----	1.20		1,2,3,7,8,9-HxCDF-13C	2.00	82	
					1,2,3,4,7,8-HxCDD-13C	2.00	85	
1,2,3,7,8-PeCDD	ND	-----	1.50		1,2,3,6,7,8-HxCDD-13C	2.00	80	
Total PeCDD	ND	-----	1.50		1,2,3,4,6,7,8-HpCDF-13C	2.00	64	
					1,2,3,4,7,8,9-HpCDF-13C	2.00	60	
1,2,3,4,7,8-HxCDF	ND	-----	0.74		1,2,3,4,6,7,8-HpCDD-13C	2.00	62	
1,2,3,6,7,8-HxCDF	ND	-----	0.89		OCDD-13C	4.00	41	
2,3,4,6,7,8-HxCDF	ND	-----	0.78					
1,2,3,7,8,9-HxCDF	ND	-----	1.10		1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	ND	-----	0.88		1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	1.00		2,3,7,8-TCDD-37Cl4	0.20	103	
1,2,3,6,7,8-HxCDD	ND	-----	1.30					
1,2,3,7,8,9-HxCDD	ND	-----	1.10					
Total HxCDD	ND	-----	1.10					
1,2,3,4,6,7,8-HpCDF	ND	-----	1.10		Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	2.00		Equivalence: 1.9 pg/L			
Total HpCDF	ND	-----	1.50		(Using 2005 WHO Factors - Using PRL/2 where ND)			
1,2,3,4,6,7,8-HpCDD	1.7	-----	1.10	J				
Total HpCDD	1.7	-----	1.10	J				
OCDF	ND	-----	4.00					
OCDD	-----	10.0	3.60	I				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

J = Value below calibration range
I = Interference present
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-21490		
Filename	F90926B_02	Matrix	Water
Total Amount Extracted	977 mL	Dilution	NA
ICAL ID	F90817	Extracted	09/25/2009 09:20
CCal Filename(s)	F90926A_15 & F90926B_15	Analyzed	09/26/2009 17:35
Method Blank ID	BLANK-21489	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.00	92	
Total TCDF				2,3,7,8-TCDD-13C	2.00	93	
				1,2,3,7,8-PeCDF-13C	2.00	107	
2,3,7,8-TCDD	0.20	0.22	109	2,3,4,7,8-PeCDF-13C	2.00	108	
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	95	Y
				1,2,3,4,7,8-HxCDF-13C	2.00	81	
1,2,3,7,8-PeCDF	1.00	1.01	101	1,2,3,6,7,8-HxCDF-13C	2.00	73	
2,3,4,7,8-PeCDF	1.00	0.98	98	2,3,4,6,7,8-HxCDF-13C	2.00	79	
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	83	
				1,2,3,4,7,8-HxCDD-13C	2.00	88	
1,2,3,7,8-PeCDD	1.00	0.93	93	1,2,3,6,7,8-HxCDD-13C	2.00	78	
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	66	
				1,2,3,4,7,8,9-HpCDF-13C	2.00	61	
1,2,3,4,7,8-HxCDF	1.00	1.01	101	1,2,3,4,6,7,8-HpCDD-13C	2.00	65	
1,2,3,6,7,8-HxCDF	1.00	1.02	102	OCDD-13C	4.00	40	
2,3,4,6,7,8-HxCDF	1.00	1.01	101				
1,2,3,7,8,9-HxCDF	1.00	1.01	101	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	1.00	0.95	95	2,3,7,8-TCDD-37Cl4	0.20	105	
1,2,3,6,7,8-HxCDD	1.00	1.03	103				
1,2,3,7,8,9-HxCDD	1.00	1.07	107				
Total HxCDD							
1,2,3,4,6,7,8-HpCDF	1.00	1.12	112				
1,2,3,4,7,8,9-HpCDF	1.00	1.09	109				
Total HpCDF							
1,2,3,4,6,7,8-HpCDD	1.00	1.02	102				
Total HpCDD							
OCDF	2.00	2.46	123				
OCDD	2.00	2.30	115				

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

October 01, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on September 19, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Paul Kirchberg for
Cory C Lund
cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
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SAMPLE SUMMARY

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10112882001	**MW15-091809**	Water	09/18/09 10:00	09/19/09 10:46
10112882002	**MW04-091809**	Water	09/18/09 11:30	09/19/09 10:46
10112882003	**MW16-091809**	Water	09/18/09 12:45	09/19/09 10:46
10112882004	**MW23S-091809**	Water	09/18/09 13:30	09/19/09 10:46
10112882005	**MW24S-091809**	Water	09/18/09 14:30	09/19/09 10:46
10112882006	**MW11-091809**	Water	09/18/09 15:30	09/19/09 10:46

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10112882001	**MW15-091809**	EPA 8270 by SIM	HRG	19
10112882002	**MW04-091809**	EPA 8270 by SIM	HRG	19
10112882003	**MW16-091809**	EPA 8270 by SIM	HRG	19
10112882004	**MW23S-091809**	EPA 8270 by SIM	HRG	19
10112882005	**MW24S-091809**	EPA 8270 by SIM	HRG	19
10112882006	**MW11-091809**	EPA 8270 by SIM	HRG	19

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Sample: MW15-091809 **Lab ID: 10112882001** Collected: 09/18/09 10:00 Received: 09/19/09 10:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	208-96-8	
Anthracene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	207-08-9	
Chrysene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	206-44-0	
Fluorene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	193-39-5	
Naphthalene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	85-01-8	
Pyrene	ND	ug/L	0.043	1	09/23/09 11:00	09/29/09 16:37	129-00-0	
Nitrobenzene-d5 (S)	85	%	51-125	1	09/23/09 11:00	09/29/09 16:37	4165-60-0	
2-Fluorobiphenyl (S)	82	%	58-125	1	09/23/09 11:00	09/29/09 16:37	321-60-8	
Terphenyl-d14 (S)	88	%	57-134	1	09/23/09 11:00	09/29/09 16:37	1718-51-0	

Sample: MW04-091809 **Lab ID: 10112882002** Collected: 09/18/09 11:30 Received: 09/19/09 10:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	83-32-9	
Acenaphthylene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	208-96-8	
Anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	207-08-9	
Chrysene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	53-70-3	
Fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	206-44-0	
Fluorene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	193-39-5	
Naphthalene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	91-20-3	
Phenanthrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	85-01-8	
Pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 16:57	129-00-0	
Nitrobenzene-d5 (S)	78	%	51-125	1	09/23/09 11:00	09/29/09 16:57	4165-60-0	
2-Fluorobiphenyl (S)	75	%	58-125	1	09/23/09 11:00	09/29/09 16:57	321-60-8	
Terphenyl-d14 (S)	87	%	57-134	1	09/23/09 11:00	09/29/09 16:57	1718-51-0	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Sample: MW16-091809 **Lab ID: 10112882003** Collected: 09/18/09 12:45 Received: 09/19/09 10:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.22**	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	83-32-9	
Acenaphthylene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	208-96-8	
Anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	207-08-9	
Chrysene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	53-70-3	
Fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	206-44-0	
Fluorene	**0.057**	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	193-39-5	
Naphthalene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	91-20-3	
Phenanthrene	**0.048**	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	85-01-8	
Pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:17	129-00-0	
Nitrobenzene-d5 (S)	88	%	51-125	1	09/23/09 11:00	09/29/09 17:17	4165-60-0	
2-Fluorobiphenyl (S)	76	%	58-125	1	09/23/09 11:00	09/29/09 17:17	321-60-8	
Terphenyl-d14 (S)	77	%	57-134	1	09/23/09 11:00	09/29/09 17:17	1718-51-0	

Sample: MW23S-091809 **Lab ID: 10112882004** Collected: 09/18/09 13:30 Received: 09/19/09 10:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/23/09 11:00	09/29/09 17:37	129-00-0	
Nitrobenzene-d5 (S)	95	%	51-125	1	09/23/09 11:00	09/29/09 17:37	4165-60-0	
2-Fluorobiphenyl (S)	81	%	58-125	1	09/23/09 11:00	09/29/09 17:37	321-60-8	
Terphenyl-d14 (S)	90	%	57-134	1	09/23/09 11:00	09/29/09 17:37	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

Sample: MW24S-091809 **Lab ID: 10112882005** Collected: 09/18/09 14:30 Received: 09/19/09 10:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	83-32-9	
Acenaphthylene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	208-96-8	
Anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	207-08-9	
Chrysene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	53-70-3	
Fluoranthene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	206-44-0	
Fluorene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	193-39-5	
Naphthalene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	91-20-3	
Phenanthrene	**0.043**	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	85-01-8	
Pyrene	ND	ug/L	0.041	1	09/23/09 11:00	09/29/09 17:57	129-00-0	
Nitrobenzene-d5 (S)	78	%	51-125	1	09/23/09 11:00	09/29/09 17:57	4165-60-0	
2-Fluorobiphenyl (S)	79	%	58-125	1	09/23/09 11:00	09/29/09 17:57	321-60-8	
Terphenyl-d14 (S)	84	%	57-134	1	09/23/09 11:00	09/29/09 17:57	1718-51-0	

Sample: MW11-091809 **Lab ID: 10112882006** Collected: 09/18/09 15:30 Received: 09/19/09 10:46 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	83-32-9	
Acenaphthylene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	208-96-8	
Anthracene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	207-08-9	
Chrysene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	53-70-3	
Fluoranthene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	206-44-0	
Fluorene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	193-39-5	
Naphthalene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	91-20-3	
Phenanthrene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	85-01-8	
Pyrene	ND	ug/L	0.047	1	09/23/09 11:00	09/29/09 18:17	129-00-0	
Nitrobenzene-d5 (S)	92	%	51-125	1	09/23/09 11:00	09/29/09 18:17	4165-60-0	
2-Fluorobiphenyl (S)	89	%	58-125	1	09/23/09 11:00	09/29/09 18:17	321-60-8	
Terphenyl-d14 (S)	92	%	57-134	1	09/23/09 11:00	09/29/09 18:17	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

QC Batch: OEXT/11581 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10112882001, 10112882002, 10112882003, 10112882004, 10112882005, 10112882006

METHOD BLANK: 685432 Matrix: Water
Associated Lab Samples: 10112882001, 10112882002, 10112882003, 10112882004, 10112882005, 10112882006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	09/29/09 14:38	
Acenaphthylene	ug/L	ND	0.040	09/29/09 14:38	
Anthracene	ug/L	ND	0.040	09/29/09 14:38	
Benzo(a)anthracene	ug/L	ND	0.040	09/29/09 14:38	
Benzo(a)pyrene	ug/L	ND	0.040	09/29/09 14:38	
Benzo(b)fluoranthene	ug/L	ND	0.040	09/29/09 14:38	
Benzo(g,h,i)perylene	ug/L	ND	0.040	09/29/09 14:38	
Benzo(k)fluoranthene	ug/L	ND	0.040	09/29/09 14:38	
Chrysene	ug/L	ND	0.040	09/29/09 14:38	
Dibenz(a,h)anthracene	ug/L	ND	0.040	09/29/09 14:38	
Fluoranthene	ug/L	ND	0.040	09/29/09 14:38	
Fluorene	ug/L	ND	0.040	09/29/09 14:38	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	09/29/09 14:38	
Naphthalene	ug/L	ND	0.040	09/29/09 14:38	
Phenanthrene	ug/L	ND	0.040	09/29/09 14:38	
Pyrene	ug/L	ND	0.040	09/29/09 14:38	
2-Fluorobiphenyl (S)	%	91	58-125	09/29/09 14:38	
Nitrobenzene-d5 (S)	%	97	51-125	09/29/09 14:38	
Terphenyl-d14 (S)	%	97	57-134	09/29/09 14:38	

LABORATORY CONTROL SAMPLE & LCSD: 685433 685434

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.84	0.84	84	84	56-125	0	20	
Acenaphthylene	ug/L	1	0.84	0.84	84	84	51-125	0	20	
Anthracene	ug/L	1	0.84	0.86	84	86	58-125	3	20	
Benzo(a)anthracene	ug/L	1	0.82	0.84	82	84	61-125	2	20	
Benzo(a)pyrene	ug/L	1	0.79	0.80	79	80	56-125	2	20	
Benzo(b)fluoranthene	ug/L	1	0.83	0.87	83	87	54-125	4	20	
Benzo(g,h,i)perylene	ug/L	1	0.83	0.86	83	86	42-125	3	20	
Benzo(k)fluoranthene	ug/L	1	0.87	0.89	87	89	60-125	2	20	
Chrysene	ug/L	1	0.89	0.89	89	89	64-125	1	20	
Dibenz(a,h)anthracene	ug/L	1	0.81	0.82	81	82	46-125	1	20	
Fluoranthene	ug/L	1	0.89	0.92	89	92	54-125	3	20	
Fluorene	ug/L	1	0.84	0.84	84	84	55-125	0	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.81	0.82	81	82	46-125	2	20	
Naphthalene	ug/L	1	0.86	0.83	86	83	47-125	4	20	
Phenanthrene	ug/L	1	0.83	0.83	83	83	55-125	0	20	
Pyrene	ug/L	1	0.86	0.87	86	87	57-125	1	20	
2-Fluorobiphenyl (S)	%				93	91	58-125			
Nitrobenzene-d5 (S)	%				102	97	51-125			

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QUALITY CONTROL DATA

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

LABORATORY CONTROL SAMPLE & LCSD: 685433 685434

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				98	98	57-134			

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QUALIFIERS

Project: East Bay Sept 2009 GWM
Pace Project No.: 10112882

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.

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

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

WORKORDER QUALIFIERS

WO: 10112882

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: MSSV/5031

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

CHAIN-OF-CUSTODY / Analytical Request Document

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

10112882

Page: 1 of 1

1269465

Section A Required Client Information:

Company: RTC
Address: 2612 4TH AVE W STE
OLYMPIA, WA 98501
Email To: bussey@rtcengineering.com
Phone: 570-1700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: TROY BUSSEY
Copy To:
Purchase Order No.: CREDIT CARD
Project Name: EAST BAY SEDT 2009 GWM
Project Number:

Section C Invoice Information:

Attention: TROY BUSSEY
Company Name: SAME
Address:
Pace Quote Reference:
Pace Project Manager: SCOTT UNZE
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

Section D Required Client Information

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAHs 8270	Dioxins/Furans 8290	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW15-091809	WT	G			9/18	1200	20.2	2	X									X				001
2	MW04-091809						1130		2														002
3	MW16-091809						1245		4											X			003
4	MW23S-091809						1330		2														004
5	MW24S-091809						1430		4											X			005
6	MW11-091809						1530		2														006
7																							
8																							
9																							
10																							
11																							
12																							

CONTACT TROY BUSSEY FOR REPORTING LIM. & EXPECTATIONS ON PAHs

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Kara Roberts RTC	9/18/09	1600	Francesca Garcia/Pace AM	9-19-09	1046	11.8c 14.3c	y	y	y

11 of 12

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: KARA ROBERTS

SIGNATURE of SAMPLER: Kara Roberts DATE Signed (MM/DD/YY): 09/18/09

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

*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

Pace Analytical

Client Name: PTC **Project #** 20112982

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

Optional: Proj. Due Date: Proj. Name:

Tracking #: 7928 0578 2551 / 7901 8822 1572

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

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes X No _____

Thermometer Used 80344042 or 179925 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 11.1°c / 14.3°c **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and Initials of person examining contents: SO 9-19-09

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 Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☒No ☐N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☒N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☒No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☒No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☒No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Kara Roberts Date/Time: 9/21/09

Comments/ Resolution: OK to analyze but oF temp

Project Manager Review: _____ **Date:** 9/21/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

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October 05, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Minnesota Certification IDs

Alaska Certification #: UST-078
1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
California Certification #: 01155CA
Florida/NELAP Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Minnesota Certification #: 027-053-137
Montana Certification #: MT CERT0092
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Tennessee Certification #: 02818
Washington Certification #: C754
Wisconsin Certification #: 999407970
Arizona Certification #: AZ-0014

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SAMPLE SUMMARY

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10113033001	**MW12-092109**	Water	09/21/09 09:15	09/22/09 09:52
10113033002	**MW13-092109**	Water	09/21/09 10:00	09/22/09 09:52
10113033003	**MW22S-092109**	Water	09/21/09 12:00	09/22/09 09:52
10113033004	**MW14-092109**	Water	09/21/09 12:30	09/22/09 09:52
10113033005	**MW25S-092109**	Water	09/21/09 13:00	09/22/09 09:52
10113033006	**MW07-092109**	Water	09/21/09 14:30	09/22/09 09:52
10113033007	**MW08-092109**	Water	09/21/09 15:15	09/22/09 09:52
10113033008	**MW09-092109**	Water	09/21/09 15:45	09/22/09 09:52

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SAMPLE ANALYTE COUNT

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10113033001	**MW12-092109**	EPA 8270 by SIM	HRG	19
10113033002	**MW13-092109**	EPA 8270 by SIM	HRG	19
10113033003	**MW22S-092109**	EPA 8270 by SIM	HRG	19
10113033004	**MW14-092109**	EPA 8270 by SIM	HRG	19
10113033005	**MW25S-092109**	EPA 8270 by SIM	HRG	19
10113033006	**MW07-092109**	EPA 8270 by SIM	HRG	19
10113033007	**MW08-092109**	EPA 8270 by SIM	HRG	19
10113033008	**MW09-092109**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Sample: MW12-092109 **Lab ID: 10113033001** Collected: 09/21/09 09:15 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 20:17	129-00-0	
Nitrobenzene-d5 (S)	76	%	51-125	1	09/25/09 12:05	09/29/09 20:17	4165-60-0	
2-Fluorobiphenyl (S)	75	%	58-125	1	09/25/09 12:05	09/29/09 20:17	321-60-8	
Terphenyl-d14 (S)	82	%	57-134	1	09/25/09 12:05	09/29/09 20:17	1718-51-0	

Sample: MW13-092109 **Lab ID: 10113033002** Collected: 09/21/09 10:00 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**2.4**	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	83-32-9	
Acenaphthylene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	208-96-8	
Anthracene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	207-08-9	
Chrysene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	53-70-3	
Fluoranthene	**0.076**	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	206-44-0	
Fluorene	**0.94**	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	193-39-5	
Naphthalene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	91-20-3	
Phenanthrene	**0.059**	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	85-01-8	
Pyrene	ND	ug/L	0.047	1	09/25/09 12:05	09/29/09 20:36	129-00-0	
Nitrobenzene-d5 (S)	88	%	51-125	1	09/25/09 12:05	09/29/09 20:36	4165-60-0	
2-Fluorobiphenyl (S)	82	%	58-125	1	09/25/09 12:05	09/29/09 20:36	321-60-8	
Terphenyl-d14 (S)	90	%	57-134	1	09/25/09 12:05	09/29/09 20:36	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Sample: MW22S-092109 **Lab ID: 10113033003** Collected: 09/21/09 12:00 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	208-96-8	
Anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	207-08-9	
Chrysene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	206-44-0	
Fluorene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	193-39-5	
Naphthalene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	85-01-8	
Pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/29/09 20:56	129-00-0	
Nitrobenzene-d5 (S)	71	%	51-125	1	09/25/09 12:05	09/29/09 20:56	4165-60-0	
2-Fluorobiphenyl (S)	68	%	58-125	1	09/25/09 12:05	09/29/09 20:56	321-60-8	
Terphenyl-d14 (S)	70	%	57-134	1	09/25/09 12:05	09/29/09 20:56	1718-51-0	

Sample: MW14-092109 **Lab ID: 10113033004** Collected: 09/21/09 12:30 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:16	129-00-0	
Nitrobenzene-d5 (S)	96	%	51-125	1	09/25/09 12:05	09/29/09 21:16	4165-60-0	
2-Fluorobiphenyl (S)	88	%	58-125	1	09/25/09 12:05	09/29/09 21:16	321-60-8	
Terphenyl-d14 (S)	92	%	57-134	1	09/25/09 12:05	09/29/09 21:16	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Sample: MW25S-092109 **Lab ID: 10113033005** Collected: 09/21/09 13:00 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.069**	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	206-44-0	
Fluorene	**0.058**	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	91-20-3	
Phenanthrene	**0.079**	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:36	129-00-0	
Nitrobenzene-d5 (S)	80	%	51-125	1	09/25/09 12:05	09/29/09 21:36	4165-60-0	
2-Fluorobiphenyl (S)	77	%	58-125	1	09/25/09 12:05	09/29/09 21:36	321-60-8	
Terphenyl-d14 (S)	88	%	57-134	1	09/25/09 12:05	09/29/09 21:36	1718-51-0	

Sample: MW07-092109 **Lab ID: 10113033006** Collected: 09/21/09 14:30 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 21:56	129-00-0	
Nitrobenzene-d5 (S)	85	%	51-125	1	09/25/09 12:05	09/29/09 21:56	4165-60-0	
2-Fluorobiphenyl (S)	84	%	58-125	1	09/25/09 12:05	09/29/09 21:56	321-60-8	
Terphenyl-d14 (S)	90	%	57-134	1	09/25/09 12:05	09/29/09 21:56	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

Sample: MW08-092109 **Lab ID: 10113033007** Collected: 09/21/09 15:15 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.050**	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/29/09 22:16	129-00-0	
Nitrobenzene-d5 (S)	96	%	51-125	1	09/25/09 12:05	09/29/09 22:16	4165-60-0	
2-Fluorobiphenyl (S)	89	%	58-125	1	09/25/09 12:05	09/29/09 22:16	321-60-8	
Terphenyl-d14 (S)	96	%	57-134	1	09/25/09 12:05	09/29/09 22:16	1718-51-0	

Sample: MW09-092109 **Lab ID: 10113033008** Collected: 09/21/09 15:45 Received: 09/22/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:20	129-00-0	
Nitrobenzene-d5 (S)	82	%	51-125	1	09/25/09 12:05	09/30/09 12:20	4165-60-0	
2-Fluorobiphenyl (S)	75	%	58-125	1	09/25/09 12:05	09/30/09 12:20	321-60-8	
Terphenyl-d14 (S)	79	%	57-134	1	09/25/09 12:05	09/30/09 12:20	1718-51-0	

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QUALITY CONTROL DATA

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

QC Batch: OEXT/11593 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10113033001, 10113033002, 10113033003, 10113033004, 10113033005, 10113033006, 10113033007, 10113033008

METHOD BLANK: 686447 Matrix: Water
Associated Lab Samples: 10113033001, 10113033002, 10113033003, 10113033004, 10113033005, 10113033006, 10113033007, 10113033008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	09/29/09 18:57	
Acenaphthylene	ug/L	ND	0.040	09/29/09 18:57	
Anthracene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(a)anthracene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(a)pyrene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(b)fluoranthene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(g,h,i)perylene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(k)fluoranthene	ug/L	ND	0.040	09/29/09 18:57	
Chrysene	ug/L	ND	0.040	09/29/09 18:57	
Dibenz(a,h)anthracene	ug/L	ND	0.040	09/29/09 18:57	
Fluoranthene	ug/L	ND	0.040	09/29/09 18:57	
Fluorene	ug/L	ND	0.040	09/29/09 18:57	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	09/29/09 18:57	
Naphthalene	ug/L	ND	0.040	09/29/09 18:57	
Phenanthrene	ug/L	ND	0.040	09/29/09 18:57	
Pyrene	ug/L	ND	0.040	09/29/09 18:57	
2-Fluorobiphenyl (S)	%	85	58-125	09/29/09 18:57	
Nitrobenzene-d5 (S)	%	88	51-125	09/29/09 18:57	
Terphenyl-d14 (S)	%	86	57-134	09/29/09 18:57	

LABORATORY CONTROL SAMPLE & LCSD: 686448 686449

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.79	0.84	79	84	56-125	6	20	
Acenaphthylene	ug/L	1	0.79	0.82	79	82	51-125	5	20	
Anthracene	ug/L	1	0.85	0.83	85	83	58-125	2	20	
Benzo(a)anthracene	ug/L	1	0.80	0.79	80	79	61-125	1	20	
Benzo(a)pyrene	ug/L	1	0.86	0.79	86	79	56-125	8	20	
Benzo(b)fluoranthene	ug/L	1	0.80	0.79	80	79	54-125	0	20	
Benzo(g,h,i)perylene	ug/L	1	0.78	0.80	78	80	42-125	3	20	
Benzo(k)fluoranthene	ug/L	1	0.83	0.90	83	90	60-125	8	20	
Chrysene	ug/L	1	0.92	0.92	92	92	64-125	1	20	
Dibenz(a,h)anthracene	ug/L	1	0.73	0.79	73	79	46-125	8	20	
Fluoranthene	ug/L	1	0.85	0.82	85	82	54-125	3	20	
Fluorene	ug/L	1	0.78	0.82	78	82	55-125	4	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.76	0.78	76	78	46-125	2	20	
Naphthalene	ug/L	1	0.83	0.87	83	87	47-125	5	20	
Phenanthrene	ug/L	1	0.82	0.79	82	79	55-125	4	20	
Pyrene	ug/L	1	0.86	0.87	86	87	57-125	1	20	
2-Fluorobiphenyl (S)	%				88	93	58-125			

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QUALITY CONTROL DATA

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

LABORATORY CONTROL SAMPLE & LCSD: 686448 686449

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Nitrobenzene-d5 (S)	%				88	93	51-125			
Terphenyl-d14 (S)	%				96	96	57-134			

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QUALIFIERS

Project: EAST BAY SFPT 2009 GWM
Pace Project No.: 10113033

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.

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

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

WORKORDER QUALIFIERS

WO: 10113033

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: MSSV/5032

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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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.

1156
1157 10/13/09

Page: of

1269491

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To: TROY BUSSEY	Attention: TROY BUSSEY
Address: 2612 4TH AVE SE, SUITE OLYMPIA, WA 98501	Copy To:	Company Name: SAME
Email To: bussey@ptcengineer.com	Purchase Order No.: CREDIT CARD	Address: Pace Quote Reference:
Phone: 360-570-1700 Fax:	Project Name: EAST BAY SEPT 2009 GWM	Pace Project Manager: SCOTT UNZE
Requested Due Date/TAT: STANDARD TAT (~10-15 days)	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — 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 COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAHs 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW12-092109	WT	G			9/21	0915	20.4	2	X									X		001
2	MW13-092109						1000														002
3	MW22S-092109						1200														003
4	MW14-092109						1230														004
5	MW25S-092109						1300														005
6	MW07-092109						1430														006
7	MW08-092109						1515														007
8	MW09-092109						1545														008
9																					
10																					
11																					
12																					

CONTACT TROY BUSSEY FOR REPORTING LIMIT EXPECTATIONS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Fenn / PTC	9/21/09	1630	Pace	9/22	0952	14.7	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MELODY FENN

SIGNATURE of SAMPLER: Melody Fenn DATE Signed (MM/DD/YY): 09/21/09

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

*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

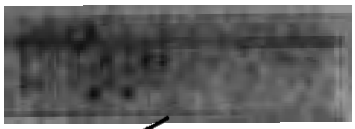
Pace Analytical

Client Name: PTC **Project #** 1013033

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

Tracking #: 853264809192 853264818445

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



Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ✓ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 14.7° **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C 3.2i **Comments:**

Date and initials of person examining contents: 9/22/09

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 Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: **Field Data Required?** Y / N

Person Contacted: Troy Bussey **Date/Time:** 9/23/09

Comments/ Resolution: out of temp Samples MW12, MW13, MW22S MW14

Ok to Continue analysis.

Project Manager Review: _____ **Date:** 9/23/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

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October 09, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on September 23, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10113120001	**MW-21S-092209**	Water	09/22/09 08:00	09/23/09 09:52
10113120002	**MW-20-092209**	Water	09/22/09 09:00	09/23/09 09:52
10113120003	**MW-02R-092209**	Water	09/22/09 10:00	09/23/09 09:52
10113120004	**MW-01-092209**	Water	09/22/09 11:00	09/23/09 09:52
10113120005	**MW-03-092209**	Water	09/22/09 12:00	09/23/09 09:52

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SAMPLE ANALYTE COUNT

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10113120001	**MW-21S-092209**	EPA 8270 by SIM	HRG	19
10113120002	**MW-20-092209**	EPA 8270 by SIM	HRG	19
10113120003	**MW-02R-092209**	EPA 8270 by SIM	HRG	19
10113120004	**MW-01-092209**	EPA 8270 by SIM	HRG	19
10113120005	**MW-03-092209**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Sample: MW-21S-092209 **Lab ID: 10113120001** Collected: 09/22/09 08:00 Received: 09/23/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	208-96-8	
Anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	207-08-9	
Chrysene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	206-44-0	
Fluorene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	193-39-5	
Naphthalene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	85-01-8	
Pyrene	ND	ug/L	0.044	1	09/25/09 12:05	09/30/09 12:40	129-00-0	
Nitrobenzene-d5 (S)	83	%	51-125	1	09/25/09 12:05	09/30/09 12:40	4165-60-0	
2-Fluorobiphenyl (S)	83	%	58-125	1	09/25/09 12:05	09/30/09 12:40	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	09/25/09 12:05	09/30/09 12:40	1718-51-0	

Sample: MW-20-092209 **Lab ID: 10113120002** Collected: 09/22/09 09:00 Received: 09/23/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	208-96-8	
Anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	207-08-9	
Chrysene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	206-44-0	
Fluorene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	193-39-5	
Naphthalene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	85-01-8	
Pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:00	129-00-0	
Nitrobenzene-d5 (S)	95	%	51-125	1	09/25/09 12:05	09/30/09 13:00	4165-60-0	
2-Fluorobiphenyl (S)	83	%	58-125	1	09/25/09 12:05	09/30/09 13:00	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	09/25/09 12:05	09/30/09 13:00	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Sample: MW-02R-092209 **Lab ID: 10113120003** Collected: 09/22/09 10:00 Received: 09/23/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	83-32-9	
Acenaphthylene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	208-96-8	
Anthracene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	207-08-9	
Chrysene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	53-70-3	
Fluoranthene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	206-44-0	
Fluorene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	193-39-5	
Naphthalene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	91-20-3	
Phenanthrene	ND	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	85-01-8	
Pyrene	**0.068**	ug/L	0.041	1	09/25/09 12:05	09/30/09 13:19	129-00-0	
Nitrobenzene-d5 (S)	78	%	51-125	1	09/25/09 12:05	09/30/09 13:19	4165-60-0	
2-Fluorobiphenyl (S)	78	%	58-125	1	09/25/09 12:05	09/30/09 13:19	321-60-8	
Terphenyl-d14 (S)	76	%	57-134	1	09/25/09 12:05	09/30/09 13:19	1718-51-0	

Sample: MW-01-092209 **Lab ID: 10113120004** Collected: 09/22/09 11:00 Received: 09/23/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	208-96-8	
Anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	207-08-9	
Chrysene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	206-44-0	
Fluorene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	193-39-5	
Naphthalene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	85-01-8	
Pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:39	129-00-0	
Nitrobenzene-d5 (S)	87	%	51-125	1	09/25/09 12:05	09/30/09 13:39	4165-60-0	
2-Fluorobiphenyl (S)	82	%	58-125	1	09/25/09 12:05	09/30/09 13:39	321-60-8	
Terphenyl-d14 (S)	91	%	57-134	1	09/25/09 12:05	09/30/09 13:39	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

Sample: MW-03-092209 **Lab ID: 10113120005** Collected: 09/22/09 12:00 Received: 09/23/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.40**	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	208-96-8	
Anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	207-08-9	
Chrysene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	206-44-0	
Fluorene	**0.10**	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	193-39-5	
Naphthalene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	85-01-8	
Pyrene	ND	ug/L	0.043	1	09/25/09 12:05	09/30/09 13:59	129-00-0	
Nitrobenzene-d5 (S)	80	%	51-125	1	09/25/09 12:05	09/30/09 13:59	4165-60-0	
2-Fluorobiphenyl (S)	77	%	58-125	1	09/25/09 12:05	09/30/09 13:59	321-60-8	
Terphenyl-d14 (S)	84	%	57-134	1	09/25/09 12:05	09/30/09 13:59	1718-51-0	

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QUALITY CONTROL DATA

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

QC Batch: OEXT/11593 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10113120001, 10113120002, 10113120003, 10113120004, 10113120005

METHOD BLANK: 686447 Matrix: Water
Associated Lab Samples: 10113120001, 10113120002, 10113120003, 10113120004, 10113120005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	09/29/09 18:57	
Acenaphthylene	ug/L	ND	0.040	09/29/09 18:57	
Anthracene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(a)anthracene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(a)pyrene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(b)fluoranthene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(g,h,i)perylene	ug/L	ND	0.040	09/29/09 18:57	
Benzo(k)fluoranthene	ug/L	ND	0.040	09/29/09 18:57	
Chrysene	ug/L	ND	0.040	09/29/09 18:57	
Dibenz(a,h)anthracene	ug/L	ND	0.040	09/29/09 18:57	
Fluoranthene	ug/L	ND	0.040	09/29/09 18:57	
Fluorene	ug/L	ND	0.040	09/29/09 18:57	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	09/29/09 18:57	
Naphthalene	ug/L	ND	0.040	09/29/09 18:57	
Phenanthrene	ug/L	ND	0.040	09/29/09 18:57	
Pyrene	ug/L	ND	0.040	09/29/09 18:57	
2-Fluorobiphenyl (S)	%	85	58-125	09/29/09 18:57	
Nitrobenzene-d5 (S)	%	88	51-125	09/29/09 18:57	
Terphenyl-d14 (S)	%	86	57-134	09/29/09 18:57	

LABORATORY CONTROL SAMPLE & LCSD: 686448 686449

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.79	0.84	79	84	56-125	6	20	
Acenaphthylene	ug/L	1	0.79	0.82	79	82	51-125	5	20	
Anthracene	ug/L	1	0.85	0.83	85	83	58-125	2	20	
Benzo(a)anthracene	ug/L	1	0.80	0.79	80	79	61-125	1	20	
Benzo(a)pyrene	ug/L	1	0.86	0.79	86	79	56-125	8	20	
Benzo(b)fluoranthene	ug/L	1	0.80	0.79	80	79	54-125	0	20	
Benzo(g,h,i)perylene	ug/L	1	0.78	0.80	78	80	42-125	3	20	
Benzo(k)fluoranthene	ug/L	1	0.83	0.90	83	90	60-125	8	20	
Chrysene	ug/L	1	0.92	0.92	92	92	64-125	1	20	
Dibenz(a,h)anthracene	ug/L	1	0.73	0.79	73	79	46-125	8	20	
Fluoranthene	ug/L	1	0.85	0.82	85	82	54-125	3	20	
Fluorene	ug/L	1	0.78	0.82	78	82	55-125	4	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.76	0.78	76	78	46-125	2	20	
Naphthalene	ug/L	1	0.83	0.87	83	87	47-125	5	20	
Phenanthrene	ug/L	1	0.82	0.79	82	79	55-125	4	20	
Pyrene	ug/L	1	0.86	0.87	86	87	57-125	1	20	
2-Fluorobiphenyl (S)	%				88	93	58-125			
Nitrobenzene-d5 (S)	%				88	93	51-125			

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QUALITY CONTROL DATA

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

LABORATORY CONTROL SAMPLE & LCSD: 686448 686449

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				96	96	57-134			

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QUALIFIERS

Project: EAST BAY SEPT 2009 GWM
Pace Project No.: 10113120

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5032

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical® www.pacelabs.com

1133

10/13/20

Page: 1 of 1

1269220

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To: Troy Bussey	Attention: Troy Bussey
Address: 2612 Yelm Hwy Suite B Olympia, WA 98501	Copy To:	Company Name: same
Email To: bussey t@uspioneer.com	Purchase Order No.: Credit card	Address:
Phone: 360-570-1700 Fax:	Project Name: East Bay Sept 2009 GWM	Pace Quote Reference:
Requested Due Date/TAT: Standard TAT	Project Number:	Pace Project Manager: Scott Unze
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — 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: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Analysis Test: PAHs 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW21s-092209	WT	G			9/22	0800	22	2	X									-		001
2	MW20-092209	"					0900														002
3	MW02R-092209						1000														003
4	MW01-092209						1100														004
5	MW03-092209						1200														005
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

contact Troy Bussey for ~~reporting~~ reporting limit expectations

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)
	Melody Fern/PTC	9/22/09		Shunter/Pace	9/23/09	952	5.2 4.5	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE: Melody Feden

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Fern DATE Signed (MM/DD/YY): 09/22/09

*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.

8532 6481 8201

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC **Project #** 10113120

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

Tracking #: 8532 6481 8201

Custody Seal on Cooler/Box Present: ☑ yes ☐ no **Seals Intact:** ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ✓ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.2, 4.5 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: 9/23/09 BH

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 9/23/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

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October 06, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on September 24, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10113256001	**MW18-092309**	Water	09/23/09 09:00	09/24/09 09:48

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SAMPLE ANALYTE COUNT

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10113256001	**MW18-092309**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

Sample: MW18-092309 **Lab ID: 10113256001** Collected: 09/23/09 09:00 Received: 09/24/09 09:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	208-96-8	
Anthracene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	207-08-9	
Chrysene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	206-44-0	
Fluorene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	193-39-5	
Naphthalene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	85-01-8	
Pyrene	ND	ug/L	0.043	1	09/25/09 12:03	10/01/09 21:17	129-00-0	
Nitrobenzene-d5 (S)	96	%	51-125	1	09/25/09 12:03	10/01/09 21:17	4165-60-0	
2-Fluorobiphenyl (S)	85	%	58-125	1	09/25/09 12:03	10/01/09 21:17	321-60-8	
Terphenyl-d14 (S)	86	%	57-134	1	09/25/09 12:03	10/01/09 21:17	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

QC Batch: OEXT/11597
QC Batch Method: EPA 3510
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10113256001

METHOD BLANK: 686899 Matrix: Water
Associated Lab Samples: 10113256001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	10/01/09 17:18	
Acenaphthylene	ug/L	ND	0.040	10/01/09 17:18	
Anthracene	ug/L	ND	0.040	10/01/09 17:18	
Benzo(a)anthracene	ug/L	ND	0.040	10/01/09 17:18	
Benzo(a)pyrene	ug/L	ND	0.040	10/01/09 17:18	
Benzo(b)fluoranthene	ug/L	ND	0.040	10/01/09 17:18	
Benzo(g,h,i)perylene	ug/L	ND	0.040	10/01/09 17:18	
Benzo(k)fluoranthene	ug/L	ND	0.040	10/01/09 17:18	
Chrysene	ug/L	ND	0.040	10/01/09 17:18	
Dibenz(a,h)anthracene	ug/L	ND	0.040	10/01/09 17:18	
Fluoranthene	ug/L	ND	0.040	10/01/09 17:18	
Fluorene	ug/L	ND	0.040	10/01/09 17:18	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	10/01/09 17:18	
Naphthalene	ug/L	ND	0.040	10/01/09 17:18	
Phenanthrene	ug/L	ND	0.040	10/01/09 17:18	
Pyrene	ug/L	ND	0.040	10/01/09 17:18	
2-Fluorobiphenyl (S)	%	91	58-125	10/01/09 17:18	
Nitrobenzene-d5 (S)	%	105	51-125	10/01/09 17:18	
Terphenyl-d14 (S)	%	95	57-134	10/01/09 17:18	

LABORATORY CONTROL SAMPLE & LCSD: 686900 686901

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.83	0.83	83	83	56-125	0	20	
Acenaphthylene	ug/L	1	0.86	0.85	86	85	51-125	1	20	
Anthracene	ug/L	1	0.84	0.83	84	83	58-125	1	20	
Benzo(a)anthracene	ug/L	1	0.81	0.80	81	80	61-125	2	20	
Benzo(a)pyrene	ug/L	1	0.80	0.79	80	79	56-125	1	20	
Benzo(b)fluoranthene	ug/L	1	0.80	0.78	80	78	54-125	3	20	
Benzo(g,h,i)perylene	ug/L	1	0.81	0.81	81	81	42-125	0	20	
Benzo(k)fluoranthene	ug/L	1	0.87	0.87	87	87	60-125	0	20	
Chrysene	ug/L	1	0.86	0.84	86	84	64-125	2	20	
Dibenz(a,h)anthracene	ug/L	1	0.77	0.77	77	77	46-125	1	20	
Fluoranthene	ug/L	1	0.83	0.83	83	83	54-125	1	20	
Fluorene	ug/L	1	0.81	0.82	81	82	55-125	1	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.79	0.78	79	78	46-125	1	20	
Naphthalene	ug/L	1	0.87	0.85	87	85	47-125	2	20	
Phenanthrene	ug/L	1	0.82	0.82	82	82	55-125	0	20	
Pyrene	ug/L	1	0.87	0.85	87	85	57-125	2	20	
2-Fluorobiphenyl (S)	%				92	93	58-125			
Nitrobenzene-d5 (S)	%				104	100	51-125			

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

LABORATORY CONTROL SAMPLE & LCSD: 686900 686901

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				99	91	57-134			

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: East Bay Sept 2009 Groundwater
Pace Project No.: 10113256

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.

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

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

WORKORDER QUALIFIERS

WO: 10113256

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: MSSV/5038

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical®
www.pacelabs.com

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

robertsk@uspioneer.com

See RI Expectations sent previously

10113256

Page: of

1269219

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To:	Attention:
Address: 2612 Yelm Hwy SE Olympia, WA 98501	Copy To:	Company Name:
Email To: ~~kassert~~ @uspioneer.com	Purchase Order No.: credit card	Address:
Phone: 360.570.1700 Fax:	Project Name: East Bay IA Stockpile ← soil	Pace Quote Reference:
Requested Due Date/TAT: 5 day - soil 10 day - GW	Project Number: East Bay Sept 2009 Groundwater Monitoring ← groundwater	Pace Project Manager:
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
STATE: _____

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: PAH 8270	Dioxin/Furans 8290	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW18-092309	DW				092309	900		2									X	X			10113256001
2	SP24-Zone2-092309-1	SL	G			092309	1145		1										X			
3	SP24-Zone2-092309-2	SL	G			092309	1200		1										X			
4	SP25-Zone4-092309-1	SL	G			092309	1230		1										X			
5	SP25-Zone4-092309-2	SL	G			092309	1245		1										X			
6	SP25-Zone4-092309-3	SL	G			092309	1300		1										X			
7	SP26-Zone1-092309	SL	G			092309	1430		1										X			
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Soil TAT 5 day	Kara Roberts PTC	092309	1630	J Richardson-Pace MN	9/24/09	09:48	8.8	Y	N	Y
GW TAT 10 day										

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kara Roberts

SIGNATURE of SAMPLER: Kara Roberts

DATE Signed (MM/DD/YY): 092309

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

*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.

1130

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC **Project #** 10113256

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

Tracking #: _____

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

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes X No _____

Thermometer Used 80344042 or (179425) **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 8.8 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: JR 9-24-09

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: WT & SL			
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes	☐No	☑N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes	☑No	
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A
Trip Blank Present:	☐Yes	☑No	☐N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased):			

1.
2.
3.
4.
5.
6. 5day water 10day SL
7.
8.
9.
10.
11.
12. Some of the Sample's were on the top of the ice.
13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
Samp #

Initial when completed	Lot # of added preservative

14.
15.
16.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Kara Roberts Date/Time: 9/24/09

Comments/ Resolution: Ok to analyze out of temp.

Project Manager Review: _____ **Date:** 9/24/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net
Website: dragonlaboratory.com

Samples Collected By: _____
Contact Number: _____

Client: PTC
Address: 2612 Yelm Hwy SE Olympia, WA 98501
Phone: 360-570-1700
Fax: _____
Email: busseyt@uspioneer.com
Project Name: East Bay
Project Location: _____
Project Number: _____
Project P.O.: _____
Contact Person: Troy Bussey
DAL Project No.: 091020-05

Matrix Code:
WW = wastewater **GW** = groundwater **S** = soil or solid
SL = sludge **V** = vapor **O** = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)
MW02R-102009	GW	10/20/09	1030	3VOAS			X	X																	

Relinquished by (Signature): Melody Fenn — Date/Time: 10/20 11:30
Received by (Signature): Joe Fjorland — Date/Time: 10/20/09 11:40
Relinquished by (Signature) — Date/Time — Received by (Signature) — Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☑ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☐ 10 Day
☐ Other: _____

*Heavy Metals: Please circle the desired analytes. TPH D TPHHO

Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

12, 5, 8°C

DRAGON ANALYTICAL LABORATORY

2818 Madrona Beach Rd NW, Olympia WA 98502
(360) 866-0543

Hazardous Waste, Microbiology, NPDES, Potable and Non-potable Water
Mobile Environmental Laboratory

Pioneer Technologies Corporation
Project: East Bay

DAL Number: 091020-05

ANALYTICAL RESULTS FOR THE ANALYSIS OF FUEL IN NON-POTABLE WATER

Sample Identification	Date Analyzed	Diesel Fuel #2 NWTPH-Dx (ug/L)	Heavy Oil NWTPH-Dx (ug/L)	Surrogate Recovery 2-FBP (%)	Data Flags
Method Blank	10/25/2009	nd	nd	80.3	
MW02R-102009	10/25/2009	nd	nd	119	
LCS	10/25/2009	102%	n/a	n/a	
091025-MS	10/25/2009	112%	n/a	n/a	
MW02R-102009 Dup.	10/25/2009	nd	nd	82.6	
Method Reporting Limits		250	500		

WA-DOE-Laboratory Certification No.: C2013

"nd" indicates the analyte was not detected at or above the listed Method Reporting Limit.

"n/a" indicates not applicable

Comments and Explanations: None

Analyst: J. Thomas
Data reviewed by: RL

091021 029 **PITC** Last Due 11/2/2009
1st SAMP 10/20/200 1st RCVD 10/21/2009
TPHDX / TPHG

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & # :
City: Olympia State: WA Zip: 98501	Email Address : busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description

groundwater

List Analyses Requested

Note Special Instructions/Comments

MWBS

Lab ID	Sample Identification	Sampling Date/Time	Matrix	Preservative: # of Containers	Sample Volume	NWTPH-Dx TPH-D	NWTPH-Dx TPH-HD
	MW02R-102009	10-20-09/1030	GW	2 VOA 2 Amber	1L	X	X

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	10/20	4:00p
Received by	Travis Keane	Travis Keane	Anatek	10/21/09	10:45
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Feden

Temperature (°C): 5.7°C
Preservative: HCl (2 VOA)
2 1L Amber No preserve
Date & Time: 10-21-09 10:45
Inspected By: SR

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091021029
Project Name: TPHDX / TPHG

Analytical Results Report

Sample Number	091021029-001	**Sampling Date**	10/20/2009	**Date/Time Received**	10/21/2009 10:45 AM
Client Sample ID	MW02R-102009	**Sampling Time**	10:30 AM	**Extraction Date**	10/21/2009
Matrix	Water	**Sample Location**			
Comments					

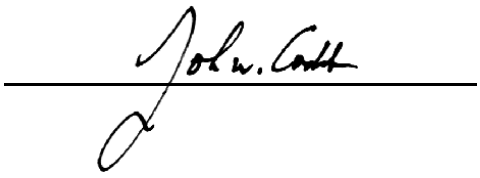
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.480	mg/L	0.1	10/23/2009	MAH	NWTPHDX	
Lube Oil	0.551	mg/L	0.5	10/23/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	10/30/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091021029-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150
4-Bromofluorobenzene	NWTPHG	113.0	70-130

Authorized Signature



MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091021029
Project Name: TPHDX / TPHG

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	1.00	mg/L	1	100.0	70-130	10/30/2009	10/30/2009
Diesel	1.06	mg/L	1	106.0	50-150	10/21/2009	10/23/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091027031-002	Gasoline	ND	1.06	mg/L	1	106.0	70-130	10/30/2009	10/30/2009
091021029-001	Diesel	0.480	1.55	mg/L	1	107.0	50-150	10/21/2009	10/23/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	1.10	mg/L	1	110.0	3.7	0-25	10/30/2009	10/30/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	10/21/2009	10/23/2009
Gasoline	ND	mg/L	0.1	10/30/2009	10/30/2009
Lube Oil	ND	mg/L	0.5	10/21/2009	10/23/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091021029
Order Date: 10/21/2009

Contact Name: TROY BUSSEY
Project Name: TPHDX / TPHG

Comment:

Sample #: 091021029-001 **Customer Sample #:** MW02R-102009

Recv'd: ☑ **Collector:** **Date Collected:** 10/20/2009
Quantity: 4 **Matrix:** Water **Date Received:** 10/21/2009 10:45:00
Comment:

Test	Test Group	Method	Due Date	Priority
TPHDX-NW		NWTPHDX	11/2/2009	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	11/2/2009	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.7
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Data Quality Review
East Bay Redevelopment Site – September 2009 GWM Event (Primary Samples)

1. Precision

Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs are within acceptable ranges.

2. Accuracy

Accuracy was assessed by analysis of laboratory method blanks and trip blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. No analytes were detected in the laboratory method blanks or trip blanks, with the following exceptions. Vinyl chloride was detected in the 9/21/09 trip blank, but was not detected in any of the samples in that batch. Copper and nickel was detected in the method blanks for total metals analyses at concentrations ranging from < 0.5 ug/L to 0.73 ug/L and < 0.5 ug/L to 0.57 ug/L, respectively. Arsenic was detected in the method blanks for dissolved metals analyses at concentrations ranging from 1.7 ug/L to 2.8 ug/L. As a result, a BJ-flag was added to all total copper, total nickel, and dissolved arsenic detections (most were already J-flagged). Trace levels of select congeners were detected in the dioxins/furans method blank and were B-flagged by the laboratory. As shown in the analytical reports, recoveries for blank spikes, matrix spikes, and surrogates for all analyses were within acceptable ranges. A NJ-flag was added to the three benzo(a)anthracene detections for the reasons discussed in the report text.

3. Representativeness

Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. Samples were collected, preserved, handled, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), which was designed to obtain representative samples (GeoEngineers and PIONEER 2008). In addition, samples were extracted and analyzed within appropriate holding times listed in the QAPP, with the following exceptions. Samples collected on 9/18/09 for polycyclic aromatic hydrocarbon (PAH) analysis were extracted one day after the recommended seven day extraction holding time. Samples collected on 9/18/09 and 9/21/09 for total petroleum hydrocarbons (TPH) in the gasoline range (TPH-G) analysis were extracted one day and three days, respectively, after the recommended 14 day extraction holding time. The laboratory reports do not indicate when the 9/21/09 and 9/22/09 samples for polychlorinated biphenyls (PCB) analysis were extracted (although samples were analyzed well before 40 day analysis holding time). The PAH, TPH-G, and possible PCB extraction holding time exceedances are not deemed significant enough to warrant qualification.

4. Comparability

Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity

Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with project-specific PQL expectations (Ecology 2009b). The actual PQLs were equal to or less than the expected PQLs.

6. Completeness

Completeness was assessed by calculating the percentage of useable results to all results. A total of 2,146 primary sample analyses were performed. All of the analyte results are useable as qualified, with the exception of the rejected MW02R-092209 result for TPH in the heavy oil range. Thus, the completeness of the analytical data is 100 percent (when rounded to two significant figures).

7. Conclusions

This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

APPENDIX M

ANALYTICAL REPORTS AND DATA QUALITY REVIEW FOR NOVEMBER 2009 GROUNDWATER MONITORING EVENT

091119 032 PITC Last Due 12/3/2009
1st SAMP 11/18/200 1st RCVD 11/19/2009
EAST BAY RI GW

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER TECH CORP
Address: 2612 YELM HWY SE, SUITE B
City: Olympia State: WA Zip: 98501
Phone: 360-570-1700
Fax: 360-570 1777

Project Manager: TROY BUSSEY
Project Name & #: East Bay RI GW
Email Address: bussey@pioneer.com
Purchase Order #: Credit Card
Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

☑ Normal ~~10 days~~ 5 days
__ Next Day*
__ 2nd Day*
__ Other*_____
*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description

List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	PAHs - 8270	As, Pb, Total metals Cu, Al, 6000/7000	As, Pb, dissolved metals Cu, Al - 6000/7000
1	MW20-11182009	11-18-09/930	~~Agueous~~ Water	3		X	X	X
2	MW02R-11182009	11-18/9:50	Water	3		X	X	X
3	MW18-11182009	11-18/1030	↓	3		X	X	X
4	MW04-11182009	11-18/1200		3		X	X	X
5	MW16-11182009	11-18/1245		3		X	X	X
6	MW235-11182009	11-18/1315		3		X	X	X
7	MW03-11182009	11-18/1400	↓	3		X	X	X
							Total metals 6000/7000 Dissolved metals 6000/7000	

Note Special Instructions/Comments

MEOBS

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fedex
Temperature (°C): 3.2
Preservative: None
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Kevin Gallagher		PTC	11-18-09	15:00
Received by	Travis Knobs		Anatek	11/19/09	11:15
Relinquished by					
Received by					
Relinquished by					
Received by					

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091119032
Order Date: 11/19/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091119032-001 **Customer Sample #:** MW20-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/3/2009	***Normal (6-10 Days)***

Sample #: 091119032-002 **Customer Sample #:** MW02R-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091119032
Order Date: 11/19/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI GW

Comment:

NICKEL BY 6020A	EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	12/3/2009	***Normal (6-10 Days)***

Sample #: 091119032-003 **Customer Sample #:** MW18-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/3/2009	***Normal (6-10 Days)***

Sample #: 091119032-004 **Customer Sample #:** MW04-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/3/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091119032
Order Date: 11/19/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091119032-005 **Customer Sample #:** MW16-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/3/2009	***Normal (6-10 Days)***

Sample #: 091119032-006 **Customer Sample #:** MW23S-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/3/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091119032
Order Date: 11/19/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091119032-007 **Customer Sample #:** MW03-11182009

Recv'd: ☑ **Collector:** **Date Collected:** 11/18/2009

Quantity: 3 **Matrix:** Water **Date Received:** 11/19/2009 11:15:00

Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/3/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/3/2009	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.2
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-001
Client Sample ID MW20-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 8:30 AM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00235	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	0.00526	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	0.00182	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	0.00140	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-002
Client Sample ID MW02R-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 9:50 AM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00797	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	0.00151	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	0.00157	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	0.00928	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-003
Client Sample ID MW18-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	0.00222	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	0.00201	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	0.00116	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-004
Client Sample ID MW04-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00734	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	0.00137	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	0.00176	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	0.00144	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-005
Client Sample ID MW16-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 12:45 PM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-006
Client Sample ID MW23S-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 1:15 PM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00292	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	0.00238	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	0.00185	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	0.00157	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	0.00135	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091119032-007
Client Sample ID MW03-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 2:00 PM
Sample Location

Date/Time Received 11/19/2009 11:15 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00271	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Dissolved Arsenic	0.00304	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	12/4/2009	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0505	mg/L	0.05	101.0	80-120	12/1/2009	12/2/2009
Dissolved Lead	0.0483	mg/L	0.05	96.6	80-120	12/1/2009	12/2/2009
Dissolved Copper	0.0513	mg/L	0.05	102.6	80-120	12/1/2009	12/2/2009
Dissolved Arsenic	0.0521	mg/L	0.05	104.2	80-120	12/1/2009	12/2/2009
Nickel	0.0478	mg/L	0.05	95.6	80-120	11/24/2009	12/4/2009
Lead	0.0489	mg/L	0.05	97.8	80-120	11/24/2009	12/4/2009
Copper	0.0472	mg/L	0.05	94.4	80-120	11/24/2009	12/4/2009
Arsenic	0.0497	mg/L	0.05	99.4	80-120	11/24/2009	12/4/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091120021-002A	Nickel	ND	0.0466	mg/L	0.05	93.2	75-125	11/24/2009	12/4/2009
091120021-002A	Lead	ND	0.0485	mg/L	0.05	97.0	75-125	11/24/2009	12/4/2009
091120021-002A	Copper	ND	0.0458	mg/L	0.05	91.6	75-125	11/24/2009	12/4/2009
091120021-002A	Arsenic	0.00279	0.0529	mg/L	0.05	100.2	75-125	11/24/2009	12/4/2009
091119032-007	Dissolved Nickel	ND	0.0480	mg/L	0.05	96.0	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Lead	ND	0.0454	mg/L	0.05	90.8	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Copper	ND	0.0481	mg/L	0.05	96.2	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Arsenic	0.00304	0.0588	mg/L	0.05	111.5	75-125	12/1/2009	12/2/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.0468	mg/L	0.05	93.6	0.4	0-20	11/24/2009	12/4/2009
Lead	0.0490	mg/L	0.05	98.0	1.0	0-20	11/24/2009	12/4/2009
Copper	0.0460	mg/L	0.05	92.0	0.4	0-20	11/24/2009	12/4/2009
Arsenic	0.0530	mg/L	0.05	100.4	0.2	0-20	11/24/2009	12/4/2009
Dissolved Nickel	0.0495	mg/L	0.05	99.0	3.1	0-20	12/1/2009	12/2/2009
Dissolved Lead	0.0456	mg/L	0.05	91.2	0.4	0-20	12/1/2009	12/2/2009
Dissolved Copper	0.0494	mg/L	0.05	98.8	2.7	0-20	12/1/2009	12/2/2009
Dissolved Arsenic	0.0592	mg/L	0.05	112.3	0.7	0-20	12/1/2009	12/2/2009

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	11/24/2009	12/4/2009
Copper	ND	mg/L	0.001	11/24/2009	12/4/2009
Dissolved Arsenic	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Copper	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Lead	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	12/2/2009
Lead	ND	mg/L	0.001	11/24/2009	12/4/2009
Nickel	ND	mg/L	0.001	11/24/2009	12/4/2009

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091123033-001	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Lead	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Copper	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091119032-001	**Sampling Date**	11/18/2009	**Date/Time Received**	11/19/2009 11:15 AM
Client Sample ID	MW20-11182009	**Sampling Time**	8:30 AM	**Extraction Date**	11/19/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.036	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	0.106	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	0.026	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	75.2	10-125

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Analytical Results Report

Sample Number	091119032-002	**Sampling Date**	11/18/2009	**Date/Time Received**	11/19/2009 11:15 AM
Client Sample ID	MW02R-11182009	**Sampling Time**	9:50 AM	**Extraction Date**	11/19/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	90.4	10-125

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Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091119032-003	**Sampling Date**	11/18/2009	**Date/Time Received**	11/19/2009 11:15 AM
Client Sample ID	MW18-11182009	**Sampling Time**	10:30 AM	**Extraction Date**	11/19/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	91.8	10-125

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Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091119032-004	**Sampling Date**	11/18/2009	**Date/Time Received**	11/19/2009 11:15 AM
Client Sample ID	MW04-11182009	**Sampling Time**	12:00 PM	**Extraction Date**	11/19/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.067	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	0.017	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	0.058	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	0.012	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	78.4	10-125

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Analytical Results Report

Sample Number 091119032-005
Client Sample ID MW16-11182009
Matrix Water
Comments

Sampling Date 11/18/2009
Sampling Time 12:45 PM
Sample Location

Date/Time Received 11/19/2009 11:15 AM
Extraction Date 11/19/2009

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	0.374	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	0.120	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	0.026	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	0.049	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	77.2	10-125

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Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091119032-006	**Sampling Date**	11/18/2009	**Date/Time Received**	11/19/2009 11:15 AM
Client Sample ID	MW23S-11182009	**Sampling Time**	1:15 PM	**Extraction Date**	11/19/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.017	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	0.021	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.010	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	0.027	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	0.024	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	0.026	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	0.027	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	83.8	10-125

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Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091119032-007	**Sampling Date**	11/18/2009	**Date/Time Received**	11/19/2009 11:15 AM
Client Sample ID	MW03-11182009	**Sampling Time**	2:00 PM	**Extraction Date**	11/19/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthene	0.248	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Fluorene	0.058	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	11/30/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091119032-007

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	87.9	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	1.04	ug/L	1	104.0	30-140	11/19/2009	11/30/2009
Acenaphthene	0.503	ug/L	1	50.3	30-140	11/19/2009	11/30/2009
Acenaphthylene	0.579	ug/L	1	57.9	30-140	11/19/2009	11/30/2009
Anthracene	0.885	ug/L	1	88.5	30-140	11/19/2009	11/30/2009
Benzo(ghi)perylene	1.04	ug/L	1	104.0	30-140	11/19/2009	11/30/2009
Benzo[a]anthracene	1.01	ug/L	1	101.0	30-140	11/19/2009	11/30/2009
Benzo[a]pyrene	1.03	ug/L	1	103.0	30-140	11/19/2009	11/30/2009
2-Methylnaphthalene	0.373	ug/L	1	37.3	30-140	11/19/2009	11/30/2009
Benzo[k]fluoranthene	1.07	ug/L	1	107.0	30-140	11/19/2009	11/30/2009
Pyrene	0.993	ug/L	1	99.3	30-140	11/19/2009	11/30/2009
Dibenz[a,h]anthracene	1.04	ug/L	1	104.0	30-140	11/19/2009	11/30/2009
Fluoranthene	1.04	ug/L	1	104.0	30-140	11/19/2009	11/30/2009
Fluorene	0.632	ug/L	1	63.2	30-140	11/19/2009	11/30/2009
Indeno[1,2,3-cd]pyrene	1.02	ug/L	1	102.0	30-140	11/19/2009	11/30/2009
Naphthalene	0.493	ug/L	1	49.3	30-140	11/19/2009	11/30/2009
Phenanthrene	0.848	ug/L	1	84.8	30-140	11/19/2009	11/30/2009
Benzo[b]fluoranthene	1.04	ug/L	1	104.0	30-140	11/19/2009	11/30/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091117014-001A	Chrysene	0.218	1.03	ug/L	1	81.2	30-140	11/19/2009	11/30/2009
091117014-001A	Acenaphthene	ND	0.939	ug/L	1	93.9	30-140	11/19/2009	11/30/2009
091117014-001A	Acenaphthylene	ND	0.883	ug/L	1	88.3	30-140	11/19/2009	11/30/2009
091117014-001A	Anthracene	0.015	0.932	ug/L	1	91.7	30-140	11/19/2009	11/30/2009
091117014-001A	Benzo(ghi)perylene	0.186	0.944	ug/L	1	75.8	30-140	11/19/2009	11/30/2009
091117014-001A	Benzo[a]anthracene	0.179	0.952	ug/L	1	77.3	30-140	11/19/2009	11/30/2009
091117014-001A	Benzo[a]pyrene	0.135	1.02	ug/L	1	88.5	30-140	11/19/2009	11/30/2009
091117014-001A	2-Methylnaphthalene	0.118	0.886	ug/L	1	76.8	30-140	11/19/2009	11/30/2009
091117014-001A	Benzo[k]fluoranthene	0.061	0.916	ug/L	1	85.5	30-140	11/19/2009	11/30/2009
091117014-001A	Pyrene	0.398	1.09	ug/L	1	69.2	30-140	11/19/2009	11/30/2009
091117014-001A	Dibenz[a,h]anthracene	ND	0.988	ug/L	1	98.8	30-140	11/19/2009	11/30/2009
091117014-001A	Fluoranthene	0.472	1.12	ug/L	1	64.8	30-140	11/19/2009	11/30/2009
091117014-001A	Fluorene	ND	1.00	ug/L	1	100.0	30-140	11/19/2009	11/30/2009
091117014-001A	Indeno[1,2,3-cd]pyrene	0.129	0.953	ug/L	1	82.4	30-140	11/19/2009	11/30/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091117014-001A	Naphthalene	0.239	0.894	ug/L	1	65.5	30-140	11/19/2009	11/30/2009
091117014-001A	Phenanthrene	0.162	0.995	ug/L	1	83.3	30-140	11/19/2009	11/30/2009
091117014-001A	Benzo[b]fluoranthene	0.299	1.26	ug/L	1	96.1	30-140	11/19/2009	11/30/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.992	ug/L	1	77.4	3.8	0-50	11/19/2009	11/30/2009
Acenaphthene	0.920	ug/L	1	92.0	2.0	0-50	11/19/2009	11/30/2009
Acenaphthylene	0.870	ug/L	1	87.0	1.5	0-50	11/19/2009	11/30/2009
Anthracene	0.915	ug/L	1	90.0	1.8	0-50	11/19/2009	11/30/2009
Benzo(ghi)perylene	0.965	ug/L	1	77.9	2.2	0-50	11/19/2009	11/30/2009
Benzo[a]anthracene	0.938	ug/L	1	75.9	1.5	0-50	11/19/2009	11/30/2009
Benzo[a]pyrene	0.968	ug/L	1	83.3	5.2	0-50	11/19/2009	11/30/2009
2-Methylnaphthalene	0.836	ug/L	1	71.8	5.8	0-50	11/19/2009	11/30/2009
Benzo[k]fluoranthene	0.879	ug/L	1	81.8	4.1	0-50	11/19/2009	11/30/2009
Pyrene	1.09	ug/L	1	69.2	0.0	0-50	11/19/2009	11/30/2009
Dibenz[a,h]anthracene	0.983	ug/L	1	98.3	0.5	0-50	11/19/2009	11/30/2009
Fluoranthene	1.14	ug/L	1	66.8	1.8	0-50	11/19/2009	11/30/2009
Fluorene	0.982	ug/L	1	98.2	1.8	0-50	11/19/2009	11/30/2009
Indeno[1,2,3-cd]pyrene	0.969	ug/L	1	84.0	1.7	0-50	11/19/2009	11/30/2009
Naphthalene	0.842	ug/L	1	60.3	6.0	0-50	11/19/2009	11/30/2009
Phenanthrene	0.985	ug/L	1	82.3	1.0	0-50	11/19/2009	11/30/2009
Benzo[b]fluoranthene	1.24	ug/L	1	94.1	1.6	0-50	11/19/2009	11/30/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	11/19/2009	11/30/2009
Acenaphthene	ND	ug/L	0.01	11/19/2009	11/30/2009
Acenaphthylene	ND	ug/L	0.01	11/19/2009	11/30/2009
Anthracene	ND	ug/L	0.01	11/19/2009	11/30/2009
Benzo(ghi)perylene	ND	ug/L	0.01	11/19/2009	11/30/2009
Benzo[a]anthracene	ND	ug/L	0.01	11/19/2009	11/30/2009
Benzo[a]pyrene	ND	ug/L	0.01	11/19/2009	11/30/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	11/19/2009	11/30/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	11/19/2009	11/30/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091119032
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	11/19/2009	11/30/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/19/2009	11/30/2009
Fluoranthene	ND	ug/L	0.01	11/19/2009	11/30/2009
Fluorene	ND	ug/L	0.01	11/19/2009	11/30/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/19/2009	11/30/2009
Naphthalene	ND	ug/L	0.01	11/19/2009	11/30/2009
Phenanthrene	ND	ug/L	0.01	11/19/2009	11/30/2009
Pyrene	ND	ug/L	0.01	11/19/2009	11/30/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Ana Log: 091120 021 PITC Last Due 12/4/2009
1st SAMP 11/19/200 1st RCVD 11/20/2009
EAST BAY RI GW

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE Suite B	Project Name & #: East Bay RI GW
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #: credit card
Fax:	Sampler Name & phone:

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

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__Next Day* __2nd Day* __Other*_____
__Phone __Mail __Fax __Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

MWBS

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	PAH-8270	As, Pb Total Metal Cu, Ni 6000/7000	As Pb Dissolved Cu, Ni 6000/7000	Mercury 7470
1	MW08-111909	111909/0830	water	3				X	X	
2	MW09-111909	111909/0915		3				X	X	
3	MW25S-111909	111909/1015		3				X	X	
4	MW07-111909	111909/1100		3				X	X	
5	MW24S-111909	111909/1300		3				X	X	
6	MW14-111909	111909/1345		3				X	X	
7	MW13-111909	111909/1400		3				X	X	

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fedex
Temperature (°C): 5.1
Preservative:
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	11.19.09	
Received by	Justin Ash		Anatek	11/20/09	1030
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091120021
Order Date: 11/20/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091120021-001 **Customer Sample #:** MW08-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/4/2009	***Normal (6-10 Days)***

Sample #: 091120021-002 **Customer Sample #:** MW09-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091120021
Order Date: 11/20/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI GW

Comment:

NICKEL BY 6020A	EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	12/4/2009	***Normal (6-10 Days)***

Sample #: 091120021-003 **Customer Sample #:** MW25S-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/4/2009	***Normal (6-10 Days)***

Sample #: 091120021-004 **Customer Sample #:** MW07-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/4/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091120021
Order Date: 11/20/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091120021-005 **Customer Sample #:** MW24S-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/4/2009	***Normal (6-10 Days)***

Sample #: 091120021-006 **Customer Sample #:** MW14-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/4/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091120021
Order Date: 11/20/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091120021-007 **Customer Sample #:** MW12-111909

Recv'd: ☑ **Collector:** **Date Collected:** 11/19/2009

Quantity: 3 **Matrix:** Water **Date Received:** 11/20/2009 10:30:00

Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/4/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/4/2009	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.1
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-001
Client Sample ID MW08-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 8:30 AM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00214	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00104	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-002
Client Sample ID MW09-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 9:15 AM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00286	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-003
Client Sample ID MW25S-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 10:15 AM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00177	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00242	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	0.00319	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	0.00111	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-004
Client Sample ID MW07-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 11:00 AM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00438	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	0.00208	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-005
Client Sample ID MW24S-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 1:00 PM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00546	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00234	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	0.00514	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	0.00121	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-006
Client Sample ID MW14-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 1:45 PM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00281	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.0285	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	0.00129	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	0.00309	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	0.00129	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	0.00809	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	0.00662	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091120021-007
Client Sample ID MW12-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 2:00 PM
Sample Location

Date/Time Received 11/20/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00103	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00225	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	0.00149	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	0.0167	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	0.0183	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0505	mg/L	0.05	101.0	80-120	12/1/2009	12/2/2009
Dissolved Lead	0.0483	mg/L	0.05	96.6	80-120	12/1/2009	12/2/2009
Dissolved Copper	0.0513	mg/L	0.05	102.6	80-120	12/1/2009	12/2/2009
Dissolved Arsenic	0.0521	mg/L	0.05	104.2	80-120	12/1/2009	12/2/2009
Nickel	0.0486	mg/L	0.05	97.2	80-120	12/2/2009	12/7/2009
Lead	0.0482	mg/L	0.05	96.4	80-120	12/2/2009	12/7/2009
Copper	0.0491	mg/L	0.05	98.2	80-120	12/2/2009	12/7/2009
Arsenic	0.0483	mg/L	0.05	96.6	80-120	12/2/2009	12/7/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091120021-002	Nickel	ND	0.0484	mg/L	0.05	96.8	75-125	12/2/2009	12/7/2009
091120021-002	Lead	ND	0.0463	mg/L	0.05	92.6	75-125	12/2/2009	12/7/2009
091120021-002	Copper	ND	0.0483	mg/L	0.05	96.6	75-125	12/2/2009	12/7/2009
091120021-002	Arsenic	0.00286	0.0511	mg/L	0.05	96.5	75-125	12/2/2009	12/7/2009
091119032-007	Dissolved Nickel	ND	0.0480	mg/L	0.05	96.0	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Lead	ND	0.0454	mg/L	0.05	90.8	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Copper	ND	0.0481	mg/L	0.05	96.2	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Arsenic	0.00304	0.0588	mg/L	0.05	111.5	75-125	12/1/2009	12/2/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.0486	mg/L	0.05	97.2	0.4	0-20	12/2/2009	12/7/2009
Lead	0.0466	mg/L	0.05	93.2	0.6	0-20	12/2/2009	12/7/2009
Copper	0.0490	mg/L	0.05	98.0	1.4	0-20	12/2/2009	12/7/2009
Arsenic	0.0532	mg/L	0.05	100.7	4.0	0-20	12/2/2009	12/7/2009
Dissolved Nickel	0.0495	mg/L	0.05	99.0	3.1	0-20	12/1/2009	12/2/2009
Dissolved Lead	0.0456	mg/L	0.05	91.2	0.4	0-20	12/1/2009	12/2/2009
Dissolved Copper	0.0494	mg/L	0.05	98.8	2.7	0-20	12/1/2009	12/2/2009
Dissolved Arsenic	0.0592	mg/L	0.05	112.3	0.7	0-20	12/1/2009	12/2/2009

Comments:

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	12/2/2009	12/7/2009
Copper	ND	mg/L	0.001	12/2/2009	12/7/2009
Dissolved Arsenic	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Copper	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Lead	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	12/2/2009
Lead	ND	mg/L	0.001	12/2/2009	12/7/2009
Nickel	ND	mg/L	0.001	12/2/2009	12/7/2009

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091123033-001	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Lead	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Copper	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091120021-001	**Sampling Date**	11/19/2009	**Date/Time Received**	11/20/2009 10:30 AM
Client Sample ID	MW08-111909	**Sampling Time**	8:30 AM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	0.290	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	0.012	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	0.113	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	0.024	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.3	10-125

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Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091120021-002	**Sampling Date**	11/19/2009	**Date/Time Received**	11/20/2009 10:30 AM
Client Sample ID	MW09-111909	**Sampling Time**	9:15 AM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.1	10-125

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Batch #: 091120021
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Analytical Results Report

Sample Number 091120021-003
Client Sample ID MW25S-111909
Matrix Water
Comments

Sampling Date 11/19/2009
Sampling Time 10:15 AM
Sample Location

Date/Time Received 11/20/2009 10:30 AM
Extraction Date 11/23/2009

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	0.052	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	0.012	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	0.022	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.011	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	0.013	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	0.026	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	0.063	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	0.104	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	0.026	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	113.6	10-125

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091120021-004	**Sampling Date**	11/19/2009	**Date/Time Received**	11/20/2009 10:30 AM
Client Sample ID	MW07-111909	**Sampling Time**	11:00 AM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	86.5	10-125

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Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091120021-005	**Sampling Date**	11/19/2009	**Date/Time Received**	11/20/2009 10:30 AM
Client Sample ID	MW24S-111909	**Sampling Time**	1:00 PM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.021	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	0.016	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	0.027	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	0.045	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	0.014	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	108.5	10-125

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Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091120021-006	**Sampling Date**	11/19/2009	**Date/Time Received**	11/20/2009 10:30 AM
Client Sample ID	MW14-111909	**Sampling Time**	1:45 PM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.019	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	0.014	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	0.023	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	78.3	10-125

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Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091120021-007	**Sampling Date**	11/19/2009	**Date/Time Received**	11/20/2009 10:30 AM
Client Sample ID	MW12-111909	**Sampling Time**	2:00 PM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091120021-007

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	90.3	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.989	ug/L	1	98.9	30-140	11/23/2009	12/3/2009
Acenaphthene	0.886	ug/L	1	88.6	30-140	11/23/2009	12/3/2009
Acenaphthylene	0.832	ug/L	1	83.2	30-140	11/23/2009	12/3/2009
Anthracene	0.883	ug/L	1	88.3	30-140	11/23/2009	12/3/2009
Benzo(ghi)perylene	1.04	ug/L	1	104.0	30-140	11/23/2009	12/3/2009
Benzo[a]anthracene	0.937	ug/L	1	93.7	30-140	11/23/2009	12/3/2009
Benzo[a]pyrene	0.985	ug/L	1	98.5	30-140	11/23/2009	12/3/2009
2-Methylnaphthalene	0.861	ug/L	1	86.1	30-140	11/23/2009	12/3/2009
Benzo[k]fluoranthene	0.928	ug/L	1	92.8	30-140	11/23/2009	12/3/2009
Pyrene	0.952	ug/L	1	95.2	30-140	11/23/2009	12/3/2009
Dibenz[a,h]anthracene	1.09	ug/L	1	109.0	30-140	11/23/2009	12/3/2009
Fluoranthene	0.987	ug/L	1	98.7	30-140	11/23/2009	12/3/2009
Fluorene	0.882	ug/L	1	88.2	30-140	11/23/2009	12/3/2009
Indeno[1,2,3-cd]pyrene	1.03	ug/L	1	103.0	30-140	11/23/2009	12/3/2009
Naphthalene	0.849	ug/L	1	84.9	30-140	11/23/2009	12/3/2009
Phenanthrene	0.970	ug/L	1	97.0	30-140	11/23/2009	12/3/2009
Benzo[b]fluoranthene	1.08	ug/L	1	108.0	30-140	11/23/2009	12/3/2009

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	1.03	ug/L	1	103.0	4.1	0-50	11/23/2009	12/3/2009
Acenaphthene	0.877	ug/L	1	87.7	1.0	0-50	11/23/2009	12/3/2009
Acenaphthylene	0.860	ug/L	1	86.0	3.3	0-50	11/23/2009	12/3/2009
Anthracene	0.864	ug/L	1	86.4	2.2	0-50	11/23/2009	12/3/2009
Benzo(ghi)perylene	1.05	ug/L	1	105.0	1.0	0-50	11/23/2009	12/3/2009
Benzo[a]anthracene	0.990	ug/L	1	99.0	5.5	0-50	11/23/2009	12/3/2009
Benzo[a]pyrene	1.01	ug/L	1	101.0	2.5	0-50	11/23/2009	12/3/2009
2-Methylnaphthalene	0.895	ug/L	1	89.5	3.9	0-50	11/23/2009	12/3/2009
Benzo[k]fluoranthene	0.919	ug/L	1	91.9	1.0	0-50	11/23/2009	12/3/2009
Pyrene	0.930	ug/L	1	93.0	2.3	0-50	11/23/2009	12/3/2009
Dibenz[a,h]anthracene	1.09	ug/L	1	109.0	0.0	0-50	11/23/2009	12/3/2009
Fluoranthene	0.990	ug/L	1	99.0	0.3	0-50	11/23/2009	12/3/2009
Fluorene	0.888	ug/L	1	88.8	0.7	0-50	11/23/2009	12/3/2009
Indeno[1,2,3-cd]pyrene	1.04	ug/L	1	104.0	1.0	0-50	11/23/2009	12/3/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091120021
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Naphthalene	0.864	ug/L	1	86.4	1.8	0-50	11/23/2009	12/3/2009
Phenanthrene	0.936	ug/L	1	93.6	3.6	0-50	11/23/2009	12/3/2009
Benzo[b]fluoranthene	1.18	ug/L	1	118.0	8.8	0-50	11/23/2009	12/3/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	11/23/2009	12/3/2009
Acenaphthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Acenaphthylene	ND	ug/L	0.01	11/23/2009	12/3/2009
Anthracene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo(ghi)perylene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[a]anthracene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[a]pyrene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Chrysene	ND	ug/L	0.01	11/23/2009	12/3/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/23/2009	12/3/2009
Fluoranthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Fluorene	ND	ug/L	0.01	11/23/2009	12/3/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/23/2009	12/3/2009
Naphthalene	ND	ug/L	0.01	11/23/2009	12/3/2009
Phenanthrene	ND	ug/L	0.01	11/23/2009	12/3/2009
Pyrene	ND	ug/L	0.01	11/23/2009	12/3/2009

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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091123 033 PITC Last Due 12/7/2009
1st SAMP 11/20/200 1st RCVD 11/23/2009
EAST BAY RI GW

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Chain of Custody Record

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Company Name: PTC
Address: 2612 Yelm Hwy SE
City: Olympia State: WA Zip: 98501
Phone: 360-570-1700
Fax:

Project Manager: Troy Bussey
Project Name & #: East Bay RI GW
Email Address: bussey1@uspioneer.com
Purchase Order #: credit card
Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

__Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	PAH - 8270	As, Pb Total mg/L Cu, Ni 6000/6020	As, Pb dissolved Cu, Ni 6000/6020
	MW01-112009	11.20.2009/0915	water	3			X	X	X
	MW22S-112009	11.20.2009/1000		3			X	X	X
	MW13-112009	11.20.2009/1030		3			X	X	X
	MW11-112009	11.20.2009/1245		3			X	X	X
	MW15-112009	11.20.2009/1330		3			X	X	X

Note Special Instructions/Comments

MW15

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Feder
Temperature (°C): 3.3
Preservative: N/A
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feder	Melody Feder	PTC	11/20/09	1500
Received by	Travis Heare	Travis Heare	Anatek	11/23/09	1035
Relinquished by					
Received by					
Relinquished by					
Received by					

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091123033
Order Date: 11/23/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY RI GW

Comment:

Sample #: 091123033-005 **Customer Sample #:** MW15-112009

Recv'd: ☑ **Collector:** **Date Collected:** 11/20/2009

Quantity: 3 **Matrix:** Water **Date Received:** 11/23/2009 10:30:00

Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/7/2009	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091123033
Order Date: 11/23/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI GW
Comment:

Sample #: 091123033-001 **Customer Sample #:** MW01-112009

Recv'd: ☑ **Collector:** **Date Collected:** 11/20/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/23/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/7/2009	***Normal (6-10 Days)***

Sample #: 091123033-002 **Customer Sample #:** MW22S-112009

Recv'd: ☑ **Collector:** **Date Collected:** 11/20/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/23/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091123033
Order Date: 11/23/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY RI GW

Comment:

NICKEL BY 6020A	EPA 6020A	12/7/2009	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	12/7/2009	***Normal (6-10 Days)***

Sample #: 091123033-003 **Customer Sample #:** MW13-112009

Recv'd: ☑ **Collector:** **Date Collected:** 11/20/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/23/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/7/2009	***Normal (6-10 Days)***

Sample #: 091123033-004 **Customer Sample #:** MW11-112009

Recv'd: ☑ **Collector:** **Date Collected:** 11/20/2009
Quantity: 3 **Matrix:** Water **Date Received:** 11/23/2009 10:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/7/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/7/2009	***Normal (6-10 Days)***

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091123033-001
Client Sample ID MW01-112009
Matrix Water
Comments

Sampling Date 11/20/2009
Sampling Time 9:15 AM
Sample Location

Date/Time Received 11/23/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00108	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091123033-002
Client Sample ID MW22S-112009
Matrix Water
Comments

Sampling Date 11/20/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 11/23/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00308	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00575	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	0.00204	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	0.00362	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091123033-003
Client Sample ID MW13-112009
Matrix Water
Comments

Sampling Date 11/20/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 11/23/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00485	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.0127	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	0.00857	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	0.00243	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	0.00836	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091123033-004
Client Sample ID MW11-112009
Matrix Water
Comments

Sampling Date 11/20/2009
Sampling Time 12:45 PM
Sample Location

Date/Time Received 11/23/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	0.00549	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	0.00113	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091123033-005
Client Sample ID MW15-112009
Matrix Water
Comments

Sampling Date 11/20/2009
Sampling Time 1:30 PM
Sample Location

Date/Time Received 11/23/2009 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	
Nickel	ND	mg/L	0.001	12/2/2009	ETL	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0505	mg/L	0.05	101.0	80-120	12/1/2009	12/2/2009
Dissolved Lead	0.0483	mg/L	0.05	96.6	80-120	12/1/2009	12/2/2009
Dissolved Copper	0.0513	mg/L	0.05	102.6	80-120	12/1/2009	12/2/2009
Dissolved Arsenic	0.0521	mg/L	0.05	104.2	80-120	12/1/2009	12/2/2009
Nickel	0.0501	mg/L	0.05	100.2	80-120	11/30/2009	12/2/2009
Lead	0.0493	mg/L	0.05	98.6	80-120	11/30/2009	12/2/2009
Copper	0.0509	mg/L	0.05	101.8	80-120	11/30/2009	12/2/2009
Arsenic	0.0491	mg/L	0.05	98.2	80-120	11/30/2009	12/2/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091123033-001	Nickel	ND	0.0494	mg/L	0.05	98.8	75-125	11/30/2009	12/2/2009
091123033-001	Lead	ND	0.0471	mg/L	0.05	94.2	75-125	11/30/2009	12/2/2009
091123033-001	Copper	0.00108	0.0493	mg/L	0.05	96.4	75-125	11/30/2009	12/2/2009
091123033-001	Arsenic	ND	0.0482	mg/L	0.05	96.4	75-125	11/30/2009	12/2/2009
091119032-007	Dissolved Nickel	ND	0.0480	mg/L	0.05	96.0	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Lead	ND	0.0454	mg/L	0.05	90.8	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Copper	ND	0.0481	mg/L	0.05	96.2	75-125	12/1/2009	12/2/2009
091119032-007	Dissolved Arsenic	0.00304	0.0588	mg/L	0.05	111.5	75-125	12/1/2009	12/2/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.0478	mg/L	0.05	95.6	3.3	0-20	11/30/2009	12/2/2009
Lead	0.0460	mg/L	0.05	92.0	2.4	0-20	11/30/2009	12/2/2009
Copper	0.0483	mg/L	0.05	94.4	2.0	0-20	11/30/2009	12/2/2009
Arsenic	0.0479	mg/L	0.05	95.8	0.6	0-20	11/30/2009	12/2/2009
Dissolved Nickel	0.0495	mg/L	0.05	99.0	3.1	0-20	12/1/2009	12/2/2009
Dissolved Lead	0.0456	mg/L	0.05	91.2	0.4	0-20	12/1/2009	12/2/2009
Dissolved Copper	0.0494	mg/L	0.05	98.8	2.7	0-20	12/1/2009	12/2/2009
Dissolved Arsenic	0.0592	mg/L	0.05	112.3	0.7	0-20	12/1/2009	12/2/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	11/30/2009	12/2/2009
Copper	ND	mg/L	0.001	11/30/2009	12/2/2009
Dissolved Arsenic	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Copper	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Lead	ND	mg/L	0.001	12/1/2009	12/2/2009
Dissolved Nickel	ND	mg/L	0.001	12/1/2009	12/2/2009
Lead	ND	mg/L	0.001	11/30/2009	12/2/2009
Nickel	ND	mg/L	0.001	11/30/2009	12/2/2009

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091123033-001	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Lead	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Copper	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009
091123033-001	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	12/1/2009	12/2/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091123033-001	**Sampling Date**	11/20/2009	**Date/Time Received**	11/23/2009 10:30 AM
Client Sample ID	MW01-112009	**Sampling Time**	9:15 AM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091123033-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	111.2	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number 091123033-002
Client Sample ID MW22S-112009
Matrix Water
Comments

Sampling Date 11/20/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 11/23/2009 10:30 AM
Extraction Date 11/23/2009

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	0.015	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091123033-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	106.8	10-125

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091123033-003	**Sampling Date**	11/20/2009	**Date/Time Received**	11/23/2009 10:30 AM
Client Sample ID	MW13-112009	**Sampling Time**	10:30 AM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.015	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	2.01	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	0.042	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	0.220	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	0.766	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	0.024	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	0.028	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	0.105	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091123033-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.3	10-125

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091123033-004	**Sampling Date**	11/20/2009	**Date/Time Received**	11/23/2009 10:30 AM
Client Sample ID	MW11-112009	**Sampling Time**	12:45 PM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	0.013	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	0.021	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091123033-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	91.4	10-125

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Sample Number	091123033-005	**Sampling Date**	11/20/2009	**Date/Time Received**	11/23/2009 10:30 AM
Client Sample ID	MW15-112009	**Sampling Time**	1:30 PM	**Extraction Date**	11/23/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/3/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091123033-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	88.4	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.989	ug/L	1	98.9	30-140	11/23/2009	12/3/2009
Acenaphthene	0.886	ug/L	1	88.6	30-140	11/23/2009	12/3/2009
Acenaphthylene	0.832	ug/L	1	83.2	30-140	11/23/2009	12/3/2009
Anthracene	0.883	ug/L	1	88.3	30-140	11/23/2009	12/3/2009
Benzo(ghi)perylene	1.04	ug/L	1	104.0	30-140	11/23/2009	12/3/2009
Benzo[a]anthracene	0.937	ug/L	1	93.7	30-140	11/23/2009	12/3/2009
Benzo[a]pyrene	0.985	ug/L	1	98.5	30-140	11/23/2009	12/3/2009
2-Methylnaphthalene	0.861	ug/L	1	86.1	30-140	11/23/2009	12/3/2009
Benzo[k]fluoranthene	0.928	ug/L	1	92.8	30-140	11/23/2009	12/3/2009
Pyrene	0.952	ug/L	1	95.2	30-140	11/23/2009	12/3/2009
Dibenz[a,h]anthracene	1.09	ug/L	1	109.0	30-140	11/23/2009	12/3/2009
Fluoranthene	0.987	ug/L	1	98.7	30-140	11/23/2009	12/3/2009
Fluorene	0.882	ug/L	1	88.2	30-140	11/23/2009	12/3/2009
Indeno[1,2,3-cd]pyrene	1.03	ug/L	1	103.0	30-140	11/23/2009	12/3/2009
Naphthalene	0.849	ug/L	1	84.9	30-140	11/23/2009	12/3/2009
Phenanthrene	0.970	ug/L	1	97.0	30-140	11/23/2009	12/3/2009
Benzo[b]fluoranthene	1.08	ug/L	1	108.0	30-140	11/23/2009	12/3/2009

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	1.03	ug/L	1	103.0	4.1	0-50	11/23/2009	12/3/2009
Acenaphthene	0.877	ug/L	1	87.7	1.0	0-50	11/23/2009	12/3/2009
Acenaphthylene	0.860	ug/L	1	86.0	3.3	0-50	11/23/2009	12/3/2009
Anthracene	0.864	ug/L	1	86.4	2.2	0-50	11/23/2009	12/3/2009
Benzo(ghi)perylene	1.05	ug/L	1	105.0	1.0	0-50	11/23/2009	12/3/2009
Benzo[a]anthracene	0.990	ug/L	1	99.0	5.5	0-50	11/23/2009	12/3/2009
Benzo[a]pyrene	1.01	ug/L	1	101.0	2.5	0-50	11/23/2009	12/3/2009
2-Methylnaphthalene	0.895	ug/L	1	89.5	3.9	0-50	11/23/2009	12/3/2009
Benzo[k]fluoranthene	0.919	ug/L	1	91.9	1.0	0-50	11/23/2009	12/3/2009
Pyrene	0.930	ug/L	1	93.0	2.3	0-50	11/23/2009	12/3/2009
Dibenz[a,h]anthracene	1.09	ug/L	1	109.0	0.0	0-50	11/23/2009	12/3/2009
Fluoranthene	0.990	ug/L	1	99.0	0.3	0-50	11/23/2009	12/3/2009
Fluorene	0.888	ug/L	1	88.8	0.7	0-50	11/23/2009	12/3/2009
Indeno[1,2,3-cd]pyrene	1.04	ug/L	1	104.0	1.0	0-50	11/23/2009	12/3/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091123033
Project Name: EAST BAY RI GW

Analytical Results Report

Quality Control Data

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Naphthalene	0.864	ug/L	1	86.4	1.8	0-50	11/23/2009	12/3/2009
Phenanthrene	0.936	ug/L	1	93.6	3.6	0-50	11/23/2009	12/3/2009
Benzo[b]fluoranthene	1.18	ug/L	1	118.0	8.8	0-50	11/23/2009	12/3/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	11/23/2009	12/3/2009
Acenaphthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Acenaphthylene	ND	ug/L	0.01	11/23/2009	12/3/2009
Anthracene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo(ghi)perylene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[a]anthracene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[a]pyrene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Chrysene	ND	ug/L	0.01	11/23/2009	12/3/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/23/2009	12/3/2009
Fluoranthene	ND	ug/L	0.01	11/23/2009	12/3/2009
Fluorene	ND	ug/L	0.01	11/23/2009	12/3/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	11/23/2009	12/3/2009
Naphthalene	ND	ug/L	0.01	11/23/2009	12/3/2009
Phenanthrene	ND	ug/L	0.01	11/23/2009	12/3/2009
Pyrene	ND	ug/L	0.01	11/23/2009	12/3/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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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.

10117358

Page: of 1269212

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To:	Attention:
Address: 2612 Yelm Hwy SE Suite B	Copy To:	Company Name:
		Address:
Email To: bussey t@uspioneer.com	Purchase Order No.: Credit Card	Pace Quote Reference:
Phone: 360 570 1700 Fax:	Project Name: East Bay RI Groundwater	Pace Project Manager: Scott Unze
Requested Due Date/TAT: Standard	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — 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 DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW20-111809		WT		111809	0830														X		001
2	MW02R-111809		↕		↓	1000														X		002
3	MW18-111809					1045														X		003
4	MW16-111809		↓		↓	1300														X		004
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				J Richardson Pace MN	11-19-09	09:34	5.1	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kara Roberts

SIGNATURE of SAMPLER: Kara Roberts

DATE Signed (MM/DD/YY): 11/18/09

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

*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.

1157

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC Project # _____

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

Tracking #: 8393 2824 8117

Optional: Proj. Due Date: Proj. Name:

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

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No ____

Thermometer Used 80344042 or 179425 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.1° Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C Comments:

Date and initials of person examining contents: JR 11-19-09

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☑No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 11/19/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

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November 25, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay RI Groundwater
Pace Project No.: 10117358

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on November 19, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: East Bay RI Groundwater
Pace Project No.: 10117358

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: East Bay RI Groundwater
Pace Project No.: 10117358

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10117358001	**MW20-111809**	Water	11/18/09 08:30	11/19/09 09:34
10117358002	**MW02R-111809**	Water	11/18/09 10:00	11/19/09 09:34
10117358003	**MW18-111809**	Water	11/18/09 10:45	11/19/09 09:34
10117358004	**MW16-111809**	Water	11/18/09 13:00	11/19/09 09:34

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SAMPLE ANALYTE COUNT

Project: East Bay RI Groundwater
Pace Project No.: 10117358

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10117358001	**MW20-111809**	EPA 8270 by SIM	HRG	19
10117358002	**MW02R-111809**	EPA 8270 by SIM	HRG	19
10117358003	**MW18-111809**	EPA 8270 by SIM	HRG	19
10117358004	**MW16-111809**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay RI Groundwater
Pace Project No.: 10117358

Sample: MW20-111809 **Lab ID: 10117358001** Collected: 11/18/09 08:30 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	208-96-8	
Anthracene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	207-08-9	
Chrysene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	206-44-0	
Fluorene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	193-39-5	
Naphthalene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	85-01-8	
Pyrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:09	129-00-0	
Nitrobenzene-d5 (S)	80	%	51-125	1	11/19/09 12:56	11/20/09 18:09	4165-60-0	
2-Fluorobiphenyl (S)	65	%	58-125	1	11/19/09 12:56	11/20/09 18:09	321-60-8	
Terphenyl-d14 (S)	68	%	57-134	1	11/19/09 12:56	11/20/09 18:09	1718-51-0	

Sample: MW02R-111809 **Lab ID: 10117358002** Collected: 11/18/09 10:00 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	208-96-8	
Anthracene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	207-08-9	
Chrysene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	206-44-0	
Fluorene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	193-39-5	
Naphthalene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	85-01-8	
Pyrene	ND	ug/L	0.045	1	11/19/09 12:56	11/20/09 18:29	129-00-0	
Nitrobenzene-d5 (S)	80	%	51-125	1	11/19/09 12:56	11/20/09 18:29	4165-60-0	
2-Fluorobiphenyl (S)	65	%	58-125	1	11/19/09 12:56	11/20/09 18:29	321-60-8	
Terphenyl-d14 (S)	72	%	57-134	1	11/19/09 12:56	11/20/09 18:29	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay RI Groundwater
Pace Project No.: 10117358

Sample: MW18-111809 **Lab ID: 10117358003** Collected: 11/18/09 10:45 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	83-32-9	
Acenaphthylene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	208-96-8	
Anthracene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	207-08-9	
Chrysene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	53-70-3	
Fluoranthene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	206-44-0	
Fluorene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	193-39-5	
Naphthalene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	91-20-3	
Phenanthrene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	85-01-8	
Pyrene	ND	ug/L	0.047	1	11/19/09 12:56	11/20/09 18:49	129-00-0	
Nitrobenzene-d5 (S)	84	%	51-125	1	11/19/09 12:56	11/20/09 18:49	4165-60-0	
2-Fluorobiphenyl (S)	69	%	58-125	1	11/19/09 12:56	11/20/09 18:49	321-60-8	
Terphenyl-d14 (S)	76	%	57-134	1	11/19/09 12:56	11/20/09 18:49	1718-51-0	

Sample: MW16-111809 **Lab ID: 10117358004** Collected: 11/18/09 13:00 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.33**	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	208-96-8	
Anthracene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	207-08-9	
Chrysene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	206-44-0	
Fluorene	**0.10**	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	193-39-5	
Naphthalene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	85-01-8	
Pyrene	ND	ug/L	0.044	1	11/19/09 12:56	11/20/09 19:09	129-00-0	
Nitrobenzene-d5 (S)	73	%	51-125	1	11/19/09 12:56	11/20/09 19:09	4165-60-0	
2-Fluorobiphenyl (S)	64	%	58-125	1	11/19/09 12:56	11/20/09 19:09	321-60-8	
Terphenyl-d14 (S)	81	%	57-134	1	11/19/09 12:56	11/20/09 19:09	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay RI Groundwater
Pace Project No.: 10117358

QC Batch: OEXT/11946 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10117358001, 10117358002, 10117358003, 10117358004

METHOD BLANK: 716586 Matrix: Water
Associated Lab Samples: 10117358001, 10117358002, 10117358003, 10117358004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	11/20/09 16:50	
Acenaphthylene	ug/L	ND	0.040	11/20/09 16:50	
Anthracene	ug/L	ND	0.040	11/20/09 16:50	
Benzo(a)anthracene	ug/L	ND	0.040	11/20/09 16:50	
Benzo(a)pyrene	ug/L	ND	0.040	11/20/09 16:50	
Benzo(b)fluoranthene	ug/L	ND	0.040	11/20/09 16:50	
Benzo(g,h,i)perylene	ug/L	ND	0.040	11/20/09 16:50	
Benzo(k)fluoranthene	ug/L	ND	0.040	11/20/09 16:50	
Chrysene	ug/L	ND	0.040	11/20/09 16:50	
Dibenz(a,h)anthracene	ug/L	ND	0.040	11/20/09 16:50	
Fluoranthene	ug/L	ND	0.040	11/20/09 16:50	
Fluorene	ug/L	ND	0.040	11/20/09 16:50	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	11/20/09 16:50	
Naphthalene	ug/L	ND	0.040	11/20/09 16:50	
Phenanthrene	ug/L	ND	0.040	11/20/09 16:50	
Pyrene	ug/L	ND	0.040	11/20/09 16:50	
2-Fluorobiphenyl (S)	%	66	58-125	11/20/09 16:50	
Nitrobenzene-d5 (S)	%	74	51-125	11/20/09 16:50	
Terphenyl-d14 (S)	%	76	57-134	11/20/09 16:50	

LABORATORY CONTROL SAMPLE & LCSD: 716587 716588

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.69	0.69	69	69	56-125	1	20	
Acenaphthylene	ug/L	1	0.71	0.71	71	71	51-125	0	20	
Anthracene	ug/L	1	0.77	0.77	77	77	58-125	0	20	
Benzo(a)anthracene	ug/L	1	0.74	0.75	74	75	61-125	1	20	
Benzo(a)pyrene	ug/L	1	0.76	0.75	76	75	56-125	2	20	
Benzo(b)fluoranthene	ug/L	1	0.75	0.78	75	78	54-125	3	20	
Benzo(g,h,i)perylene	ug/L	1	0.46	0.45	46	45	42-125	1	20	
Benzo(k)fluoranthene	ug/L	1	0.82	0.86	82	86	60-125	4	20	
Chrysene	ug/L	1	0.72	0.76	72	76	64-125	6	20	
Dibenz(a,h)anthracene	ug/L	1	0.53	0.54	53	54	46-125	0	20	
Fluoranthene	ug/L	1	0.74	0.75	74	75	54-125	1	20	
Fluorene	ug/L	1	0.68	0.69	68	69	55-125	1	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.51	0.52	51	52	46-125	2	20	
Naphthalene	ug/L	1	0.81	0.85	81	85	47-125	4	20	
Phenanthrene	ug/L	1	0.72	0.71	72	71	55-125	2	20	
Pyrene	ug/L	1	0.73	0.73	73	73	57-125	0	20	
2-Fluorobiphenyl (S)	%				62	66	58-125			
Nitrobenzene-d5 (S)	%				75	77	51-125			

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QUALITY CONTROL DATA

Project: East Bay RI Groundwater
Pace Project No.: 10117358

LABORATORY CONTROL SAMPLE & LCSD: 716587 716588

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				76	77	57-134			

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QUALIFIERS

Project: East Bay RI Groundwater
Pace Project No.: 10117358

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5160

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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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.

1156

1017394

Page: of

1269213

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To:	Attention:
Address: 2612 Yelm Hwy SE Suite B	Copy To:	Company Name:
		Address:
Email To: bussey@pioneer.com	Purchase Order No.: Credit Card	Pace Quote Reference:
Phone: 360 570 1700 Fax:	Project Name: East Bay ~~RI~~ Groundwater	Pace Project Manager: Scott Unze
Requested Due Date/TAT: Standard	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N: N	Analysis Test: PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW04-111809	WT		111809	1215														X		001
2	MW23S-111809			111809	1330														X		002
3	MW03-111809			111809	1415														X		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				Shuntpace	11/19/09	934	4.8	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kara Roberts

SIGNATURE of SAMPLER: Kara Roberts

DATE Signed (MM/DD/YY): 11/18/09

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

*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

Pace Analytical

Client Name: Pioneer Tech **Project #** 10117391

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

Tracking #: 8393 2824 8128

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.8 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and Initials of person examining contents: 11/19/09 BS

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 11/19/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina Office.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 30, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay RI Groundwater
Pace Project No.: 10117394

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on November 19, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: East Bay RI Groundwater
Pace Project No.: 10117394

Minnesota Certification IDs

Alaska Certification #: UST-078
1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
California Certification #: 01155CA
Florida/NELAP Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Minnesota Certification #: 027-053-137
Montana Certification #: MT CERT0092
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Tennessee Certification #: 02818
Washington Certification #: C754
Wisconsin Certification #: 999407970
Arizona Certification #: AZ-0014

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SAMPLE SUMMARY

Project: East Bay RI Groundwater
Pace Project No.: 10117394

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10117394001	**MW04-111809**	Water	11/18/09 12:15	11/19/09 09:34
10117394002	**MW23S-111809**	Water	11/18/09 13:30	11/19/09 09:34
10117394003	**MW-03-111809**	Water	11/18/09 14:15	11/19/09 09:34

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SAMPLE ANALYTE COUNT

Project: East Bay RI Groundwater
Pace Project No.: 10117394

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10117394001	**MW04-111809**	EPA 8270 by SIM	HRG	19
10117394002	**MW23S-111809**	EPA 8270 by SIM	HRG	19
10117394003	**MW-03-111809**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay RI Groundwater
Pace Project No.: 10117394

Sample: MW04-111809 **Lab ID: 10117394001** Collected: 11/18/09 12:15 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	83-32-9	
Acenaphthylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	208-96-8	
Anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	207-08-9	
Chrysene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	53-70-3	
Fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	206-44-0	
Fluorene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	193-39-5	
Naphthalene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	91-20-3	
Phenanthrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	85-01-8	
Pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:52	129-00-0	
Nitrobenzene-d5 (S)	81	%	51-125	1	11/20/09 18:56	11/26/09 04:52	4165-60-0	
2-Fluorobiphenyl (S)	74	%	58-125	1	11/20/09 18:56	11/26/09 04:52	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	11/20/09 18:56	11/26/09 04:52	1718-51-0	

Sample: MW23S-111809 **Lab ID: 10117394002** Collected: 11/18/09 13:30 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	208-96-8	
Anthracene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	207-08-9	
Chrysene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	206-44-0	
Fluorene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	193-39-5	
Naphthalene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	85-01-8	
Pyrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:12	129-00-0	
Nitrobenzene-d5 (S)	76	%	51-125	1	11/20/09 18:56	11/26/09 05:12	4165-60-0	
2-Fluorobiphenyl (S)	70	%	58-125	1	11/20/09 18:56	11/26/09 05:12	321-60-8	
Terphenyl-d14 (S)	85	%	57-134	1	11/20/09 18:56	11/26/09 05:12	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay RI Groundwater
Pace Project No.: 10117394

Sample: MW-03-111809 **Lab ID: 10117394003** Collected: 11/18/09 14:15 Received: 11/19/09 09:34 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.23**	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	208-96-8	
Anthracene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	207-08-9	
Chrysene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	206-44-0	
Fluorene	**0.046**	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	193-39-5	
Naphthalene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	85-01-8	
Pyrene	ND	ug/L	0.045	1	11/20/09 18:56	11/26/09 05:32	129-00-0	
Nitrobenzene-d5 (S)	72	%	51-125	1	11/20/09 18:56	11/26/09 05:32	4165-60-0	
2-Fluorobiphenyl (S)	70	%	58-125	1	11/20/09 18:56	11/26/09 05:32	321-60-8	
Terphenyl-d14 (S)	86	%	57-134	1	11/20/09 18:56	11/26/09 05:32	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay RI Groundwater
Pace Project No.: 10117394

QC Batch: OEXT/11956 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10117394001, 10117394002, 10117394003

METHOD BLANK: 717220 Matrix: Water
Associated Lab Samples: 10117394001, 10117394002, 10117394003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	11/26/09 00:33	
Acenaphthylene	ug/L	ND	0.040	11/26/09 00:33	
Anthracene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(a)anthracene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(a)pyrene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(b)fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(g,h,i)perylene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(k)fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Chrysene	ug/L	ND	0.040	11/26/09 00:33	
Dibenz(a,h)anthracene	ug/L	ND	0.040	11/26/09 00:33	
Fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Fluorene	ug/L	ND	0.040	11/26/09 00:33	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	11/26/09 00:33	
Naphthalene	ug/L	ND	0.040	11/26/09 00:33	
Phenanthrene	ug/L	ND	0.040	11/26/09 00:33	
Pyrene	ug/L	ND	0.040	11/26/09 00:33	
2-Fluorobiphenyl (S)	%	71	58-125	11/26/09 00:33	
Nitrobenzene-d5 (S)	%	80	51-125	11/26/09 00:33	
Terphenyl-d14 (S)	%	92	57-134	11/26/09 00:33	

LABORATORY CONTROL SAMPLE & LCSD: 717221 717222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.76	0.76	76	76	56-125	0	20	
Acenaphthylene	ug/L	1	0.72	0.73	72	73	51-125	2	20	
Anthracene	ug/L	1	0.86	0.84	86	84	58-125	3	20	
Benzo(a)anthracene	ug/L	1	0.94	0.85	94	85	61-125	10	20	
Benzo(a)pyrene	ug/L	1	0.97	0.94	97	94	56-125	3	20	
Benzo(b)fluoranthene	ug/L	1	0.84	0.96	84	96	54-125	13	20	
Benzo(g,h,i)perylene	ug/L	1	0.94	0.93	94	93	42-125	1	20	
Benzo(k)fluoranthene	ug/L	1	1.1	1.1	110	111	60-125	1	20	
Chrysene	ug/L	1	1.1	1.0	107	100	64-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.90	0.89	90	89	46-125	1	20	
Fluoranthene	ug/L	1	0.88	0.85	88	85	54-125	3	20	
Fluorene	ug/L	1	0.78	0.78	78	78	55-125	0	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.90	0.89	90	89	46-125	1	20	
Naphthalene	ug/L	1	0.81	0.84	81	84	47-125	3	20	
Phenanthrene	ug/L	1	0.82	0.79	82	79	55-125	3	20	
Pyrene	ug/L	1	1.0	0.93	100	93	57-125	7	20	
2-Fluorobiphenyl (S)	%				71	74	58-125			
Nitrobenzene-d5 (S)	%				79	83	51-125			

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QUALITY CONTROL DATA

Project: East Bay RI Groundwater
Pace Project No.: 10117394

LABORATORY CONTROL SAMPLE & LCSD: 717221 717222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				101	88	57-134			

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QUALIFIERS

Project: East Bay RI Groundwater
Pace Project No.: 10117394

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5169

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

1124

10117441

Page: of

1307808

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To:	Attention:
Address: 2612 Yelm Hwy SE Olympia WA 98501	Copy To:	Company Name:
Email To: bussey@pioneer.com	Purchase Order No.: credit card	Address:
Phone: 360.570.1700 Fax:	Project Name: East Bay RI GW	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number:	Pace Project Manager: Scott unze
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW07-111909	WT	WT		111909	1100	111909												N	X		001
2	MW08-111909	WT	WT		111909	0830														X		002
3	MW24S-1119-09	WT	WT		111909	1300														X		003
4	MW09-111909	WT	WT		111909	0915														X		004
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Feden / PTC	11/19/09	1530	Hunter / Pace	11/20/09	930	5.9	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE: Melody Feden

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 11/19/09

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

*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

Pace Analytical

Client Name: PTC **Project #** 10117441

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

Tracking #: 8393 2824 8140

Custody Seal on Cooler/Box Present: ☐ yes ☐ no **Seals Intact:** ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ✓ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.9 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 11/20/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

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November 30, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay RI GW
Pace Project No.: 10117441

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: East Bay RI GW
Pace Project No.: 10117441

Minnesota Certification IDs

Alaska Certification #: UST-078
1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
California Certification #: 01155CA
Florida/NELAP Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Minnesota Certification #: 027-053-137
Montana Certification #: MT CERT0092
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Tennessee Certification #: 02818
Washington Certification #: C754
Wisconsin Certification #: 999407970
Arizona Certification #: AZ-0014

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SAMPLE SUMMARY

Project: East Bay RI GW
Pace Project No.: 10117441

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10117441001	**MW07-111909**	Water	11/19/09 11:00	11/20/09 09:50
10117441002	**MW08-111909**	Water	11/19/09 08:30	11/20/09 09:50
10117441003	**MW24S-111909**	Water	11/19/09 13:00	11/20/09 09:50
10117441004	**MW09-111909**	Water	11/19/09 09:15	11/20/09 09:50

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SAMPLE ANALYTE COUNT

Project: East Bay RI GW
Pace Project No.: 10117441

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10117441001	**MW07-111909**	EPA 8270 by SIM	HRG	19
10117441002	**MW08-111909**	EPA 8270 by SIM	HRG	19
10117441003	**MW24S-111909**	EPA 8270 by SIM	HRG	19
10117441004	**MW09-111909**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117441

Sample: MW07-111909 **Lab ID: 10117441001** Collected: 11/19/09 11:00 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	83-32-9	
Acenaphthylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	208-96-8	
Anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	207-08-9	
Chrysene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	53-70-3	
Fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	206-44-0	
Fluorene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	193-39-5	
Naphthalene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	91-20-3	
Phenanthrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	85-01-8	
Pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 02:33	129-00-0	
Nitrobenzene-d5 (S)	75	%	51-125	1	11/20/09 18:56	11/26/09 02:33	4165-60-0	
2-Fluorobiphenyl (S)	68	%	58-125	1	11/20/09 18:56	11/26/09 02:33	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	11/20/09 18:56	11/26/09 02:33	1718-51-0	

Sample: MW08-111909 **Lab ID: 10117441002** Collected: 11/19/09 08:30 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.27**	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	208-96-8	
Anthracene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	207-08-9	
Chrysene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	206-44-0	
Fluorene	**0.095**	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	193-39-5	
Naphthalene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	85-01-8	
Pyrene	ND	ug/L	0.043	1	11/20/09 18:56	11/26/09 02:52	129-00-0	
Nitrobenzene-d5 (S)	79	%	51-125	1	11/20/09 18:56	11/26/09 02:52	4165-60-0	
2-Fluorobiphenyl (S)	72	%	58-125	1	11/20/09 18:56	11/26/09 02:52	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	11/20/09 18:56	11/26/09 02:52	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117441

Sample: MW24S-111909 **Lab ID: 10117441003** Collected: 11/19/09 13:00 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	83-32-9	
Acenaphthylene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	208-96-8	
Anthracene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	207-08-9	
Chrysene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	53-70-3	
Fluoranthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	206-44-0	
Fluorene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	193-39-5	
Naphthalene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	91-20-3	
Phenanthrene	**0.085**	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	85-01-8	
Pyrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:12	129-00-0	
Nitrobenzene-d5 (S)	76	%	51-125	1	11/20/09 18:56	11/26/09 03:12	4165-60-0	
2-Fluorobiphenyl (S)	70	%	58-125	1	11/20/09 18:56	11/26/09 03:12	321-60-8	
Terphenyl-d14 (S)	90	%	57-134	1	11/20/09 18:56	11/26/09 03:12	1718-51-0	

Sample: MW09-111909 **Lab ID: 10117441004** Collected: 11/19/09 09:15 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	208-96-8	
Anthracene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	207-08-9	
Chrysene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	206-44-0	
Fluorene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	193-39-5	
Naphthalene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	85-01-8	
Pyrene	ND	ug/L	0.044	1	11/20/09 18:56	11/26/09 03:32	129-00-0	
Nitrobenzene-d5 (S)	66	%	51-125	1	11/20/09 18:56	11/26/09 03:32	4165-60-0	
2-Fluorobiphenyl (S)	60	%	58-125	1	11/20/09 18:56	11/26/09 03:32	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	11/20/09 18:56	11/26/09 03:32	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay RI GW
Pace Project No.: 10117441

QC Batch: OEXT/11956 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10117441001, 10117441002, 10117441003, 10117441004

METHOD BLANK: 717220 Matrix: Water
Associated Lab Samples: 10117441001, 10117441002, 10117441003, 10117441004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	11/26/09 00:33	
Acenaphthylene	ug/L	ND	0.040	11/26/09 00:33	
Anthracene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(a)anthracene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(a)pyrene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(b)fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(g,h,i)perylene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(k)fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Chrysene	ug/L	ND	0.040	11/26/09 00:33	
Dibenz(a,h)anthracene	ug/L	ND	0.040	11/26/09 00:33	
Fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Fluorene	ug/L	ND	0.040	11/26/09 00:33	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	11/26/09 00:33	
Naphthalene	ug/L	ND	0.040	11/26/09 00:33	
Phenanthrene	ug/L	ND	0.040	11/26/09 00:33	
Pyrene	ug/L	ND	0.040	11/26/09 00:33	
2-Fluorobiphenyl (S)	%	71	58-125	11/26/09 00:33	
Nitrobenzene-d5 (S)	%	80	51-125	11/26/09 00:33	
Terphenyl-d14 (S)	%	92	57-134	11/26/09 00:33	

LABORATORY CONTROL SAMPLE & LCSD: 717221 717222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.76	0.76	76	76	56-125	0	20	
Acenaphthylene	ug/L	1	0.72	0.73	72	73	51-125	2	20	
Anthracene	ug/L	1	0.86	0.84	86	84	58-125	3	20	
Benzo(a)anthracene	ug/L	1	0.94	0.85	94	85	61-125	10	20	
Benzo(a)pyrene	ug/L	1	0.97	0.94	97	94	56-125	3	20	
Benzo(b)fluoranthene	ug/L	1	0.84	0.96	84	96	54-125	13	20	
Benzo(g,h,i)perylene	ug/L	1	0.94	0.93	94	93	42-125	1	20	
Benzo(k)fluoranthene	ug/L	1	1.1	1.1	110	111	60-125	1	20	
Chrysene	ug/L	1	1.1	1.0	107	100	64-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.90	0.89	90	89	46-125	1	20	
Fluoranthene	ug/L	1	0.88	0.85	88	85	54-125	3	20	
Fluorene	ug/L	1	0.78	0.78	78	78	55-125	0	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.90	0.89	90	89	46-125	1	20	
Naphthalene	ug/L	1	0.81	0.84	81	84	47-125	3	20	
Phenanthrene	ug/L	1	0.82	0.79	82	79	55-125	3	20	
Pyrene	ug/L	1	1.0	0.93	100	93	57-125	7	20	
2-Fluorobiphenyl (S)	%				71	74	58-125			
Nitrobenzene-d5 (S)	%				79	83	51-125			

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QUALITY CONTROL DATA

Project: East Bay RI GW
Pace Project No.: 10117441

LABORATORY CONTROL SAMPLE & LCSD: 717221 717222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				101	88	57-134			

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QUALIFIERS

Project: East Bay RI GW
Pace Project No.: 10117441

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5169

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® www.pacelabs.com

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

1124

10117442

Page: of 1307807

Section A Required Client Information:

Company: PTC

Address: 2612 Yelm Hwy SE

Olympia WA 98501

Email To: bussey@uspioneer.com

Phone: 360570-1700 Fax:

Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To:

Copy To:

Purchase Order No.: Credit card

Project Name: East Bay RI GW

Project Number:

Section C Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager: Scott Unze

Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW12-111909	WT		111909	1400													X	X		001
2	MW14-111909	WT		111909	1345													X	X		002
3	MW25S-111909	WT		111909	1015													X	X		003
4				~~111909~~																	
5																					
6																					
7																					
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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Feden / PTC	11/19/09	1530	Johnnie Pace	11/20/09	950	4.9	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 11/19/09

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

*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

Pace Analytical

Client Name: PTC **Project #** 10117442

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

Tracking #: 9393 2824 8014

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

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ✓ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.9 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: 11/20/09 SL

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 11/20/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 30, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay RI GW
Pace Project No.: 10117442

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: East Bay RI GW
Pace Project No.: 10117442

Minnesota Certification IDs

Alaska Certification #: UST-078
1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
California Certification #: 01155CA
Florida/NELAP Certification #: E87605
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Minnesota Certification #: 027-053-137
Montana Certification #: MT CERT0092
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Tennessee Certification #: 02818
Washington Certification #: C754
Wisconsin Certification #: 999407970
Arizona Certification #: AZ-0014

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SAMPLE SUMMARY

Project: East Bay RI GW
Pace Project No.: 10117442

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10117442001	**MW12-111909**	Water	11/19/09 14:00	11/20/09 09:50
10117442002	**MW14-111909**	Water	11/19/09 13:45	11/20/09 09:50
10117442003	**MW25S-111909**	Water	11/19/09 10:15	11/20/09 09:50

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SAMPLE ANALYTE COUNT

Project: East Bay RI GW
Pace Project No.: 10117442

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10117442001	**MW12-111909**	EPA 8270 by SIM	HRG	19
10117442002	**MW14-111909**	EPA 8270 by SIM	HRG	19
10117442003	**MW25S-111909**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117442

Sample: MW12-111909 **Lab ID: 10117442001** Collected: 11/19/09 14:00 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	83-32-9	
Acenaphthylene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	208-96-8	
Anthracene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	207-08-9	
Chrysene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	53-70-3	
Fluoranthene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	206-44-0	
Fluorene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	193-39-5	
Naphthalene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	91-20-3	
Phenanthrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	85-01-8	
Pyrene	ND	ug/L	0.047	1	11/20/09 18:56	11/26/09 03:52	129-00-0	
Nitrobenzene-d5 (S)	75	%	51-125	1	11/20/09 18:56	11/26/09 03:52	4165-60-0	
2-Fluorobiphenyl (S)	67	%	58-125	1	11/20/09 18:56	11/26/09 03:52	321-60-8	
Terphenyl-d14 (S)	91	%	57-134	1	11/20/09 18:56	11/26/09 03:52	1718-51-0	

Sample: MW14-111909 **Lab ID: 10117442002** Collected: 11/19/09 13:45 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	83-32-9	
Acenaphthylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	208-96-8	
Anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	207-08-9	
Chrysene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	53-70-3	
Fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	206-44-0	
Fluorene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	193-39-5	
Naphthalene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	91-20-3	
Phenanthrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	85-01-8	
Pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:12	129-00-0	
Nitrobenzene-d5 (S)	77	%	51-125	1	11/20/09 18:56	11/26/09 04:12	4165-60-0	
2-Fluorobiphenyl (S)	66	%	58-125	1	11/20/09 18:56	11/26/09 04:12	321-60-8	
Terphenyl-d14 (S)	83	%	57-134	1	11/20/09 18:56	11/26/09 04:12	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117442

Sample: MW25S-111909 **Lab ID: 10117442003** Collected: 11/19/09 10:15 Received: 11/20/09 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.053**	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	83-32-9	
Acenaphthylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	208-96-8	
Anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	207-08-9	
Chrysene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	53-70-3	
Fluoranthene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	206-44-0	
Fluorene	**0.049**	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	193-39-5	
Naphthalene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	91-20-3	
Phenanthrene	**0.099**	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	85-01-8	
Pyrene	ND	ug/L	0.046	1	11/20/09 18:56	11/26/09 04:32	129-00-0	
Nitrobenzene-d5 (S)	77	%	51-125	1	11/20/09 18:56	11/26/09 04:32	4165-60-0	
2-Fluorobiphenyl (S)	68	%	58-125	1	11/20/09 18:56	11/26/09 04:32	321-60-8	
Terphenyl-d14 (S)	85	%	57-134	1	11/20/09 18:56	11/26/09 04:32	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay RI GW
Pace Project No.: 10117442

QC Batch: OEXT/11956 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10117442001, 10117442002, 10117442003

METHOD BLANK: 717220 Matrix: Water
Associated Lab Samples: 10117442001, 10117442002, 10117442003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	11/26/09 00:33	
Acenaphthylene	ug/L	ND	0.040	11/26/09 00:33	
Anthracene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(a)anthracene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(a)pyrene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(b)fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(g,h,i)perylene	ug/L	ND	0.040	11/26/09 00:33	
Benzo(k)fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Chrysene	ug/L	ND	0.040	11/26/09 00:33	
Dibenz(a,h)anthracene	ug/L	ND	0.040	11/26/09 00:33	
Fluoranthene	ug/L	ND	0.040	11/26/09 00:33	
Fluorene	ug/L	ND	0.040	11/26/09 00:33	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	11/26/09 00:33	
Naphthalene	ug/L	ND	0.040	11/26/09 00:33	
Phenanthrene	ug/L	ND	0.040	11/26/09 00:33	
Pyrene	ug/L	ND	0.040	11/26/09 00:33	
2-Fluorobiphenyl (S)	%	71	58-125	11/26/09 00:33	
Nitrobenzene-d5 (S)	%	80	51-125	11/26/09 00:33	
Terphenyl-d14 (S)	%	92	57-134	11/26/09 00:33	

LABORATORY CONTROL SAMPLE & LCSD: 717221 717222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.76	0.76	76	76	56-125	0	20	
Acenaphthylene	ug/L	1	0.72	0.73	72	73	51-125	2	20	
Anthracene	ug/L	1	0.86	0.84	86	84	58-125	3	20	
Benzo(a)anthracene	ug/L	1	0.94	0.85	94	85	61-125	10	20	
Benzo(a)pyrene	ug/L	1	0.97	0.94	97	94	56-125	3	20	
Benzo(b)fluoranthene	ug/L	1	0.84	0.96	84	96	54-125	13	20	
Benzo(g,h,i)perylene	ug/L	1	0.94	0.93	94	93	42-125	1	20	
Benzo(k)fluoranthene	ug/L	1	1.1	1.1	110	111	60-125	1	20	
Chrysene	ug/L	1	1.1	1.0	107	100	64-125	7	20	
Dibenz(a,h)anthracene	ug/L	1	0.90	0.89	90	89	46-125	1	20	
Fluoranthene	ug/L	1	0.88	0.85	88	85	54-125	3	20	
Fluorene	ug/L	1	0.78	0.78	78	78	55-125	0	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.90	0.89	90	89	46-125	1	20	
Naphthalene	ug/L	1	0.81	0.84	81	84	47-125	3	20	
Phenanthrene	ug/L	1	0.82	0.79	82	79	55-125	3	20	
Pyrene	ug/L	1	1.0	0.93	100	93	57-125	7	20	
2-Fluorobiphenyl (S)	%				71	74	58-125			
Nitrobenzene-d5 (S)	%				79	83	51-125			

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QUALITY CONTROL DATA

Project: East Bay RI GW
Pace Project No.: 10117442

LABORATORY CONTROL SAMPLE & LCSD: 717221 717222

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				101	88	57-134			

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(612)607-1700

QUALIFIERS

Project: East Bay RI GW
Pace Project No.: 10117442

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5169

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

10117571

Page: of

1288409

Section A Required Client Information:

Company: PTC	
Address: 2612 Yelm Hwy SE	
Olympia WA 98501	
Email To: bussey@spioneer.com	
Phone: 360-570-1706	Fax:
Requested Due Date/TAT: Standard	

Section B Required Project Information:

Report To: Troy Bussey	
Copy To:	
Purchase Order No.: credit card	
Project Name: East Bay RI GW	
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: PAH - 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW01-112009	WT		11.20.09	0915				2									X		001
2	MW22S-112009	WT			1000				2									X		002
3	MW13-112009	WT			1030				2									X		003
4	MW11-112009	WT			1245				2									X		004
5	MW15-112009	WT		↓	1330				2									X		005
6																				
7																				
8																				
9																				
10																				
11																				
12																				

150.1

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Feden / PTC	11/20/09	1500	Pace	11/21	1025	1.6	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 11/20/09

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

*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

Pace Analytical

Client Name: Pioneer tech **Project #** 10117571

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

Tracking #: 839329248150

Custody Seal on Cooler/Box Present: ☐ yes ☐ no **Seals Intact:** ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ✓ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.6 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: KJ 11/21/09

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 11/23/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
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December 01, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay RI GW
Pace Project No.: 10117571

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on November 21, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: East Bay RI GW
Pace Project No.: 10117571

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: East Bay RI GW
Pace Project No.: 10117571

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10117571001	**MW01-112009**	Water	11/20/09 09:15	11/21/09 10:25
10117571002	**MW22S-112009**	Water	11/20/09 10:00	11/21/09 10:25
10117571003	**MW13-112009**	Water	11/20/09 10:30	11/21/09 10:25
10117571004	**MW11-112009**	Water	11/20/09 12:45	11/21/09 10:25
10117571005	**MW15-112009**	Water	11/20/09 13:30	11/21/09 10:25

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SAMPLE ANALYTE COUNT

Project: East Bay RI GW
Pace Project No.: 10117571

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10117571001	**MW01-112009**	EPA 8270 by SIM	HRG	19
10117571002	**MW22S-112009**	EPA 8270 by SIM	HRG	19
10117571003	**MW13-112009**	EPA 8270 by SIM	HRG	19
10117571004	**MW11-112009**	EPA 8270 by SIM	HRG	19
10117571005	**MW15-112009**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117571

Sample: MW01-112009 **Lab ID: 10117571001** Collected: 11/20/09 09:15 Received: 11/21/09 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	83-32-9	
Acenaphthylene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	208-96-8	
Anthracene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	207-08-9	
Chrysene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	53-70-3	
Fluoranthene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	206-44-0	
Fluorene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	193-39-5	
Naphthalene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	91-20-3	
Phenanthrene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	85-01-8	
Pyrene	ND	ug/L	0.047	1	11/23/09 16:22	11/25/09 22:54	129-00-0	
Nitrobenzene-d5 (S)	67	%	51-125	1	11/23/09 16:22	11/25/09 22:54	4165-60-0	
2-Fluorobiphenyl (S)	63	%	58-125	1	11/23/09 16:22	11/25/09 22:54	321-60-8	
Terphenyl-d14 (S)	91	%	57-134	1	11/23/09 16:22	11/25/09 22:54	1718-51-0	

Sample: MW22S-112009 **Lab ID: 10117571002** Collected: 11/20/09 10:00 Received: 11/21/09 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	208-96-8	
Anthracene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	207-08-9	
Chrysene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	206-44-0	
Fluorene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	193-39-5	
Naphthalene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	85-01-8	
Pyrene	ND	ug/L	0.045	1	11/23/09 16:22	11/25/09 23:14	129-00-0	
Nitrobenzene-d5 (S)	73	%	51-125	1	11/23/09 16:22	11/25/09 23:14	4165-60-0	
2-Fluorobiphenyl (S)	67	%	58-125	1	11/23/09 16:22	11/25/09 23:14	321-60-8	
Terphenyl-d14 (S)	92	%	57-134	1	11/23/09 16:22	11/25/09 23:14	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117571

Sample: MW13-112009 **Lab ID: 10117571003** Collected: 11/20/09 10:30 Received: 11/21/09 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**1.6**	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	83-32-9	
Acenaphthylene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	208-96-8	
Anthracene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	207-08-9	
Chrysene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	53-70-3	
Fluoranthene	**0.12**	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	206-44-0	
Fluorene	**0.61**	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	193-39-5	
Naphthalene	ND	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	91-20-3	
Phenanthrene	**0.12**	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	85-01-8	
Pyrene	**0.060**	ug/L	0.048	1	11/23/09 16:22	11/25/09 23:33	129-00-0	
Nitrobenzene-d5 (S)	73	%	51-125	1	11/23/09 16:22	11/25/09 23:33	4165-60-0	
2-Fluorobiphenyl (S)	65	%	58-125	1	11/23/09 16:22	11/25/09 23:33	321-60-8	
Terphenyl-d14 (S)	86	%	57-134	1	11/23/09 16:22	11/25/09 23:33	1718-51-0	

Sample: MW11-112009 **Lab ID: 10117571004** Collected: 11/20/09 12:45 Received: 11/21/09 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	83-32-9	
Acenaphthylene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	208-96-8	
Anthracene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	207-08-9	
Chrysene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	53-70-3	
Fluoranthene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	206-44-0	
Fluorene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	193-39-5	
Naphthalene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	91-20-3	
Phenanthrene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	85-01-8	
Pyrene	ND	ug/L	0.046	1	11/23/09 16:22	11/25/09 23:53	129-00-0	
Nitrobenzene-d5 (S)	69	%	51-125	1	11/23/09 16:22	11/25/09 23:53	4165-60-0	
2-Fluorobiphenyl (S)	63	%	58-125	1	11/23/09 16:22	11/25/09 23:53	321-60-8	
Terphenyl-d14 (S)	88	%	57-134	1	11/23/09 16:22	11/25/09 23:53	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay RI GW
Pace Project No.: 10117571

Sample: MW15-112009 **Lab ID: 10117571005** Collected: 11/20/09 13:30 Received: 11/21/09 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	208-96-8	
Anthracene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	207-08-9	
Chrysene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	206-44-0	
Fluorene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	193-39-5	
Naphthalene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	85-01-8	
Pyrene	ND	ug/L	0.045	1	11/23/09 16:22	11/26/09 00:13	129-00-0	
Nitrobenzene-d5 (S)	82	%	51-125	1	11/23/09 16:22	11/26/09 00:13	4165-60-0	
2-Fluorobiphenyl (S)	72	%	58-125	1	11/23/09 16:22	11/26/09 00:13	321-60-8	
Terphenyl-d14 (S)	94	%	57-134	1	11/23/09 16:22	11/26/09 00:13	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay RI GW
Pace Project No.: 10117571

QC Batch: OEXT/11971 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10117571001, 10117571002, 10117571003, 10117571004, 10117571005

METHOD BLANK: 718190 Matrix: Water
Associated Lab Samples: 10117571001, 10117571002, 10117571003, 10117571004, 10117571005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	11/25/09 21:34	
Acenaphthylene	ug/L	ND	0.040	11/25/09 21:34	
Anthracene	ug/L	ND	0.040	11/25/09 21:34	
Benzo(a)anthracene	ug/L	ND	0.040	11/25/09 21:34	
Benzo(a)pyrene	ug/L	ND	0.040	11/25/09 21:34	
Benzo(b)fluoranthene	ug/L	ND	0.040	11/25/09 21:34	
Benzo(g,h,i)perylene	ug/L	ND	0.040	11/25/09 21:34	
Benzo(k)fluoranthene	ug/L	ND	0.040	11/25/09 21:34	
Chrysene	ug/L	ND	0.040	11/25/09 21:34	
Dibenz(a,h)anthracene	ug/L	ND	0.040	11/25/09 21:34	
Fluoranthene	ug/L	ND	0.040	11/25/09 21:34	
Fluorene	ug/L	ND	0.040	11/25/09 21:34	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	11/25/09 21:34	
Naphthalene	ug/L	ND	0.040	11/25/09 21:34	
Phenanthrene	ug/L	ND	0.040	11/25/09 21:34	
Pyrene	ug/L	ND	0.040	11/25/09 21:34	
2-Fluorobiphenyl (S)	%	69	58-125	11/25/09 21:34	
Nitrobenzene-d5 (S)	%	79	51-125	11/25/09 21:34	
Terphenyl-d14 (S)	%	93	57-134	11/25/09 21:34	

LABORATORY CONTROL SAMPLE & LCSD: 718191 718192

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.75	0.80	75	80	56-125	7	20	
Acenaphthylene	ug/L	1	0.72	0.76	72	76	51-125	5	20	
Anthracene	ug/L	1	0.81	0.82	81	82	58-125	1	20	
Benzo(a)anthracene	ug/L	1	0.84	0.80	84	80	61-125	5	20	
Benzo(a)pyrene	ug/L	1	0.93	0.93	93	93	56-125	0	20	
Benzo(b)fluoranthene	ug/L	1	0.90	0.90	90	90	54-125	1	20	
Benzo(g,h,i)perylene	ug/L	1	0.86	0.86	86	86	42-125	0	20	
Benzo(k)fluoranthene	ug/L	1	0.93	0.96	93	96	60-125	3	20	
Chrysene	ug/L	1	0.99	0.96	99	96	64-125	3	20	
Dibenz(a,h)anthracene	ug/L	1	0.83	0.83	83	83	46-125	0	20	
Fluoranthene	ug/L	1	0.82	0.82	82	82	54-125	1	20	
Fluorene	ug/L	1	0.76	0.78	76	78	55-125	3	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.84	0.84	84	84	46-125	0	20	
Naphthalene	ug/L	1	0.84	0.90	84	90	47-125	7	20	
Phenanthrene	ug/L	1	0.77	0.78	77	78	55-125	1	20	
Pyrene	ug/L	1	0.91	0.89	91	89	57-125	2	20	
2-Fluorobiphenyl (S)	%				73	78	58-125			
Nitrobenzene-d5 (S)	%				79	87	51-125			

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: East Bay RI GW
Pace Project No.: 10117571

LABORATORY CONTROL SAMPLE & LCSD: 718191 718192

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				95	91	57-134			

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: East Bay RI GW
Pace Project No.: 10117571

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5170

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Data Quality Review
East Bay Redevelopment Site – November 2009 GWM Event (Primary Samples)

1. Precision
Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs are within acceptable ranges.

2. Accuracy
Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. No analytes were detected in the laboratory method blanks. As shown in the analytical reports, recoveries for blank spikes, matrix spikes, and surrogates for all analyses were within acceptable ranges.

3. Representativeness
Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. Samples were collected, preserved, handled, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), which was designed to obtain representative samples (GeoEngineers and PIONEER 2008). In addition, samples were extracted and analyzed within appropriate holding times listed in the QAPP.

4. Comparability
Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity
Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with project-specific PQL expectations (Ecology 2009b). The actual PQLs were equal to or less than the expected PQLs, with the following exceptions. The actual PQLs for arsenic, copper, lead, and nickel were twice the revised PQL expectations of 0.5 ug/L (Ecology 2009b) due to a different laboratory being used, but are still acceptable for project use in comparison with surface water screening levels.

6. Completeness
Completeness was assessed by calculating the percentage of useable results to all results. A total of 475 primary sample analyses were performed. All of the analyte results were useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions
This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

APPENDIX N

ANALYTICAL REPORTS AND DATA QUALITY REVIEW FOR DECEMBER 2009 GROUNDWATER MONITORING EVENT

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

091216 028 **PITC** Last Due 12/30/2009
1st SAMP 12/15/200 1st RCVD 12/16/2009
DEC09 EAST BAY GWM

Company Name: PTC	Project Manager:
Address: 2612 Yelm Hwy SE	Project Name & #: Dec09 East Bay GWM
City: Olympia State: WA Zip: 98501	Email Address: bussey+@wspioneer.com
Phone: 360 570 1700	Purchase Order #: Credit Card
Fax:	Sampler Name & phone: Melody Feden 3605701700

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

✓Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	TPH G NWTPH-Gx	TPH D NWTPH-DX	TPH HO NWTPH-DX	VOC 8260	PAH 8270	PCB 8082	Metals Total 6000/7000	Metals Diss. 6000/7000	
1	MW02R-121509	121509 / 930	Water	11			X	X	X	X	X	X	X	X	
2	MW20-121509	121509 / 1030	Water	11			X	X	X	X	X	X	X	X	✱
3	MW04-121509	121509/ 1130	Water	11			X	X	X	X	X	X	X	X	✱
4	MW01-121509	121509/ 1430	Water	11			X	X	X	X	X	X	X	X	✓
5	MW03-121509	121509/ 1530	Water	11			X	X	X	X	[redacted]	[redacted]	X	X	✱

✓= 1 PAH sample vial broken, put remaining sample in bottle
✱= caps received broken on PAH

Note Special Instructions/Comments

MUOBS

Total Metals = total RCRA 8 metal (Cu+Ni)
Diss Metals: As, Pb, Cu, Ni

✱ Used wrong bottles for analysis follow the COC and not the analysis on the bottle. Call w/questions.

Inspection Checklist

Received Intact?	Y	(N)
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	(Y)	N

FedEx
Temperature (°C): 4.6
Preservative: HCl
Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	121509	1700
Received by	Travis Maas	Travis Maas	Anatek	12/16/09	12:30
Relinquished by					
Received by					
Relinquished by					
Received by					

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-001	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW02R-121509	**Sampling Time**	9:30 AM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	0.624	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091216028-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150
4-Bromofluorobenzene	NWTPHG	104.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-002	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW20-121509	**Sampling Time**	10:30 AM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091216028-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150
4-Bromofluorobenzene	NWTPHG	103.0	70-130

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-003	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW04-121509	**Sampling Time**	11:30 AM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.144	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091216028-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150
4-Bromofluorobenzene	NWTPHG	104.0	70-130

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-004	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW01-121509	**Sampling Time**	2:30 PM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.341	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091216028-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	94.4	50-150
4-Bromofluorobenzene	NWTPHG	102.0	70-130

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-005	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW03-121509	**Sampling Time**	3:30 PM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	0.958	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091216028-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150
4-Bromofluorobenzene	NWTPHG	103.0	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.830	mg/L	1	83.0	50-150	12/20/2009	12/22/2009
Gasoline	0.95	mg/L	1	95.0	70-130	12/18/2009	12/18/2009

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.808	mg/L	1	80.8	2.7	0-50	12/20/2009	12/22/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091216028-001	Gasoline	ND	1.03	mg/L	1	103.0	70-130	12/18/2009	12/18/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	1.08	mg/L	1	108.0	4.7	0-25	12/18/2009	12/18/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	12/20/2009	12/22/2009
Gasoline	ND	mg/L	0.5	12/18/2009	12/18/2009
Lube Oil	ND	mg/L	0.5	12/20/2009	12/22/2009

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091216028-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	89.2	70-130
4-Bromofluorobenzene	EPA 8260B	95.6	70-130
Toluene-d8	EPA 8260B	102.0	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-002
Client Sample ID MW20-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-002
Client Sample ID MW20-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-002
Client Sample ID MW20-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-002
Client Sample ID MW20-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091216028-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	89.2	70-130
4-Bromofluorobenzene	EPA 8260B	95.6	70-130
Toluene-d8	EPA 8260B	102.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-003
Client Sample ID MW04-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 11:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-003
Client Sample ID MW04-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 11:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-003
Client Sample ID MW04-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 11:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	0.61	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-003
Client Sample ID MW04-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 11:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091216028-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	96.4	70-130
Toluene-d8	EPA 8260B	102.8	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-004
Client Sample ID MW01-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-004
Client Sample ID MW01-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-004
Client Sample ID MW01-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-004
Client Sample ID MW01-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091216028-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.0	70-130
4-Bromofluorobenzene	EPA 8260B	96.4	70-130
Toluene-d8	EPA 8260B	103.2	70-130

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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-005
Client Sample ID MW03-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 3:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-005
Client Sample ID MW03-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 3:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-005
Client Sample ID MW03-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 3:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-005
Client Sample ID MW03-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 3:30 PM
Sample Location

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091216028-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.0	70-130
4-Bromofluorobenzene	EPA 8260B	96.8	70-130
Toluene-d8	EPA 8260B	103.6	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
1,1-Dichloroethene	10.1	ug/L	10	101.0	69-139	12/18/2009	12/18/2009
Trichloroethene	9.81	ug/L	10	98.1	74-129	12/18/2009	12/18/2009
Toluene	10.1	ug/L	10	101.0	75-126	12/18/2009	12/18/2009
Tetrachloroethene	9.49	ug/L	10	94.9	71-127	12/18/2009	12/18/2009
o-Xylene	9.30	ug/L	10	93.0	81-121	12/18/2009	12/18/2009
Ethylbenzene	9.50	ug/L	10	95.0	77-123	12/18/2009	12/18/2009
Chlorobenzene	9.91	ug/L	10	99.1	79-119	12/18/2009	12/18/2009
Benzene	9.60	ug/L	10	96.0	76-127	12/18/2009	12/18/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091216028-001	Trichloroethene	ND	9.70	ug/L	10	97.0	68-144	12/18/2009	12/18/2009
091216028-001	Toluene	ND	9.94	ug/L	10	99.4	64-145	12/18/2009	12/18/2009
091216028-001	Tetrachloroethene	ND	9.69	ug/L	10	96.9	62-143	12/18/2009	12/18/2009
091216028-001	o-Xylene	ND	8.73	ug/L	10	87.3	68-142	12/18/2009	12/18/2009
091216028-001	Ethylbenzene	ND	9.06	ug/L	10	90.6	76-133	12/18/2009	12/18/2009
091216028-001	Chlorobenzene	ND	9.32	ug/L	10	93.2	77-125	12/18/2009	12/18/2009
091216028-001	Benzene	ND	9.27	ug/L	10	92.7	73-137	12/18/2009	12/18/2009
091216028-001	1,1-Dichloroethene	ND	10.4	ug/L	10	104.0	70-154	12/18/2009	12/18/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Trichloroethene	10.6	ug/L	10	106.0	8.9	0-25	12/18/2009	12/18/2009
Toluene	10.9	ug/L	10	109.0	9.2	0-25	12/18/2009	12/18/2009
Tetrachloroethene	10.7	ug/L	10	107.0	9.9	0-25	12/18/2009	12/18/2009
o-Xylene	9.69	ug/L	10	96.9	10.4	0-25	12/18/2009	12/18/2009
Ethylbenzene	10.0	ug/L	10	100.0	9.9	0-25	12/18/2009	12/18/2009
Chlorobenzene	10.3	ug/L	10	103.0	10.0	0-25	12/18/2009	12/18/2009
Benzene	10.1	ug/L	10	101.0	8.6	0-25	12/18/2009	12/18/2009
1,1-Dichloroethene	11.6	ug/L	10	116.0	10.9	0-25	12/18/2009	12/18/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	12/18/2009
2-hexanone	ND	ug/L	2.5	12/18/2009	12/18/2009
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	12/18/2009
Acetone	ND	ug/L	2.5	12/18/2009	12/18/2009
Acrylonitrile	ND	ug/L	0.5	12/18/2009	12/18/2009
Benzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromochloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromoform	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromomethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Carbon disulfide	ND	ug/L	0.5	12/18/2009	12/18/2009
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	12/18/2009
Chlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Chloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009

Comments:

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chloroform	ND	ug/L	0.5	12/18/2009	12/18/2009
Chloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	12/18/2009
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Dibromomethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Ethylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	12/18/2009
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
m+p-Xylene	ND	ug/L	0.5	12/18/2009	12/18/2009
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	12/18/2009
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	12/18/2009
Methylene chloride	ND	ug/L	2.5	12/18/2009	12/18/2009
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	12/18/2009
Naphthalene	ND	ug/L	0.5	12/18/2009	12/18/2009
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
o-Xylene	ND	ug/L	0.5	12/18/2009	12/18/2009
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	12/18/2009
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Styrene	ND	ug/L	0.5	12/18/2009	12/18/2009
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
Toluene	ND	ug/L	0.5	12/18/2009	12/18/2009
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	12/18/2009
Trichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	12/18/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM
Extraction Date 12/21/2009

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Acenaphthene	0.011	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091216028-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	72.9	10-125

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-002	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW20-121509	**Sampling Time**	10:30 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091216028-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	76.2	10-125

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-003	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW04-121509	**Sampling Time**	11:30 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.021	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Naphthalene	0.021	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/23/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091216028-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	66.0	10-125

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-004	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW01-121509	**Sampling Time**	2:30 PM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/24/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091216028-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	79.1	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.952	ug/L	1	95.2	30-140	12/21/2009	12/23/2009
Acenaphthene	0.830	ug/L	1	83.0	30-140	12/21/2009	12/23/2009
Acenaphthylene	0.847	ug/L	1	84.7	30-140	12/21/2009	12/23/2009
Anthracene	0.873	ug/L	1	87.3	30-140	12/21/2009	12/23/2009
Benzo(ghi)perylene	0.891	ug/L	1	89.1	30-140	12/21/2009	12/23/2009
Benzo[a]anthracene	0.954	ug/L	1	95.4	30-140	12/21/2009	12/23/2009
Benzo[a]pyrene	0.921	ug/L	1	92.1	30-140	12/21/2009	12/23/2009
2-Methylnaphthalene	0.674	ug/L	1	67.4	30-140	12/21/2009	12/23/2009
Benzo[k]fluoranthene	0.751	ug/L	1	75.1	30-140	12/21/2009	12/23/2009
Pyrene	0.990	ug/L	1	99.0	30-140	12/21/2009	12/23/2009
Dibenz[a,h]anthracene	0.912	ug/L	1	91.2	30-140	12/21/2009	12/23/2009
Fluoranthene	0.982	ug/L	1	98.2	30-140	12/21/2009	12/23/2009
Fluorene	0.911	ug/L	1	91.1	30-140	12/21/2009	12/23/2009
Indeno[1,2,3-cd]pyrene	0.883	ug/L	1	88.3	30-140	12/21/2009	12/23/2009
Naphthalene	0.660	ug/L	1	66.0	30-140	12/21/2009	12/23/2009
Phenanthrene	0.942	ug/L	1	94.2	30-140	12/21/2009	12/23/2009
Benzo[b]fluoranthene	1.08	ug/L	1	108.0	30-140	12/21/2009	12/23/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091217036-004A	Chrysene	ND	0.991	ug/L	1	99.1	30-140	12/21/2009	12/23/2009
091217036-004A	Acenaphthene	ND	0.793	ug/L	1	79.3	30-140	12/21/2009	12/23/2009
091217036-004A	Acenaphthylene	ND	0.806	ug/L	1	80.6	30-140	12/21/2009	12/23/2009
091217036-004A	Anthracene	ND	0.861	ug/L	1	86.1	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo(ghi)perylene	ND	0.949	ug/L	1	94.9	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[a]anthracene	ND	0.944	ug/L	1	94.4	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[a]pyrene	ND	0.958	ug/L	1	95.8	30-140	12/21/2009	12/23/2009
091217036-004A	2-Methylnaphthalene	ND	0.496	ug/L	1	49.6	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[k]fluoranthene	ND	0.799	ug/L	1	79.9	30-140	12/21/2009	12/23/2009
091217036-004A	Pyrene	ND	0.998	ug/L	1	99.8	30-140	12/21/2009	12/23/2009
091217036-004A	Dibenz[a,h]anthracene	ND	0.968	ug/L	1	96.8	30-140	12/21/2009	12/23/2009
091217036-004A	Fluoranthene	ND	0.994	ug/L	1	99.4	30-140	12/21/2009	12/23/2009
091217036-004A	Fluorene	ND	0.877	ug/L	1	87.7	30-140	12/21/2009	12/23/2009
091217036-004A	Indeno[1,2,3-cd]pyrene	ND	0.935	ug/L	1	93.5	30-140	12/21/2009	12/23/2009

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091217036-004A	Naphthalene	ND	0.370	ug/L	1	37.0	30-140	12/21/2009	12/23/2009
091217036-004A	Phenanthrene	ND	0.927	ug/L	1	92.7	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[b]fluoranthene	ND	1.12	ug/L	1	112.0	30-140	12/21/2009	12/23/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.982	ug/L	1	98.2	0.9	0-50	12/21/2009	12/23/2009
Acenaphthene	0.842	ug/L	1	84.2	6.0	0-50	12/21/2009	12/23/2009
Acenaphthylene	0.877	ug/L	1	87.7	8.4	0-50	12/21/2009	12/23/2009
Anthracene	0.871	ug/L	1	87.1	1.2	0-50	12/21/2009	12/23/2009
Benzo(ghi)perylene	0.950	ug/L	1	95.0	0.1	0-50	12/21/2009	12/23/2009
Benzo[a]anthracene	0.965	ug/L	1	96.5	2.2	0-50	12/21/2009	12/23/2009
Benzo[a]pyrene	0.991	ug/L	1	99.1	3.4	0-50	12/21/2009	12/23/2009
2-Methylnaphthalene	0.647	ug/L	1	64.7	26.4	0-50	12/21/2009	12/23/2009
Benzo[k]fluoranthene	0.814	ug/L	1	81.4	1.9	0-50	12/21/2009	12/23/2009
Pyrene	0.999	ug/L	1	99.9	0.1	0-50	12/21/2009	12/23/2009
Dibenz[a,h]anthracene	0.987	ug/L	1	98.7	1.9	0-50	12/21/2009	12/23/2009
Fluoranthene	1.02	ug/L	1	102.0	2.6	0-50	12/21/2009	12/23/2009
Fluorene	0.926	ug/L	1	92.6	5.4	0-50	12/21/2009	12/23/2009
Indeno[1,2,3-cd]pyrene	0.952	ug/L	1	95.2	1.8	0-50	12/21/2009	12/23/2009
Naphthalene	0.547	ug/L	1	54.7	38.6	0-50	12/21/2009	12/23/2009
Phenanthrene	0.938	ug/L	1	93.8	1.2	0-50	12/21/2009	12/23/2009
Benzo[b]fluoranthene	1.11	ug/L	1	111.0	0.9	0-50	12/21/2009	12/23/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	12/21/2009	12/23/2009
Acenaphthene	ND	ug/L	0.01	12/21/2009	12/23/2009
Acenaphthylene	ND	ug/L	0.01	12/21/2009	12/23/2009
Anthracene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo(ghi)perylene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[a]anthracene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[a]pyrene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	12/21/2009	12/23/2009

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	12/21/2009	12/23/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/21/2009	12/23/2009
Fluoranthene	ND	ug/L	0.01	12/21/2009	12/23/2009
Fluorene	ND	ug/L	0.01	12/21/2009	12/23/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/21/2009	12/23/2009
Naphthalene	ND	ug/L	0.01	12/21/2009	12/23/2009
Phenanthrene	ND	ug/L	0.01	12/21/2009	12/23/2009
Pyrene	ND	ug/L	0.01	12/21/2009	12/23/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM
Sample Location

Date/Time Received 12/16/2009 12:30 PM
Extraction Date 12/17/2009

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091216028-001

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	72.4	30-130

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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-002	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW20-121509	**Sampling Time**	10:30 AM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091216028-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	76.2	30-130

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-003	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW04-121509	**Sampling Time**	11:30 AM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091216028-003

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	85.6	30-130

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number	091216028-004	**Sampling Date**	12/15/2009	**Date/Time Received**	12/16/2009 12:30 PM
Client Sample ID	MW01-121509	**Sampling Time**	2:30 PM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091216028-004

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	88.0	30-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
PCB (total)	8.86	ug/L	10	88.6	30-130	12/17/2009	12/21/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091216028-001	PCB (total)	ND	39.3	ug/L	40	98.3	30-130	12/17/2009	12/21/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
PCB (total)	36.2	ug/L	40	90.5	8.2	0-50	12/17/2009	12/21/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	12/17/2009	12/21/2009
PCB (total)	ND	ug/L	0.2	12/17/2009	12/21/2009

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-001
Client Sample ID MW02R-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 9:30 AM

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00753	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0136	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	0.00697	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/18/2009	CAS	EPA 7470A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-002
Client Sample ID MW20-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 10:30 AM

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00258	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0661	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00104	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/18/2009	CAS	EPA 7470A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-003 **Sampling Date** 12/15/2009 **Date/Time Received** 12/16/2009 12:30 PM
Client Sample ID MW04-121509 **Sampling Time** 11:30 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00530	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0430	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	0.00189	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00118	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/18/2009	CAS	EPA 7470A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-004 **Sampling Date** 12/15/2009 **Date/Time Received** 12/16/2009 12:30 PM
Client Sample ID MW01-121509 **Sampling Time** 2:30 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00123	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0486	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00100	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/18/2009	CAS	EPA 7470A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Sample Number 091216028-005
Client Sample ID MW03-121509
Matrix Water
Comments

Sampling Date 12/15/2009
Sampling Time 3:30 PM

Date/Time Received 12/16/2009 12:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00462	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0253	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	0.00191	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00237	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	0.00398	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/18/2009	CAS	EPA 7470A	
Nickel	0.00185	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0519	mg/L	0.05	103.8	80-120	1/4/2010	1/4/2010
Dissolved Lead	0.0504	mg/L	0.05	100.8	80-120	1/4/2010	1/4/2010
Dissolved Copper	0.0525	mg/L	0.05	105.0	80-120	1/4/2010	1/4/2010
Dissolved Arsenic	0.0531	mg/L	0.05	106.2	80-120	1/4/2010	1/4/2010
Mercury	0.00000418	mg/L	0.000005	83.6	80-120	12/29/2009	12/29/2009
Silver	0.0488	mg/L	0.05	97.6	80-120	12/21/2009	12/22/2009
Selenium	0.0469	mg/L	0.05	93.8	80-120	12/21/2009	12/22/2009
Nickel	0.0475	mg/L	0.05	95.0	80-120	12/21/2009	12/22/2009
Lead	0.0474	mg/L	0.05	94.8	80-120	12/21/2009	12/22/2009
Copper	0.0478	mg/L	0.05	95.6	80-120	12/21/2009	12/22/2009
Chromium	0.0484	mg/L	0.05	96.8	80-120	12/21/2009	12/22/2009
Cadmium	0.0487	mg/L	0.05	97.4	80-120	12/21/2009	12/22/2009
Barium	0.0591	mg/L	0.05	118.2	80-120	12/21/2009	12/22/2009
Arsenic	0.0477	mg/L	0.05	95.4	80-120	12/21/2009	12/22/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091218014-004B	Silver	ND	0.0487	mg/L	0.05	97.4	75-125	12/21/2009	12/22/2009
091218014-004B	Selenium	ND	0.0464	mg/L	0.05	92.8	75-125	12/21/2009	12/22/2009
091218014-004B	Nickel	ND	0.0484	mg/L	0.05	96.8	75-125	12/21/2009	12/22/2009
091218014-004B	Lead	ND	0.0474	mg/L	0.05	94.8	75-125	12/21/2009	12/22/2009
091218014-004B	Copper	ND	0.0484	mg/L	0.05	96.8	75-125	12/21/2009	12/22/2009
091218014-004B	Chromium	ND	0.0491	mg/L	0.05	98.2	75-125	12/21/2009	12/22/2009
091218014-004B	Cadmium	ND	0.0489	mg/L	0.05	97.8	75-125	12/21/2009	12/22/2009
091218014-004B	Barium	0.0170	0.0658	mg/L	0.05	97.6	75-125	12/21/2009	12/22/2009
091218014-004B	Arsenic	ND	0.0491	mg/L	0.05	98.2	75-125	12/21/2009	12/22/2009
091216028-005	Dissolved Nickel	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Lead	ND	0.0956	mg/L	0.1	95.6	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Copper	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Arsenic	0.00398	0.110	mg/L	0.1	106.0	75-125	1/4/2010	1/4/2010
091216028-001	Mercury	ND	0.0000905	mg/L	0.0001	90.5	75-125	12/29/2009	12/29/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Silver	0.0505	mg/L	0.05	101.0	3.6	0-20	12/21/2009	12/22/2009
Selenium	0.0479	mg/L	0.05	95.8	3.2	0-20	12/21/2009	12/22/2009
Nickel	0.0498	mg/L	0.05	99.6	2.9	0-20	12/21/2009	12/22/2009
Lead	0.0489	mg/L	0.05	97.8	3.1	0-20	12/21/2009	12/22/2009
Copper	0.0501	mg/L	0.05	100.2	3.5	0-20	12/21/2009	12/22/2009
Chromium	0.0509	mg/L	0.05	101.8	3.6	0-20	12/21/2009	12/22/2009
Cadmium	0.0581	mg/L	0.05	116.2	17.2	0-20	12/21/2009	12/22/2009
Barium	0.0681	mg/L	0.05	102.2	3.4	0-20	12/21/2009	12/22/2009
Arsenic	0.0505	mg/L	0.05	101.0	2.8	0-20	12/21/2009	12/22/2009
Dissolved Nickel	0.100	mg/L	0.1	100.0	0.0	0-20	1/4/2010	1/4/2010
Dissolved Lead	0.0961	mg/L	0.1	96.1	0.5	0-20	1/4/2010	1/4/2010
Dissolved Copper	0.101	mg/L	0.1	101.0	1.0	0-20	1/4/2010	1/4/2010
Dissolved Arsenic	0.111	mg/L	0.1	107.0	0.9	0-20	1/4/2010	1/4/2010
Mercury	0.0000849	mg/L	0.0001	84.9	6.4	0-20	12/29/2009	12/29/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	12/21/2009	12/22/2009
Barium	ND	mg/L	0.001	12/21/2009	12/22/2009
Cadmium	ND	mg/L	0.001	12/21/2009	12/22/2009
Chromium	ND	mg/L	0.001	12/21/2009	12/22/2009
Copper	ND	mg/L	0.001	12/21/2009	12/22/2009
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Copper	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Lead	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	1/4/2010
Lead	ND	mg/L	0.001	12/21/2009	12/22/2009
Mercury	<0.0000005	mg/L	0.0001	12/29/2009	12/29/2009
Nickel	ND	mg/L	0.001	12/21/2009	12/22/2009
Selenium	ND	mg/L	0.001	12/21/2009	12/22/2009
Silver	ND	mg/L	0.001	12/21/2009	12/22/2009

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091216028
Project Name: DEC09 EAST BAY GWM

Analytical Results Report

Quality Control Data

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091221022-002	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Lead	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Copper	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091217043-006	Silver	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Selenium	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Nickel	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Lead	0.00135	0.00133	mg/L	1.5	0-20	12/21/2009	12/22/2009
091217043-006	Copper	0.00393	0.00405	mg/L	3.0	0-20	12/21/2009	12/22/2009
091217043-006	Chromium	0.0164	0.0166	mg/L	1.2	0-20	12/21/2009	12/22/2009
091217043-006	Cadmium	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Barium	0.0283	0.0283	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Arsenic	0.00143	0.00146	mg/L	2.1	0-20	12/21/2009	12/22/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091216028
Order Date: 12/16/2009

Contact Name: TROY BUSSEY

Project Name: DEC09 EAST BAY GWM

Comment:

Sample #: 091216028-001 **Customer Sample #:** MW02R-121509

Recv'd: ☑ **Collector:** **Date Collected:** 12/15/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/16/2009 12:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
MERCURY-CV-7470A		EPA 7470A	12/30/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/30/2009	***Normal (6-10 Days)***
PCB 8082		EPA 8082	12/30/2009	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	12/30/2009	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	12/30/2009	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	12/30/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091216028
Order Date: 12/16/2009

Contact Name: TROY BUSSEY

Project Name: DEC09 EAST BAY GWM

Comment:

Sample #: 091216028-002 **Customer Sample #:** MW20-121509

Recv'd: ☑ **Collector:** **Date Collected:** 12/15/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/16/2009 12:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
MERCURY-CV-7470A		EPA 7470A	12/30/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/30/2009	***Normal (6-10 Days)***
PCB 8082		EPA 8082	12/30/2009	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	12/30/2009	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	12/30/2009	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	12/30/2009	***Normal (6-10 Days)***

Sample #: 091216028-003 **Customer Sample #:** MW04-121509

Recv'd: ☑ **Collector:** **Date Collected:** 12/15/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/16/2009 12:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091216028
Order Date: 12/16/2009

Contact Name: TROY BUSSEY

Project Name: DEC09 EAST BAY GWM

Comment:

COPPER BY 6020A	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
MERCURY-CV-7470A	EPA 7470A	12/30/2009	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	12/30/2009	***Normal (6-10 Days)***
PCB 8082	EPA 8082	12/30/2009	***Normal (6-10 Days)***
SELENIUM BY 6020A	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
SILVER BY 6020A	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	12/30/2009	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	12/30/2009	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	12/30/2009	***Normal (6-10 Days)***

Sample #: 091216028-004 **Customer Sample #:** MW01-121509

Recv'd: ☑ **Collector:** **Date Collected:** 12/15/2009

Quantity: 11 **Matrix:** Water **Date Received:** 12/16/2009 12:30:00

Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
MERCURY-CV-7470A		EPA 7470A	12/30/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	12/30/2009	***Normal (6-10 Days)***
PCB 8082		EPA 8082	12/30/2009	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091216028
Order Date: 12/16/2009

Contact Name: TROY BUSSEY

Project Name: DEC09 EAST BAY GWM

Comment:

SILVER BY 6020A	EPA 6020A	12/30/2009	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	12/30/2009	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	12/30/2009	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	12/30/2009	***Normal (6-10 Days)***

Sample #: 091216028-005 **Customer Sample #:** MW03-121509

Recv'd: ☑ **Collector:** **Date Collected:** 12/15/2009
Quantity: 9 **Matrix:** Water **Date Received:** 12/16/2009 12:30:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
MERCURY-CV-7470A		EPA 7470A	12/30/2009	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	12/30/2009	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	12/30/2009	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	12/30/2009	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	12/30/2009	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091216028
Order Date: 12/16/2009

Contact Name: TROY BUSSEY

Project Name: DEC09 EAST BAY GWM

Comment:

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	4.6
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	No
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

091217 043 **PITC** Last Due 1/4/2010
1st SAMP 12/16/200 1st RCVD 12/17/2009
EAST BAY DEC GW

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay Dec GW
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G NWTPH-G	TPH-D+HO NWTPH-DX	VOC 8260	PAH 8270	PCB 8082	Total Metals*	Diss. Metals*			
1	MW03-121609	12.16.09/0730	WT	2					X	X					
2	MW09-121609	12.16.09/1030	WT	11		X	X	X	X	X	X	X			
3	MW08-121609	12.16.09/1115	WT	11		X	X	X	X	X	X	X			
4	MW25S-121609	12.16.09/1200	WT	11		X	X	X	X	X	X	X			
5	MW22S-121609	12.16.09/1400	WT	11		X	X	X	X	X	X	X			
6	MW14-121609	12.16.09/1500	WT	11		X	X	X	X	X	X	X			

Note Special Instructions/Comments

MWBS

* Total Metals: total RCRA 8 Metals and Cu + Ni

* Dissolved Metals: As, Pb, Cu + Ni

Total DCS = 57

	Printed Name	Signature	Company	Date	Time
Relinquished by	Kara Roberts	Kara Roberts	PTC	121609	1700
Received by	Troy Bussey	[signature]	Anatek	12/17/09	13:15
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	(Y)	N

Fedex

Temperature (°C): 5.6

Preservative: HCl

Date & Time: __________

Inspected By: __________

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-002	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW09-121609	**Sampling Time**	10:30 AM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.152	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091217043-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150
4-Bromofluorobenzene	NWTPHG	102.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-003	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW08-1216-09	**Sampling Time**	11:15 AM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.249	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091217043-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	98.4	50-150
4-Bromofluorobenzene	NWTPHG	103.0	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-004	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW25S-121609	**Sampling Time**	12:00 PM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	0.642	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091217043-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	103.2	50-150
4-Bromofluorobenzene	NWTPHG	103.0	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-005	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW22S-121609	**Sampling Time**	2:00 PM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091217043-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150
4-Bromofluorobenzene	NWTPHG	103.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-006	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW14-121609	**Sampling Time**	3:00 PM	**Extraction Date**	12/20/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.159	mg/L	0.1	12/21/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/21/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/18/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091217043-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150
4-Bromofluorobenzene	NWTPHG	95.2	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.830	mg/L	1	83.0	50-150	12/20/2009	12/22/2009
Gasoline	0.95	mg/L	1	95.0	70-130	12/18/2009	12/18/2009

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.808	mg/L	1	80.8	2.7	0-50	12/20/2009	12/22/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091216028-001	Gasoline	ND	1.03	mg/L	1	103.0	70-130	12/18/2009	12/18/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	1.08	mg/L	1	108.0	4.7	0-25	12/18/2009	12/18/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	12/20/2009	12/22/2009
Gasoline	ND	mg/L	0.5	12/18/2009	12/18/2009
Lube Oil	ND	mg/L	0.5	12/20/2009	12/22/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-002
Client Sample ID MW09-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-002
Client Sample ID MW09-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-002
Client Sample ID MW09-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091217043-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.0	70-130
4-Bromofluorobenzene	EPA 8260B	95.2	70-130
Toluene-d8	EPA 8260B	102.4	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-003
Client Sample ID MW08-1216-09
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 11:15 AM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-003
Client Sample ID MW08-1216-09
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 11:15 AM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-003
Client Sample ID MW08-1216-09
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 11:15 AM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091217043-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	96.0	70-130
Toluene-d8	EPA 8260B	101.6	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-004
Client Sample ID MW25S-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-004
Client Sample ID MW25S-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-004
Client Sample ID MW25S-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091217043-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	95.2	70-130
Toluene-d8	EPA 8260B	103.6	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-005
Client Sample ID MW22S-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 2:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-005
Client Sample ID MW22S-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 2:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-005
Client Sample ID MW22S-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 2:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091217043-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	96.4	70-130
Toluene-d8	EPA 8260B	103.2	70-130

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-006
Client Sample ID MW14-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 3:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-006
Client Sample ID MW14-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 3:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/18/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-006
Client Sample ID MW14-121609
Matrix Water
Comments

Sampling Date 12/16/2009
Sampling Time 3:00 PM
Sample Location

Date/Time Received 12/17/2009 1:15 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Toluene	3.12	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091217043-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.8	70-130
4-Bromofluorobenzene	EPA 8260B	95.2	70-130
Toluene-d8	EPA 8260B	102.4	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
1,1-Dichloroethene	10.1	ug/L	10	101.0	69-139	12/18/2009	12/18/2009
Trichloroethene	9.81	ug/L	10	98.1	74-129	12/18/2009	12/18/2009
Toluene	10.1	ug/L	10	101.0	75-126	12/18/2009	12/18/2009
Tetrachloroethene	9.49	ug/L	10	94.9	71-127	12/18/2009	12/18/2009
o-Xylene	9.30	ug/L	10	93.0	81-121	12/18/2009	12/18/2009
Ethylbenzene	9.50	ug/L	10	95.0	77-123	12/18/2009	12/18/2009
Chlorobenzene	9.91	ug/L	10	99.1	79-119	12/18/2009	12/18/2009
Benzene	9.60	ug/L	10	96.0	76-127	12/18/2009	12/18/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091216028-001	Chlorobenzene	ND	9.32	ug/L	10	93.2	77-125	12/18/2009	12/18/2009
091216028-001	Benzene	ND	9.27	ug/L	10	92.7	73-137	12/18/2009	12/18/2009
091216028-001	1,1-Dichloroethene	ND	10.4	ug/L	10	104.0	70-154	12/18/2009	12/18/2009
091216028-001	Tetrachloroethene	ND	9.69	ug/L	10	96.9	62-143	12/18/2009	12/18/2009
091216028-001	o-Xylene	ND	8.73	ug/L	10	87.3	68-142	12/18/2009	12/18/2009
091216028-001	Ethylbenzene	ND	9.06	ug/L	10	90.6	76-133	12/18/2009	12/18/2009
091216028-001	Trichloroethene	ND	9.70	ug/L	10	97.0	68-144	12/18/2009	12/18/2009
091216028-001	Toluene	ND	9.94	ug/L	10	99.4	64-145	12/18/2009	12/18/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chlorobenzene	10.3	ug/L	10	103.0	10.0	0-25	12/18/2009	12/18/2009
Benzene	10.1	ug/L	10	101.0	8.6	0-25	12/18/2009	12/18/2009
1,1-Dichloroethene	11.6	ug/L	10	116.0	10.9	0-25	12/18/2009	12/18/2009
Tetrachloroethene	10.7	ug/L	10	107.0	9.9	0-25	12/18/2009	12/18/2009
o-Xylene	9.69	ug/L	10	96.9	10.4	0-25	12/18/2009	12/18/2009
Ethylbenzene	10.0	ug/L	10	100.0	9.9	0-25	12/18/2009	12/18/2009
Trichloroethene	10.6	ug/L	10	106.0	8.9	0-25	12/18/2009	12/18/2009
Toluene	10.9	ug/L	10	109.0	9.2	0-25	12/18/2009	12/18/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1,1-Trichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1,2-Trichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1-Dichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1-Dichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,1-dichloropropene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,3-Trichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dibromoethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dichloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,3-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
1,3-Dichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
1,4-Dichlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
2,2-Dichloropropane	ND	ug/L	0.5	12/18/2009	12/18/2009
2-Chlorotoluene	ND	ug/L	0.5	12/18/2009	12/18/2009
2-hexanone	ND	ug/L	2.5	12/18/2009	12/18/2009
4-Chlorotoluene	ND	ug/L	0.5	12/18/2009	12/18/2009
Acetone	ND	ug/L	2.5	12/18/2009	12/18/2009
Acrylonitrile	ND	ug/L	0.5	12/18/2009	12/18/2009
Benzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromochloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromodichloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromoform	ND	ug/L	0.5	12/18/2009	12/18/2009
Bromomethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Carbon disulfide	ND	ug/L	0.5	12/18/2009	12/18/2009
Carbon Tetrachloride	ND	ug/L	0.5	12/18/2009	12/18/2009
Chlorobenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Chloroethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Chloroform	ND	ug/L	0.5	12/18/2009	12/18/2009

Comments:

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
cis-1,2-dichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	12/18/2009
Dibromochloromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Dibromomethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Dichlorodifluoromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Ethylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Hexachlorobutadiene	ND	ug/L	0.5	12/18/2009	12/18/2009
Isopropylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
m+p-Xylene	ND	ug/L	0.5	12/18/2009	12/18/2009
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/18/2009	12/18/2009
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/18/2009	12/18/2009
Methylene chloride	ND	ug/L	2.5	12/18/2009	12/18/2009
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/18/2009	12/18/2009
Naphthalene	ND	ug/L	0.5	12/18/2009	12/18/2009
n-Butylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
n-Propylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
o-Xylene	ND	ug/L	0.5	12/18/2009	12/18/2009
p-isopropyltoluene	ND	ug/L	0.5	12/18/2009	12/18/2009
sec-Butylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Styrene	ND	ug/L	0.5	12/18/2009	12/18/2009
tert-Butylbenzene	ND	ug/L	0.5	12/18/2009	12/18/2009
Tetrachloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
Toluene	ND	ug/L	0.5	12/18/2009	12/18/2009
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/18/2009	12/18/2009
Trichloroethene	ND	ug/L	0.5	12/18/2009	12/18/2009
Trichloroflouromethane	ND	ug/L	0.5	12/18/2009	12/18/2009
Vinyl Chloride	ND	ug/L	0.5	12/18/2009	12/18/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-001	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW03-121609	**Sampling Time**	9:30 AM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	0.196	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	0.021	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	0.020	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	0.027	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	0.021	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	0.024	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	0.011	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	0.021	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	0.033	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	0.057	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	0.019	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.013	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	0.027	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	0.035	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091217043-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	90.6	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-002	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW09-121609	**Sampling Time**	10:30 AM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091217043-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	83.0	10-125

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-003	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW08-1216-09	**Sampling Time**	11:15 AM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	0.258	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	0.109	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	0.014	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091217043-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	78.4	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-004	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW25S-121609	**Sampling Time**	12:00 PM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.010	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	0.040	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	0.025	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	0.035	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.028	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	0.050	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	0.032	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091217043-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.2	10-125

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-005	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW22S-121609	**Sampling Time**	2:00 PM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.013	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091217043-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	96.1	10-125

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-006	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW14-121609	**Sampling Time**	3:00 PM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.016	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	0.010	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091217043-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	72.0	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	1.04	ug/L	1	104.0	30-140	12/22/2009	12/28/2009
Acenaphthene	0.564	ug/L	1	56.4	30-140	12/22/2009	12/28/2009
Acenaphthylene	0.612	ug/L	1	61.2	30-140	12/22/2009	12/28/2009
Anthracene	0.876	ug/L	1	87.6	30-140	12/22/2009	12/28/2009
Benzo(ghi)perylene	0.907	ug/L	1	90.7	30-140	12/22/2009	12/28/2009
Benzo[a]anthracene	1.13	ug/L	1	113.0	30-140	12/22/2009	12/28/2009
Benzo[a]pyrene	0.980	ug/L	1	98.0	30-140	12/22/2009	12/28/2009
2-Methylnaphthalene	0.443	ug/L	1	44.3	30-140	12/22/2009	12/28/2009
Benzo[k]fluoranthene	1.07	ug/L	1	107.0	30-140	12/22/2009	12/28/2009
Pyrene	1.10	ug/L	1	110.0	30-140	12/22/2009	12/28/2009
Dibenz[a,h]anthracene	0.932	ug/L	1	93.2	30-140	12/22/2009	12/28/2009
Fluoranthene	1.12	ug/L	1	112.0	30-140	12/22/2009	12/28/2009
Fluorene	0.678	ug/L	1	67.8	30-140	12/22/2009	12/28/2009
Indeno[1,2,3-cd]pyrene	0.902	ug/L	1	90.2	30-140	12/22/2009	12/28/2009
Naphthalene	0.519	ug/L	1	51.9	30-140	12/22/2009	12/28/2009
Phenanthrene	0.965	ug/L	1	96.5	30-140	12/22/2009	12/28/2009
Benzo[b]fluoranthene	1.03	ug/L	1	103.0	30-140	12/22/2009	12/28/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091218026-004A	Benzo[b]fluoranthene	ND	1.04	ug/L	1	104.0	30-140	12/22/2009	12/28/2009
091218026-004A	Pyrene	ND	1.11	ug/L	1	111.0	30-140	12/22/2009	12/28/2009
091218026-004A	Fluorene	ND	0.785	ug/L	1	78.5	30-140	12/22/2009	12/28/2009
091218026-004A	Indeno[1,2,3-cd]pyrene	ND	0.987	ug/L	1	98.7	30-140	12/22/2009	12/28/2009
091218026-004A	Naphthalene	ND	0.415	ug/L	1	41.5	30-140	12/22/2009	12/28/2009
091218026-004A	Chrysene	ND	1.10	ug/L	1	110.0	30-140	12/22/2009	12/28/2009
091218026-004A	Dibenz[a,h]anthracene	ND	0.992	ug/L	1	99.2	30-140	12/22/2009	12/28/2009
091218026-004A	Phenanthrene	ND	0.998	ug/L	1	99.8	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo[a]pyrene	ND	1.01	ug/L	1	101.0	30-140	12/22/2009	12/28/2009
091218026-004A	Acenaphthylene	ND	0.594	ug/L	1	59.4	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo[k]fluoranthene	ND	1.05	ug/L	1	105.0	30-140	12/22/2009	12/28/2009
091218026-004A	Anthracene	ND	0.994	ug/L	1	99.4	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo(ghi)perylene	ND	0.978	ug/L	1	97.8	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo[a]anthracene	ND	1.02	ug/L	1	102.0	30-140	12/22/2009	12/28/2009

Comments:

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091218026-004A	2-Methylnaphthalene	ND	0.387	ug/L	1	38.7	30-140	12/22/2009	12/28/2009
091218026-004A	Acenaphthene	ND	0.593	ug/L	1	59.3	30-140	12/22/2009	12/28/2009
091218026-004A	Fluoranthene	ND	1.11	ug/L	1	111.0	30-140	12/22/2009	12/28/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Benzo[b]fluoranthene	0.934	ug/L	1	93.4	10.7	0-50	12/22/2009	12/28/2009
Pyrene	1.05	ug/L	1	105.0	5.6	0-50	12/22/2009	12/28/2009
Fluorene	0.754	ug/L	1	75.4	4.0	0-50	12/22/2009	12/28/2009
Indeno[1,2,3-cd]pyrene	0.869	ug/L	1	86.9	12.7	0-50	12/22/2009	12/28/2009
Naphthalene	0.361	ug/L	1	36.1	13.9	0-50	12/22/2009	12/28/2009
Chrysene	0.985	ug/L	1	98.5	11.0	0-50	12/22/2009	12/28/2009
Dibenz[a,h]anthracene	0.892	ug/L	1	89.2	10.6	0-50	12/22/2009	12/28/2009
Phenanthrene	0.930	ug/L	1	93.0	7.1	0-50	12/22/2009	12/28/2009
Benzo[a]pyrene	0.906	ug/L	1	90.6	10.9	0-50	12/22/2009	12/28/2009
Acenaphthylene	0.584	ug/L	1	58.4	1.7	0-50	12/22/2009	12/28/2009
Benzo[k]fluoranthene	0.964	ug/L	1	96.4	8.5	0-50	12/22/2009	12/28/2009
Anthracene	0.939	ug/L	1	93.9	5.7	0-50	12/22/2009	12/28/2009
Benzo(ghi)perylene	0.866	ug/L	1	86.6	12.1	0-50	12/22/2009	12/28/2009
Benzo[a]anthracene	1.03	ug/L	1	103.0	1.0	0-50	12/22/2009	12/28/2009
2-Methylnaphthalene	0.347	ug/L	1	34.7	10.9	0-50	12/22/2009	12/28/2009
Acenaphthene	0.557	ug/L	1	55.7	6.3	0-50	12/22/2009	12/28/2009
Fluoranthene	1.04	ug/L	1	104.0	6.5	0-50	12/22/2009	12/28/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	12/22/2009	12/28/2009
Acenaphthene	ND	ug/L	0.01	12/22/2009	12/28/2009
Acenaphthylene	ND	ug/L	0.01	12/22/2009	12/28/2009
Anthracene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo(ghi)perylene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[a]anthracene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[a]pyrene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	12/22/2009	12/28/2009

Comments:

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Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	12/22/2009	12/28/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/22/2009	12/28/2009
Fluoranthene	ND	ug/L	0.01	12/22/2009	12/28/2009
Fluorene	ND	ug/L	0.01	12/22/2009	12/28/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/22/2009	12/28/2009
Naphthalene	ND	ug/L	0.01	12/22/2009	12/28/2009
Phenanthrene	ND	ug/L	0.01	12/22/2009	12/28/2009
Pyrene	ND	ug/L	0.01	12/22/2009	12/28/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-001	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW03-121609	**Sampling Time**	9:30 AM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091217043-001

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	78.6	30-130

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-002	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW09-121609	**Sampling Time**	10:30 AM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091217043-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	66.4	30-130

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-003	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW08-1216-09	**Sampling Time**	11:15 AM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091217043-003

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	60.8	30-130

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Analytical Results Report

Sample Number	091217043-004	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW25S-121609	**Sampling Time**	12:00 PM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091217043-004

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	57.0	30-130

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Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-005	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW22S-121609	**Sampling Time**	2:00 PM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091217043-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	61.4	30-130

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091217043-006	**Sampling Date**	12/16/2009	**Date/Time Received**	12/17/2009 1:15 PM
Client Sample ID	MW14-121609	**Sampling Time**	3:00 PM	**Extraction Date**	12/17/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091217043-006

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	47.0	30-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
PCB (total)	8.86	ug/L	10	88.6	30-130	12/17/2009	12/21/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091216028-001	PCB (total)	ND	39.3	ug/L	40	98.3	30-130	12/17/2009	12/21/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
PCB (total)	36.2	ug/L	40	90.5	8.2	0-50	12/17/2009	12/21/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	12/17/2009	12/21/2009
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	12/17/2009	12/21/2009
PCB (total)	ND	ug/L	0.2	12/17/2009	12/21/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-002 **Sampling Date** 12/16/2009 **Date/Time Received** 12/17/2009 1:15 PM
Client Sample ID MW09-121609 **Sampling Time** 10:30 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00149	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0580	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-003 **Sampling Date** 12/16/2009 **Date/Time Received** 12/17/2009 1:15 PM
Client Sample ID MW08-1216-09 **Sampling Time** 11:15 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00141	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.107	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	0.00128	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-004 **Sampling Date** 12/16/2009 **Date/Time Received** 12/17/2009 1:15 PM
Client Sample ID MW25S-121609 **Sampling Time** 12:00 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00272	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0370	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	0.00329	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00754	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	0.0119	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	0.00321	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-005 **Sampling Date** 12/16/2009 **Date/Time Received** 12/17/2009 1:15 PM
Client Sample ID MW22S-121609 **Sampling Time** 2:00 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00184	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0182	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	0.00140	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00185	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

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Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091217043-006 **Sampling Date** 12/16/2009 **Date/Time Received** 12/17/2009 1:15 PM
Client Sample ID MW14-121609 **Sampling Time** 3:00 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00143	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Barium	0.0283	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Cadmium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Chromium	0.0164	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Copper	0.00393	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	0.00222	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	0.00135	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Selenium	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	
Silver	ND	mg/L	0.001	12/22/2009	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0519	mg/L	0.05	103.8	80-120	1/4/2010	1/4/2010
Dissolved Lead	0.0504	mg/L	0.05	100.8	80-120	1/4/2010	1/4/2010
Dissolved Copper	0.0525	mg/L	0.05	105.0	80-120	1/4/2010	1/4/2010
Dissolved Arsenic	0.0531	mg/L	0.05	106.2	80-120	1/4/2010	1/4/2010
Mercury	0.00000431	mg/L	0.000005	86.2	80-120	12/29/2009	12/29/2009
Silver	0.0488	mg/L	0.05	97.6	80-120	12/21/2009	12/22/2009
Selenium	0.0469	mg/L	0.05	93.8	80-120	12/21/2009	12/22/2009
Nickel	0.0475	mg/L	0.05	95.0	80-120	12/21/2009	12/22/2009
Lead	0.0474	mg/L	0.05	94.8	80-120	12/21/2009	12/22/2009
Copper	0.0478	mg/L	0.05	95.6	80-120	12/21/2009	12/22/2009
Chromium	0.0484	mg/L	0.05	96.8	80-120	12/21/2009	12/22/2009
Cadmium	0.0487	mg/L	0.05	97.4	80-120	12/21/2009	12/22/2009
Barium	0.0591	mg/L	0.05	118.2	80-120	12/21/2009	12/22/2009
Arsenic	0.0477	mg/L	0.05	95.4	80-120	12/21/2009	12/22/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091218014-004B	Silver	ND	0.0487	mg/L	0.05	97.4	75-125	12/21/2009	12/22/2009
091218014-004B	Selenium	ND	0.0464	mg/L	0.05	92.8	75-125	12/21/2009	12/22/2009
091218014-004B	Nickel	ND	0.0484	mg/L	0.05	96.8	75-125	12/21/2009	12/22/2009
091218014-004B	Lead	ND	0.0474	mg/L	0.05	94.8	75-125	12/21/2009	12/22/2009
091218014-004B	Copper	ND	0.0484	mg/L	0.05	96.8	75-125	12/21/2009	12/22/2009
091218014-004B	Chromium	ND	0.0491	mg/L	0.05	98.2	75-125	12/21/2009	12/22/2009
091218014-004B	Cadmium	ND	0.0489	mg/L	0.05	97.8	75-125	12/21/2009	12/22/2009
091218014-004B	Barium	0.0170	0.0658	mg/L	0.05	97.6	75-125	12/21/2009	12/22/2009
091218014-004B	Arsenic	ND	0.0491	mg/L	0.05	98.2	75-125	12/21/2009	12/22/2009
091217043-002	Mercury	ND	0.0000836	mg/L	0.0001	83.6	75-125	12/29/2009	12/29/2009
091216028-005	Dissolved Nickel	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Lead	ND	0.0956	mg/L	0.1	95.6	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Copper	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Arsenic	0.00398	0.110	mg/L	0.1	106.0	75-125	1/4/2010	1/4/2010

Comments:

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Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Silver	0.0505	mg/L	0.05	101.0	3.6	0-20	12/21/2009	12/22/2009
Selenium	0.0479	mg/L	0.05	95.8	3.2	0-20	12/21/2009	12/22/2009
Nickel	0.0498	mg/L	0.05	99.6	2.9	0-20	12/21/2009	12/22/2009
Lead	0.0489	mg/L	0.05	97.8	3.1	0-20	12/21/2009	12/22/2009
Copper	0.0501	mg/L	0.05	100.2	3.5	0-20	12/21/2009	12/22/2009
Chromium	0.0509	mg/L	0.05	101.8	3.6	0-20	12/21/2009	12/22/2009
Cadmium	0.0581	mg/L	0.05	116.2	17.2	0-20	12/21/2009	12/22/2009
Barium	0.0681	mg/L	0.05	102.2	3.4	0-20	12/21/2009	12/22/2009
Arsenic	0.0505	mg/L	0.05	101.0	2.8	0-20	12/21/2009	12/22/2009
Mercury	0.0000921	mg/L	0.0001	92.1	9.7	0-20	12/29/2009	12/29/2009
Dissolved Nickel	0.100	mg/L	0.1	100.0	0.0	0-20	1/4/2010	1/4/2010
Dissolved Lead	0.0961	mg/L	0.1	96.1	0.5	0-20	1/4/2010	1/4/2010
Dissolved Copper	0.101	mg/L	0.1	101.0	1.0	0-20	1/4/2010	1/4/2010
Dissolved Arsenic	0.111	mg/L	0.1	107.0	0.9	0-20	1/4/2010	1/4/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	12/21/2009	12/22/2009
Barium	ND	mg/L	0.001	12/21/2009	12/22/2009
Cadmium	ND	mg/L	0.001	12/21/2009	12/22/2009
Chromium	ND	mg/L	0.001	12/21/2009	12/22/2009
Copper	ND	mg/L	0.001	12/21/2009	12/22/2009
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Copper	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Lead	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	1/4/2010
Lead	ND	mg/L	0.001	12/21/2009	12/22/2009
Mercury	<0.0000005	mg/L	0.00001	12/29/2009	12/29/2009
Nickel	ND	mg/L	0.001	12/21/2009	12/22/2009
Selenium	ND	mg/L	0.001	12/21/2009	12/22/2009
Silver	ND	mg/L	0.001	12/21/2009	12/22/2009

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091221022-002	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091217043
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091221022-002	Dissolved Lead	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Copper	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091217043-006	Silver	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Selenium	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Nickel	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Lead	0.00135	0.00133	mg/L	1.5	0-20	12/21/2009	12/22/2009
091217043-006	Copper	0.00393	0.00405	mg/L	3.0	0-20	12/21/2009	12/22/2009
091217043-006	Chromium	0.0164	0.0166	mg/L	1.2	0-20	12/21/2009	12/22/2009
091217043-006	Cadmium	ND	ND	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Barium	0.0283	0.0283	mg/L	0.0	0-20	12/21/2009	12/22/2009
091217043-006	Arsenic	0.00143	0.00146	mg/L	2.1	0-20	12/21/2009	12/22/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091217043
Order Date: 12/17/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

Sample #: 091217043-001 **Customer Sample #:** MW03-121609

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/16/2009
Quantity: 2 **Matrix:** Water **Date Received:** 12/17/2009 1:15:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
PAH 8270 LOW		EPA 8270C	1/4/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/4/2010	***Normal (6-10 Days)***

Sample #: 091217043-002 **Customer Sample #:** MW09-121609

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/16/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/17/2009 1:15:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/4/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/4/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/4/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091217043
Order Date: 12/17/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY DEC GW

Comment:

SELENIUM BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
SILVER BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	1/4/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	1/4/2010	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	1/4/2010	***Normal (6-10 Days)***

Sample #: 091217043-003 **Customer Sample #:** MW08-1216-09

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/16/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/17/2009 1:15:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/4/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/4/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/4/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/4/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/4/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/4/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091217043
Order Date: 12/17/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY DEC GW

Comment:

Sample #: 091217043-004 **Customer Sample #:** MW25S-121609

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/16/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/17/2009 1:15:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/4/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/4/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/4/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/4/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/4/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/4/2010	***Normal (6-10 Days)***

Sample #: 091217043-005 **Customer Sample #:** MW22S-121609

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/16/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/17/2009 1:15:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION **Order ID:** 091217043

2612 YELM HWY SE **Order Date:** 12/17/2009

OLYMPIA WA 98001

Contact Name: TROY BUSSEY **Project Name:** EAST BAY DEC GW

Comment:

COPPER BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A	EPA 7471A	1/4/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	1/4/2010	***Normal (6-10 Days)***
PCB 8082	EPA 8082	1/4/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
SILVER BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	1/4/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	1/4/2010	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	1/4/2010	***Normal (6-10 Days)***

Sample #: 091217043-006 **Customer Sample #:** MW14-121609

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/16/2009

Quantity: 11 **Matrix:** Water **Date Received:** 12/17/2009 1:15:00 P

Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/4/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/4/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/4/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/4/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091217043
Order Date: 12/17/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

SILVER BY 6020A	EPA 6020A	1/4/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	1/4/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	1/4/2010	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	1/4/2010	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.6
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

091221 002 **PITC** Last Due 1/5/2010
1st SAMP 12/17/200 1st RCVD 12/18/2009
EAST BAY DEC GW

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay DeC GW
City: Olympia State: WA Zip: 98501	Email Address: busseyb@pioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*______

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description / List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G NWTPH-G	TPH-D+HO NWTPH-DX	VOCS 8260	PAHS 8270	PCB 8082	Total Metals*	Diss. Metals*			
1	MW18-121709	12/17/09/915	Water	11		X	X	X	X	X	X	X			
2	MW16-121709	12/17/09/1030	Water	11		X	X	X	X	X	X	X			
3	MW23S-121709	12/17/09/1100	Water	11		X	X	X	X	X	X	X			
	1-1L	Broken													
	Also received:														
	MW-11														
	MW-12														
	MW-24S														

Note Special Instructions/Comments

MWBS

*Total Metals: total RCRA 8 metals and Cu and Ni

*Diss Metals: As, Pb, Cu, Ni

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	12/17/09	1630
Received by	Traci Hear	Traci Hear	Anatek	12/18/09	1435
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	(N)
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	(Y)	N

Fedex

Temperature (°C): 4.7

Preservative:

Date & Time:

Inspected By:

Anatek Labs Inc.

Chain of Custody Record

Anatek Log-In #

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Printed on: 18 December 2009 5:25

Company Name: PTC	Project Manager: Tracy Bussey
Address: [illegible]	Project Name & #: [illegible]
City: Olympia State: WA Zip: 98501	Email Address: busseyt@[illegible].com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at:

X Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G NWTPH-G	TPH-Dx NWTPH-Dx	VOCs 8260	PAHs 8270	PCB 8082	Total metals *	Diss metals *			
4	MW12-121709	121709/1200	WT	11		X	X	X	X	X	X	X			
5	MW24S-121709	121709/1300	WT	11		X	X	X	X	X	X	X			
6	MW11-121709	121709/1430	WT	11		X	X	X	X	X	X	X			

* Total metals: total RCRA metals and Cu and Ni

* Diss metals As, Pb, Cu, Ni

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Fedon	Melody Fedon	PTC	12/17/09	1650
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): ______

Preservative: ______

Date & Time: ______

Inspected By: ______

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-001	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW18-121709	**Sampling Time**	9:15 AM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	1.06	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	0.694	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221002-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150
4-Bromofluorobenzene	NWTPHG	112.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-002	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW16-121709	**Sampling Time**	10:30 AM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.156	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221002-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150
4-Bromofluorobenzene	NWTPHG	113.0	70-130

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-003	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW23S-121709	**Sampling Time**	11:00 AM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.173	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221002-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.0	50-150
4-Bromofluorobenzene	NWTPHG	112.0	70-130

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-004	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW12-121709	**Sampling Time**	12:00 PM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221002-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150
4-Bromofluorobenzene	NWTPHG	111.0	70-130

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-005	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW24S-121709	**Sampling Time**	1:00 PM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	0.516	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221002-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	101.6	50-150
4-Bromofluorobenzene	NWTPHG	112.0	70-130

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-006	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW11-121709	**Sampling Time**	2:30 PM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150
4-Bromofluorobenzene	NWTPHG	112.0	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.803	mg/L	1	80.3	50-150	12/29/2009	12/31/2009
Gasoline	1.02	mg/L	1	102.0	70-130	12/23/2009	12/23/2009

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.829	mg/L	1	82.9	3.2	0-50	12/29/2009	12/31/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221022-002	Gasoline	ND	1.08	mg/L	1	108.0	70-130	12/23/2009	12/23/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	0.98	mg/L	1	98.0	9.7	0-25	12/23/2009	12/23/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	12/29/2009	12/31/2009
Gasoline	ND	mg/L	0.5	12/23/2009	12/23/2009
Lube Oil	ND	mg/L	0.5	12/29/2009	12/31/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-001
Client Sample ID MW18-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 9:15 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-001
Client Sample ID MW18-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 9:15 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-001
Client Sample ID MW18-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 9:15 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221002-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	89.2	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	105.2	70-130

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-002
Client Sample ID MW16-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-002
Client Sample ID MW16-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-002
Client Sample ID MW16-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221002-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	91.2	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	104.4	70-130

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-003
Client Sample ID MW23S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 11:00 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-003
Client Sample ID MW23S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 11:00 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-003
Client Sample ID MW23S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 11:00 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221002-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	91.6	70-130
4-Bromofluorobenzene	EPA 8260B	94.4	70-130
Toluene-d8	EPA 8260B	105.2	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-004
Client Sample ID MW12-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-004
Client Sample ID MW12-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-004
Client Sample ID MW12-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221002-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	87.6	70-130
4-Bromofluorobenzene	EPA 8260B	92.8	70-130
Toluene-d8	EPA 8260B	104.0	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-005
Client Sample ID MW24S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 1:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-005
Client Sample ID MW24S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 1:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-005
Client Sample ID MW24S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 1:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221002-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	91.2	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	104.4	70-130

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-006
Client Sample ID MW11-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	1.00	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-006
Client Sample ID MW11-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-006
Client Sample ID MW11-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	91.2	70-130
4-Bromofluorobenzene	EPA 8260B	94.4	70-130
Toluene-d8	EPA 8260B	104.4	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
1,1-Dichloroethene	9.55	ug/L	10	95.5	69-139	12/23/2009	12/23/2009
Trichloroethene	10.2	ug/L	10	102.0	74-129	12/23/2009	12/23/2009
Toluene	10.3	ug/L	10	103.0	75-126	12/23/2009	12/23/2009
Tetrachloroethene	9.78	ug/L	10	97.8	71-127	12/23/2009	12/23/2009
o-Xylene	9.04	ug/L	10	90.4	81-121	12/23/2009	12/23/2009
Ethylbenzene	9.25	ug/L	10	92.5	77-123	12/23/2009	12/23/2009
Chlorobenzene	9.82	ug/L	10	98.2	79-119	12/23/2009	12/23/2009
Benzene	9.67	ug/L	10	96.7	76-127	12/23/2009	12/23/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221022-001	Chlorobenzene	ND	10.2	ug/L	10	102.0	77-125	12/23/2009	12/23/2009
091221022-001	Benzene	ND	10.2	ug/L	10	102.0	73-137	12/23/2009	12/23/2009
091221022-001	1,1-Dichloroethene	ND	10.7	ug/L	10	107.0	70-154	12/23/2009	12/23/2009
091221022-001	Tetrachloroethene	ND	11.0	ug/L	10	110.0	62-143	12/23/2009	12/23/2009
091221022-001	o-Xylene	ND	9.49	ug/L	10	94.9	68-142	12/23/2009	12/23/2009
091221022-001	Ethylbenzene	ND	9.73	ug/L	10	97.3	76-133	12/23/2009	12/23/2009
091221022-001	Trichloroethene	ND	10.8	ug/L	10	108.0	68-144	12/23/2009	12/23/2009
091221022-001	Toluene	ND	10.8	ug/L	10	108.0	64-145	12/23/2009	12/23/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	12/23/2009
2-hexanone	ND	ug/L	2.5	12/23/2009	12/23/2009
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	12/23/2009
Acetone	ND	ug/L	2.5	12/23/2009	12/23/2009
Acrylonitrile	ND	ug/L	0.5	12/23/2009	12/23/2009
Benzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromochloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromoform	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromomethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Carbon disulfide	ND	ug/L	0.5	12/23/2009	12/23/2009
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	12/23/2009
Chlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Chloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Chloroform	ND	ug/L	0.5	12/23/2009	12/23/2009
Chloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	12/23/2009
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Dibromomethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Ethylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	12/23/2009
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
m+p-Xylene	ND	ug/L	0.5	12/23/2009	12/23/2009

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	12/23/2009
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	12/23/2009
Methylene chloride	ND	ug/L	2.5	12/23/2009	12/23/2009
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	12/23/2009
Naphthalene	ND	ug/L	0.5	12/23/2009	12/23/2009
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
o-Xylene	ND	ug/L	0.5	12/23/2009	12/23/2009
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	12/23/2009
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Styrene	ND	ug/L	0.5	12/23/2009	12/23/2009
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
Toluene	ND	ug/L	0.5	12/23/2009	12/23/2009
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	12/23/2009
Trichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	12/23/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-001	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW18-121709	**Sampling Time**	9:15 AM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221002-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.4	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-002	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW16-121709	**Sampling Time**	10:30 AM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	0.381	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	0.108	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.011	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	0.031	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221002-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	82.5	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-003	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW23S-121709	**Sampling Time**	11:00 AM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221002-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	83.4	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-004	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW12-121709	**Sampling Time**	12:00 PM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.015	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221002-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	108.6	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-005	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW24S-121709	**Sampling Time**	1:00 PM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.010	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	0.015	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	0.016	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	0.011	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.021	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	0.021	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	0.018	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221002-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	85.9	10-125

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-006	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW11-121709	**Sampling Time**	2:30 PM	**Extraction Date**	12/22/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	0.014	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.074	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	104.8	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	1.04	ug/L	1	104.0	30-140	12/22/2009	12/28/2009
Acenaphthene	0.564	ug/L	1	56.4	30-140	12/22/2009	12/28/2009
Acenaphthylene	0.612	ug/L	1	61.2	30-140	12/22/2009	12/28/2009
Anthracene	0.876	ug/L	1	87.6	30-140	12/22/2009	12/28/2009
Benzo(ghi)perylene	0.907	ug/L	1	90.7	30-140	12/22/2009	12/28/2009
Benzo[a]anthracene	1.13	ug/L	1	113.0	30-140	12/22/2009	12/28/2009
Benzo[a]pyrene	0.980	ug/L	1	98.0	30-140	12/22/2009	12/28/2009
2-Methylnaphthalene	0.443	ug/L	1	44.3	30-140	12/22/2009	12/28/2009
Benzo[k]fluoranthene	1.07	ug/L	1	107.0	30-140	12/22/2009	12/28/2009
Pyrene	1.10	ug/L	1	110.0	30-140	12/22/2009	12/28/2009
Dibenz[a,h]anthracene	0.932	ug/L	1	93.2	30-140	12/22/2009	12/28/2009
Fluoranthene	1.12	ug/L	1	112.0	30-140	12/22/2009	12/28/2009
Fluorene	0.678	ug/L	1	67.8	30-140	12/22/2009	12/28/2009
Indeno[1,2,3-cd]pyrene	0.902	ug/L	1	90.2	30-140	12/22/2009	12/28/2009
Naphthalene	0.519	ug/L	1	51.9	30-140	12/22/2009	12/28/2009
Phenanthrene	0.965	ug/L	1	96.5	30-140	12/22/2009	12/28/2009
Benzo[b]fluoranthene	1.03	ug/L	1	103.0	30-140	12/22/2009	12/28/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091218026-004A	Benzo[b]fluoranthene	ND	1.04	ug/L	1	104.0	30-140	12/22/2009	12/28/2009
091218026-004A	Pyrene	ND	1.11	ug/L	1	111.0	30-140	12/22/2009	12/28/2009
091218026-004A	Fluorene	ND	0.785	ug/L	1	78.5	30-140	12/22/2009	12/28/2009
091218026-004A	Indeno[1,2,3-cd]pyrene	ND	0.987	ug/L	1	98.7	30-140	12/22/2009	12/28/2009
091218026-004A	Naphthalene	ND	0.415	ug/L	1	41.5	30-140	12/22/2009	12/28/2009
091218026-004A	Chrysene	ND	1.10	ug/L	1	110.0	30-140	12/22/2009	12/28/2009
091218026-004A	Dibenz[a,h]anthracene	ND	0.992	ug/L	1	99.2	30-140	12/22/2009	12/28/2009
091218026-004A	Phenanthrene	ND	0.998	ug/L	1	99.8	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo[a]pyrene	ND	1.01	ug/L	1	101.0	30-140	12/22/2009	12/28/2009
091218026-004A	Acenaphthylene	ND	0.594	ug/L	1	59.4	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo[k]fluoranthene	ND	1.05	ug/L	1	105.0	30-140	12/22/2009	12/28/2009
091218026-004A	Anthracene	ND	0.994	ug/L	1	99.4	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo(ghi)perylene	ND	0.978	ug/L	1	97.8	30-140	12/22/2009	12/28/2009
091218026-004A	Benzo[a]anthracene	ND	1.02	ug/L	1	102.0	30-140	12/22/2009	12/28/2009

Comments:

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091218026-004A	2-Methylnaphthalene	ND	0.387	ug/L	1	38.7	30-140	12/22/2009	12/28/2009
091218026-004A	Acenaphthene	ND	0.593	ug/L	1	59.3	30-140	12/22/2009	12/28/2009
091218026-004A	Fluoranthene	ND	1.11	ug/L	1	111.0	30-140	12/22/2009	12/28/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Benzo[b]fluoranthene	0.934	ug/L	1	93.4	10.7	0-50	12/22/2009	12/28/2009
Pyrene	1.05	ug/L	1	105.0	5.6	0-50	12/22/2009	12/28/2009
Fluorene	0.754	ug/L	1	75.4	4.0	0-50	12/22/2009	12/28/2009
Indeno[1,2,3-cd]pyrene	0.869	ug/L	1	86.9	12.7	0-50	12/22/2009	12/28/2009
Naphthalene	0.361	ug/L	1	36.1	13.9	0-50	12/22/2009	12/28/2009
Chrysene	0.985	ug/L	1	98.5	11.0	0-50	12/22/2009	12/28/2009
Dibenz[a,h]anthracene	0.892	ug/L	1	89.2	10.6	0-50	12/22/2009	12/28/2009
Phenanthrene	0.930	ug/L	1	93.0	7.1	0-50	12/22/2009	12/28/2009
Benzo[a]pyrene	0.906	ug/L	1	90.6	10.9	0-50	12/22/2009	12/28/2009
Acenaphthylene	0.584	ug/L	1	58.4	1.7	0-50	12/22/2009	12/28/2009
Benzo[k]fluoranthene	0.964	ug/L	1	96.4	8.5	0-50	12/22/2009	12/28/2009
Anthracene	0.939	ug/L	1	93.9	5.7	0-50	12/22/2009	12/28/2009
Benzo(ghi)perylene	0.866	ug/L	1	86.6	12.1	0-50	12/22/2009	12/28/2009
Benzo[a]anthracene	1.03	ug/L	1	103.0	1.0	0-50	12/22/2009	12/28/2009
2-Methylnaphthalene	0.347	ug/L	1	34.7	10.9	0-50	12/22/2009	12/28/2009
Acenaphthene	0.557	ug/L	1	55.7	6.3	0-50	12/22/2009	12/28/2009
Fluoranthene	1.04	ug/L	1	104.0	6.5	0-50	12/22/2009	12/28/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	12/22/2009	12/28/2009
Acenaphthene	ND	ug/L	0.01	12/22/2009	12/28/2009
Acenaphthylene	ND	ug/L	0.01	12/22/2009	12/28/2009
Anthracene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo(ghi)perylene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[a]anthracene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[a]pyrene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	12/22/2009	12/28/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	12/22/2009	12/28/2009

Comments:

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	12/22/2009	12/28/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/22/2009	12/28/2009
Fluoranthene	ND	ug/L	0.01	12/22/2009	12/28/2009
Fluorene	ND	ug/L	0.01	12/22/2009	12/28/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/22/2009	12/28/2009
Naphthalene	ND	ug/L	0.01	12/22/2009	12/28/2009
Phenanthrene	ND	ug/L	0.01	12/22/2009	12/28/2009
Pyrene	ND	ug/L	0.01	12/22/2009	12/28/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-001	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW18-121709	**Sampling Time**	9:15 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221002-001

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	83.0	30-130

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-002	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW16-121709	**Sampling Time**	10:30 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221002-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	95.6	30-130

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-003	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW23S-121709	**Sampling Time**	11:00 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221002-003

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	74.0	30-130

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Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-004	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW12-121709	**Sampling Time**	12:00 PM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221002-004

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	68.6	30-130

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-005	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW24S-121709	**Sampling Time**	1:00 PM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221002-005

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	88.2	30-130

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Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221002-006	**Sampling Date**	12/17/2009	**Date/Time Received**	12/18/2009 2:30 PM
Client Sample ID	MW11-121709	**Sampling Time**	2:30 PM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221002-006

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	76.2	30-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
PCB (total)	5.52	ug/L	5	110.4	30-130	12/21/2009	12/21/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221002-004	PCB (total)	ND	5.78	ug/L	5	115.6	30-130	12/21/2009	12/21/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
PCB (total)	5.89	ug/L	5	117.8	1.9	0-50	12/21/2009	12/21/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	12/21/2009	12/21/2009
PCB (total)	ND	ug/L	0.2	12/21/2009	12/21/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-001
Client Sample ID MW18-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 9:15 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.0745	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	0.00393	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	0.00452	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	0.00378	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/30/2009	CAS	EPA 7471A	
Nickel	0.00142	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-002
Client Sample ID MW16-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 10:30 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.154	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/30/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-003
Client Sample ID MW23S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 11:00 AM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00162	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.0671	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/30/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-004
Client Sample ID MW12-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 12:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00101	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.129	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	0.00714	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	0.00155	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	0.00121	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	0.0102	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/30/2009	CAS	EPA 7471A	
Nickel	0.0100	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-005
Client Sample ID MW24S-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 1:00 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00625	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.0272	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	0.00514	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	0.00614	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	0.00210	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/30/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221002-006
Client Sample ID MW11-121709
Matrix Water
Comments

Sampling Date 12/17/2009
Sampling Time 2:30 PM
Sample Location

Date/Time Received 12/18/2009 2:30 PM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.0120	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/30/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0519	mg/L	0.05	103.8	80-120	1/4/2010	1/4/2010
Dissolved Lead	0.0504	mg/L	0.05	100.8	80-120	1/4/2010	1/4/2010
Dissolved Copper	0.0525	mg/L	0.05	105.0	80-120	1/4/2010	1/4/2010
Dissolved Arsenic	0.0531	mg/L	0.05	106.2	80-120	1/4/2010	1/4/2010
Mercury	0.00000511	mg/L	0.000005	102.2	80-120	12/30/2009	12/30/2009
Silver	0.0521	mg/L	0.05	104.2	80-120	12/22/2009	1/4/2010
Selenium	0.0514	mg/L	0.05	102.8	80-120	12/22/2009	1/4/2010
Nickel	0.0518	mg/L	0.05	103.6	80-120	12/22/2009	1/4/2010
Lead	0.0515	mg/L	0.05	103.0	80-120	12/22/2009	1/4/2010
Copper	0.0525	mg/L	0.05	105.0	80-120	12/22/2009	1/4/2010
Chromium	0.0525	mg/L	0.05	105.0	80-120	12/22/2009	1/4/2010
Cadmium	0.0513	mg/L	0.05	102.6	80-120	12/22/2009	1/4/2010
Barium	0.0533	mg/L	0.05	106.6	80-120	12/22/2009	1/4/2010
Arsenic	0.0518	mg/L	0.05	103.6	80-120	12/22/2009	1/4/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221022-002	Silver	ND	0.0502	mg/L	0.05	100.4	75-125	12/22/2009	1/4/2010
091221022-002	Selenium	ND	0.0471	mg/L	0.05	94.2	75-125	12/22/2009	1/4/2010
091221022-002	Nickel	ND	0.0481	mg/L	0.05	96.2	75-125	12/22/2009	1/4/2010
091221022-002	Lead	ND	0.0480	mg/L	0.05	96.0	75-125	12/22/2009	1/4/2010
091221022-002	Copper	ND	0.0489	mg/L	0.05	97.8	75-125	12/22/2009	1/4/2010
091221022-002	Chromium	ND	0.0518	mg/L	0.05	103.6	75-125	12/22/2009	1/4/2010
091221022-002	Cadmium	ND	0.0518	mg/L	0.05	103.6	75-125	12/22/2009	1/4/2010
091221022-002	Barium	0.0455	0.0952	mg/L	0.05	99.4	75-125	12/22/2009	1/4/2010
091221022-002	Arsenic	ND	0.0517	mg/L	0.05	103.4	75-125	12/22/2009	1/4/2010
091221002-001	Mercury	ND	0.000103	mg/L	0.0001	103.0	75-125	12/30/2009	12/30/2009
091216028-005	Dissolved Nickel	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Lead	ND	0.0956	mg/L	0.1	95.6	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Copper	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Arsenic	0.00398	0.110	mg/L	0.1	106.0	75-125	1/4/2010	1/4/2010

Comments:

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221002
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Mercury	0.000102	mg/L	0.0001	102.0	1.0	0-20	12/30/2009	12/30/2009
Dissolved Nickel	0.100	mg/L	0.1	100.0	0.0	0-20	1/4/2010	1/4/2010
Dissolved Lead	0.0961	mg/L	0.1	96.1	0.5	0-20	1/4/2010	1/4/2010
Dissolved Copper	0.101	mg/L	0.1	101.0	1.0	0-20	1/4/2010	1/4/2010
Dissolved Arsenic	0.111	mg/L	0.1	107.0	0.9	0-20	1/4/2010	1/4/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	12/22/2009	1/4/2010
Barium	ND	mg/L	0.001	12/22/2009	1/4/2010
Cadmium	ND	mg/L	0.001	12/22/2009	1/4/2010
Chromium	ND	mg/L	0.001	12/22/2009	1/4/2010
Copper	ND	mg/L	0.001	12/22/2009	1/4/2010
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Copper	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Lead	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	1/4/2010
Lead	ND	mg/L	0.001	12/22/2009	1/4/2010
Mercury	<0.0000005	mg/L	0.00001	12/30/2009	12/30/2009
Nickel	ND	mg/L	0.001	12/22/2009	1/4/2010
Selenium	ND	mg/L	0.001	12/22/2009	1/4/2010
Silver	ND	mg/L	0.001	12/22/2009	1/4/2010

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091221022-002	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Lead	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Copper	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221002
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

Sample #: 091221002-001 **Customer Sample #:** MW18-121709

Recv'd: ☑ **Collector:** **Date Collected:** 12/17/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/18/2009 2:30:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/5/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/5/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/5/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/5/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/5/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/5/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221002
Order Date: 12/21/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY DEC GW

Comment:

Sample #: 091221002-002 **Customer Sample #:** MW16-121709

Recv'd: ☑ **Collector:** **Date Collected:** 12/17/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/18/2009 2:30:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/5/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/5/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/5/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/5/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/5/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/5/2010	***Normal (6-10 Days)***

Sample #: 091221002-003 **Customer Sample #:** MW23S-121709

Recv'd: ☑ **Collector:** **Date Collected:** 12/17/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/18/2009 2:30:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221002
Order Date: 12/21/2009

Contact Name: TROY BUSSEY
Project Name: EAST BAY DEC GW

Comment:

COPPER BY 6020A	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A	EPA 7471A	1/5/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	1/5/2010	***Normal (6-10 Days)***
PCB 8082	EPA 8082	1/5/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
SILVER BY 6020A	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	1/5/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	1/5/2010	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	1/5/2010	***Normal (6-10 Days)***

Sample #: 091221002-004 **Customer Sample #:** MW12-121709

Recv'd: ☑ **Collector:** **Date Collected:** 12/17/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/18/2009 2:30:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/5/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/5/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/5/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221002
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

SILVER BY 6020A	EPA 6020A	1/5/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	1/5/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	1/5/2010	***Normal (6-10 Days)***
VOLATILES 8260	EPA 8260B	1/5/2010	***Normal (6-10 Days)***

Sample #: 091221002-005 **Customer Sample #:** MW24S-121709

Recv'd: ☑ **Collector:** **Date Collected:** 12/17/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/18/2009 2:30:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/5/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/5/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/5/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/5/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/5/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/5/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221002
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

Sample #: 091221002-006 **Customer Sample #:** MW11-121709

Recv'd: ☑ **Collector:** **Date Collected:** 12/17/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/18/2009 2:30:00 P
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/5/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/5/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/5/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/5/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/5/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/5/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/5/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221002
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	No
What is the temperature inside the cooler?	4.7
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	No
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-: 091221 022 PITC Last Due 1/6/2010
1st SAMP 12/18/200 1st RCVD 12/21/2009
EAST BAY DEC GW

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay Dec GW
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	TPH-G NWTPH-Gx	TPH-D+HO NWTPH-Dx	VOCs 8260	PAH 8270	PCBs 8082	Total Metals*	Diss. Metals*
1	MW07-121809	12/18/09 0900	Water	11			X	X	X	X	X	X	X
2	MW15-121809	12/18/09 1050	Water	11			X	X	X	X	X	X	X

Note Special Instructions/Comments

MWOBS

*Total Metals: total RCRA 8 metals and Cu and Ni

*Diss. Metals: As, Pb, Cu, Ni

	Printed Name	Signature	Company	Date	Time
Relinquished by	Kara Roberts	Kara Roberts	PTC	121809	1200
Received by	Travis Hear		Anatek	12/21/09	1065
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	(Y)	N

Fedex
Temperature (°C): 4.6
Preservative: HCl

Date & Time:
Inspected By:

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221022-001	**Sampling Date**	12/18/2009	**Date/Time Received**	12/21/2009 10:05 AM
Client Sample ID	MW07-121809	**Sampling Time**	9:00 AM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221022-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150
4-Bromofluorobenzene	NWTPHG	115.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221022-002	**Sampling Date**	12/18/2009	**Date/Time Received**	12/21/2009 10:05 AM
Client Sample ID	MW15-121809	**Sampling Time**	10:00 AM	**Extraction Date**	12/29/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.166	mg/L	0.1	12/31/2009	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	12/31/2009	MAH	NWTPHDX	
Gasoline	ND	mg/L	0.5	12/23/2009	CAS	NWTPHG	

Surrogate Data

Sample Number 091221022-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150
4-Bromofluorobenzene	NWTPHG	114.0	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.803	mg/L	1	80.3	50-150	12/29/2009	12/31/2009
Gasoline	1.02	mg/L	1	102.0	70-130	12/23/2009	12/23/2009

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.829	mg/L	1	82.9	3.2	0-50	12/29/2009	12/31/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221022-002	Gasoline	ND	1.08	mg/L	1	108.0	70-130	12/23/2009	12/23/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	0.98	mg/L	1	98.0	9.7	0-25	12/23/2009	12/23/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	12/29/2009	12/31/2009
Gasoline	ND	mg/L	0.5	12/23/2009	12/23/2009
Lube Oil	ND	mg/L	0.5	12/29/2009	12/31/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-001
Client Sample ID MW07-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 9:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-001
Client Sample ID MW07-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 9:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-001
Client Sample ID MW07-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 9:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Address: 2612 YELM HWY SE
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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-001
Client Sample ID MW07-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 9:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221022-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	93.2	70-130
Toluene-d8	EPA 8260B	104.8	70-130

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-002
Client Sample ID MW15-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-002
Client Sample ID MW15-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-002
Client Sample ID MW15-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
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Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-002
Client Sample ID MW15-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221022-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	92.8	70-130
Toluene-d8	EPA 8260B	104.8	70-130

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-003
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-003
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
2-hexanone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Acetone	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Acrylonitrile	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Benzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromoform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Bromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon disulfide	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chlorobenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloroform	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Chloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-003
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dibromomethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
Methylene chloride	ND	ug/L	2.5	12/23/2009	CAS	EPA 8260B	
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Naphthalene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Styrene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-003
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Toluene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroethene	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	CAS	EPA 8260B	

Surrogate Data

Sample Number 091221022-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	104.4	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
1,1-Dichloroethene	9.55	ug/L	10	95.5	69-139	12/23/2009	12/23/2009
Trichloroethene	10.2	ug/L	10	102.0	74-129	12/23/2009	12/23/2009
Toluene	10.3	ug/L	10	103.0	75-126	12/23/2009	12/23/2009
Tetrachloroethene	9.78	ug/L	10	97.8	71-127	12/23/2009	12/23/2009
o-Xylene	9.04	ug/L	10	90.4	81-121	12/23/2009	12/23/2009
Ethylbenzene	9.25	ug/L	10	92.5	77-123	12/23/2009	12/23/2009
Chlorobenzene	9.82	ug/L	10	98.2	79-119	12/23/2009	12/23/2009
Benzene	9.67	ug/L	10	96.7	76-127	12/23/2009	12/23/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221022-001	Chlorobenzene	ND	10.2	ug/L	10	102.0	77-125	12/23/2009	12/23/2009
091221022-001	Benzene	ND	10.2	ug/L	10	102.0	73-137	12/23/2009	12/23/2009
091221022-001	1,1-Dichloroethene	ND	10.7	ug/L	10	107.0	70-154	12/23/2009	12/23/2009
091221022-001	Tetrachloroethene	ND	11.0	ug/L	10	110.0	62-143	12/23/2009	12/23/2009
091221022-001	o-Xylene	ND	9.49	ug/L	10	94.9	68-142	12/23/2009	12/23/2009
091221022-001	Ethylbenzene	ND	9.73	ug/L	10	97.3	76-133	12/23/2009	12/23/2009
091221022-001	Trichloroethene	ND	10.8	ug/L	10	108.0	68-144	12/23/2009	12/23/2009
091221022-001	Toluene	ND	10.8	ug/L	10	108.0	64-145	12/23/2009	12/23/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1,1-Trichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1,2-Trichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1-Dichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1-Dichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,1-dichloropropene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2,3-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2,3-Trichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009

Comments:

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dibromoethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dichloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,3,5-Trimethylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,3-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
1,3-Dichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
1,4-Dichlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
2,2-Dichloropropane	ND	ug/L	0.5	12/23/2009	12/23/2009
2-Chlorotoluene	ND	ug/L	0.5	12/23/2009	12/23/2009
2-hexanone	ND	ug/L	2.5	12/23/2009	12/23/2009
4-Chlorotoluene	ND	ug/L	0.5	12/23/2009	12/23/2009
Acetone	ND	ug/L	2.5	12/23/2009	12/23/2009
Acrylonitrile	ND	ug/L	0.5	12/23/2009	12/23/2009
Benzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromochloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromodichloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromoform	ND	ug/L	0.5	12/23/2009	12/23/2009
Bromomethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Carbon disulfide	ND	ug/L	0.5	12/23/2009	12/23/2009
Carbon Tetrachloride	ND	ug/L	0.5	12/23/2009	12/23/2009
Chlorobenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Chloroethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Chloroform	ND	ug/L	0.5	12/23/2009	12/23/2009
Chloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
cis-1,2-dichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
cis-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	12/23/2009
Dibromochloromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Dibromomethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Dichlorodifluoromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Ethylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Hexachlorobutadiene	ND	ug/L	0.5	12/23/2009	12/23/2009
Isopropylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
m+p-Xylene	ND	ug/L	0.5	12/23/2009	12/23/2009

Comments:

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	12/23/2009	12/23/2009
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	12/23/2009	12/23/2009
Methylene chloride	ND	ug/L	2.5	12/23/2009	12/23/2009
methyl-t-butyl ether (MTBE)	ND	ug/L	0.5	12/23/2009	12/23/2009
Naphthalene	ND	ug/L	0.5	12/23/2009	12/23/2009
n-Butylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
n-Propylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
o-Xylene	ND	ug/L	0.5	12/23/2009	12/23/2009
p-isopropyltoluene	ND	ug/L	0.5	12/23/2009	12/23/2009
sec-Butylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Styrene	ND	ug/L	0.5	12/23/2009	12/23/2009
tert-Butylbenzene	ND	ug/L	0.5	12/23/2009	12/23/2009
Tetrachloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
Toluene	ND	ug/L	0.5	12/23/2009	12/23/2009
trans-1,2-Dichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
trans-1,3-Dichloropropene	ND	ug/L	0.5	12/23/2009	12/23/2009
Trichloroethene	ND	ug/L	0.5	12/23/2009	12/23/2009
Trichloroflouromethane	ND	ug/L	0.5	12/23/2009	12/23/2009
Vinyl Chloride	ND	ug/L	0.5	12/23/2009	12/23/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221022-001	**Sampling Date**	12/18/2009	**Date/Time Received**	12/21/2009 10:05 AM
Client Sample ID	MW07-121809	**Sampling Time**	9:00 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	0.019	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221022-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	100.6	10-125

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221022-002	**Sampling Date**	12/18/2009	**Date/Time Received**	12/21/2009 10:05 AM
Client Sample ID	MW15-121809	**Sampling Time**	10:00 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Naphthalene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	12/28/2009	EMP	EPA 8270C	

Surrogate Data

Sample Number 091221022-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	70.5	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.952	ug/L	1	95.2	30-140	12/21/2009	12/23/2009
Acenaphthene	0.830	ug/L	1	83.0	30-140	12/21/2009	12/23/2009
Acenaphthylene	0.847	ug/L	1	84.7	30-140	12/21/2009	12/23/2009
Anthracene	0.873	ug/L	1	87.3	30-140	12/21/2009	12/23/2009
Benzo(ghi)perylene	0.891	ug/L	1	89.1	30-140	12/21/2009	12/23/2009
Benzo[a]anthracene	0.954	ug/L	1	95.4	30-140	12/21/2009	12/23/2009
Benzo[a]pyrene	0.921	ug/L	1	92.1	30-140	12/21/2009	12/23/2009
2-Methylnaphthalene	0.674	ug/L	1	67.4	30-140	12/21/2009	12/23/2009
Benzo[k]fluoranthene	0.751	ug/L	1	75.1	30-140	12/21/2009	12/23/2009
Pyrene	0.990	ug/L	1	99.0	30-140	12/21/2009	12/23/2009
Dibenz[a,h]anthracene	0.912	ug/L	1	91.2	30-140	12/21/2009	12/23/2009
Fluoranthene	0.982	ug/L	1	98.2	30-140	12/21/2009	12/23/2009
Fluorene	0.911	ug/L	1	91.1	30-140	12/21/2009	12/23/2009
Indeno[1,2,3-cd]pyrene	0.883	ug/L	1	88.3	30-140	12/21/2009	12/23/2009
Naphthalene	0.660	ug/L	1	66.0	30-140	12/21/2009	12/23/2009
Phenanthrene	0.942	ug/L	1	94.2	30-140	12/21/2009	12/23/2009
Benzo[b]fluoranthene	1.08	ug/L	1	108.0	30-140	12/21/2009	12/23/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091217036-004A	Benzo[b]fluoranthene	ND	1.12	ug/L	1	112.0	30-140	12/21/2009	12/23/2009
091217036-004A	Pyrene	ND	0.998	ug/L	1	99.8	30-140	12/21/2009	12/23/2009
091217036-004A	Fluorene	ND	0.877	ug/L	1	87.7	30-140	12/21/2009	12/23/2009
091217036-004A	Indeno[1,2,3-cd]pyrene	ND	0.935	ug/L	1	93.5	30-140	12/21/2009	12/23/2009
091217036-004A	Naphthalene	ND	0.370	ug/L	1	37.0	30-140	12/21/2009	12/23/2009
091217036-004A	Chrysene	ND	0.991	ug/L	1	99.1	30-140	12/21/2009	12/23/2009
091217036-004A	Dibenz[a,h]anthracene	ND	0.968	ug/L	1	96.8	30-140	12/21/2009	12/23/2009
091217036-004A	Phenanthrene	ND	0.927	ug/L	1	92.7	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[a]pyrene	ND	0.958	ug/L	1	95.8	30-140	12/21/2009	12/23/2009
091217036-004A	Acenaphthylene	ND	0.806	ug/L	1	80.6	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[k]fluoranthene	ND	0.799	ug/L	1	79.9	30-140	12/21/2009	12/23/2009
091217036-004A	Anthracene	ND	0.861	ug/L	1	86.1	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo(ghi)perylene	ND	0.949	ug/L	1	94.9	30-140	12/21/2009	12/23/2009
091217036-004A	Benzo[a]anthracene	ND	0.944	ug/L	1	94.4	30-140	12/21/2009	12/23/2009

Comments:

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Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091217036-004A	2-Methylnaphthalene	ND	0.496	ug/L	1	49.6	30-140	12/21/2009	12/23/2009
091217036-004A	Acenaphthene	ND	0.793	ug/L	1	79.3	30-140	12/21/2009	12/23/2009
091217036-004A	Fluoranthene	ND	0.994	ug/L	1	99.4	30-140	12/21/2009	12/23/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Benzo[b]fluoranthene	1.11	ug/L	1	111.0	0.9	0-50	12/21/2009	12/23/2009
Pyrene	0.999	ug/L	1	99.9	0.1	0-50	12/21/2009	12/23/2009
Fluorene	0.926	ug/L	1	92.6	5.4	0-50	12/21/2009	12/23/2009
Indeno[1,2,3-cd]pyrene	0.952	ug/L	1	95.2	1.8	0-50	12/21/2009	12/23/2009
Naphthalene	0.547	ug/L	1	54.7	38.6	0-50	12/21/2009	12/23/2009
Chrysene	0.982	ug/L	1	98.2	0.9	0-50	12/21/2009	12/23/2009
Dibenz[a,h]anthracene	0.987	ug/L	1	98.7	1.9	0-50	12/21/2009	12/23/2009
Phenanthrene	0.938	ug/L	1	93.8	1.2	0-50	12/21/2009	12/23/2009
Benzo[a]pyrene	0.991	ug/L	1	99.1	3.4	0-50	12/21/2009	12/23/2009
Acenaphthylene	0.877	ug/L	1	87.7	8.4	0-50	12/21/2009	12/23/2009
Benzo[k]fluoranthene	0.814	ug/L	1	81.4	1.9	0-50	12/21/2009	12/23/2009
Anthracene	0.871	ug/L	1	87.1	1.2	0-50	12/21/2009	12/23/2009
Benzo(ghi)perylene	0.950	ug/L	1	95.0	0.1	0-50	12/21/2009	12/23/2009
Benzo[a]anthracene	0.965	ug/L	1	96.5	2.2	0-50	12/21/2009	12/23/2009
2-Methylnaphthalene	0.647	ug/L	1	64.7	26.4	0-50	12/21/2009	12/23/2009
Acenaphthene	0.842	ug/L	1	84.2	6.0	0-50	12/21/2009	12/23/2009
Fluoranthene	1.02	ug/L	1	102.0	2.6	0-50	12/21/2009	12/23/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	12/21/2009	12/23/2009
Acenaphthene	ND	ug/L	0.01	12/21/2009	12/23/2009
Acenaphthylene	ND	ug/L	0.01	12/21/2009	12/23/2009
Anthracene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo(ghi)perylene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[a]anthracene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[a]pyrene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[b]fluoranthene	ND	ug/L	0.01	12/21/2009	12/23/2009
Benzo[k]fluoranthene	ND	ug/L	0.01	12/21/2009	12/23/2009

Comments:

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	12/21/2009	12/23/2009
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/21/2009	12/23/2009
Fluoranthene	ND	ug/L	0.01	12/21/2009	12/23/2009
Fluorene	ND	ug/L	0.01	12/21/2009	12/23/2009
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	12/21/2009	12/23/2009
Naphthalene	ND	ug/L	0.01	12/21/2009	12/23/2009
Phenanthrene	ND	ug/L	0.01	12/21/2009	12/23/2009
Pyrene	ND	ug/L	0.01	12/21/2009	12/23/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221022-001	**Sampling Date**	12/18/2009	**Date/Time Received**	12/21/2009 10:05 AM
Client Sample ID	MW07-121809	**Sampling Time**	9:00 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221022-001

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	51.0	30-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number	091221022-002	**Sampling Date**	12/18/2009	**Date/Time Received**	12/21/2009 10:05 AM
Client Sample ID	MW15-121809	**Sampling Time**	10:00 AM	**Extraction Date**	12/21/2009
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Aroclor 1016 (PCB-1016)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1221 (PCB-1221)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1232 (PCB-1232)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1242 (PCB-1242)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1248 (PCB-1248)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1254 (PCB-1254)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
Aroclor 1260 (PCB-1260)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	
PCB (total)	ND	ug/L	0.05	0.2	12/21/2009	SAT	EPA 8082	

Surrogate Data

Sample Number 091221022-002

Surrogate Standard	Method	Percent Recovery	Control Limits
DCB	EPA 8082	70.0	30-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
PCB (total)	5.52	ug/L	5	110.4	30-130	12/21/2009	12/21/2009

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221002-004	PCB (total)	ND	5.78	ug/L	5	115.6	30-130	12/21/2009	12/21/2009

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
PCB (total)	5.89	ug/L	5	117.8	1.9	0-50	12/21/2009	12/21/2009

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Aroclor 1016 (PCB-1016)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1221 (PCB-1221)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1232 (PCB-1232)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1242 (PCB-1242)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1248 (PCB-1248)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1254 (PCB-1254)	ND	ug/L	0.2	12/21/2009	12/21/2009
Aroclor 1260 (PCB-1260)	ND	ug/L	0.2	12/21/2009	12/21/2009
PCB (total)	ND	ug/L	0.2	12/21/2009	12/21/2009

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-001
Client Sample ID MW07-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 9:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00300	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.0150	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	0.00179	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	0.00138	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Project Name: EAST BAY DEC GW

Analytical Results Report

Sample Number 091221022-002
Client Sample ID MW15-121809
Matrix Water
Comments

Sampling Date 12/18/2009
Sampling Time 10:00 AM
Sample Location

Date/Time Received 12/21/2009 10:05 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Barium	0.0455	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Cadmium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Chromium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Mercury	ND	mg/L	0.0001	12/29/2009	CAS	EPA 7471A	
Nickel	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Selenium	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	
Silver	ND	mg/L	0.001	1/4/2010	ETL	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0519	mg/L	0.05	103.8	80-120	1/4/2010	1/4/2010
Dissolved Lead	0.0504	mg/L	0.05	100.8	80-120	1/4/2010	1/4/2010
Dissolved Copper	0.0525	mg/L	0.05	105.0	80-120	1/4/2010	1/4/2010
Dissolved Arsenic	0.0531	mg/L	0.05	106.2	80-120	1/4/2010	1/4/2010
Mercury	0.00000431	mg/L	0.000005	86.2	80-120	12/29/2009	12/29/2009
Silver	0.0521	mg/L	0.05	104.2	80-120	12/22/2009	1/4/2010
Selenium	0.0514	mg/L	0.05	102.8	80-120	12/22/2009	1/4/2010
Nickel	0.0518	mg/L	0.05	103.6	80-120	12/22/2009	1/4/2010
Lead	0.0515	mg/L	0.05	103.0	80-120	12/22/2009	1/4/2010
Copper	0.0525	mg/L	0.05	105.0	80-120	12/22/2009	1/4/2010
Chromium	0.0525	mg/L	0.05	105.0	80-120	12/22/2009	1/4/2010
Cadmium	0.0513	mg/L	0.05	102.6	80-120	12/22/2009	1/4/2010
Barium	0.0533	mg/L	0.05	106.6	80-120	12/22/2009	1/4/2010
Arsenic	0.0518	mg/L	0.05	103.6	80-120	12/22/2009	1/4/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
091221022-002	Silver	ND	0.0502	mg/L	0.05	100.4	75-125	12/22/2009	1/4/2010
091221022-002	Selenium	ND	0.0471	mg/L	0.05	94.2	75-125	12/22/2009	1/4/2010
091221022-002	Nickel	ND	0.0481	mg/L	0.05	96.2	75-125	12/22/2009	1/4/2010
091221022-002	Lead	ND	0.0480	mg/L	0.05	96.0	75-125	12/22/2009	1/4/2010
091221022-002	Copper	ND	0.0489	mg/L	0.05	97.8	75-125	12/22/2009	1/4/2010
091221022-002	Chromium	ND	0.0518	mg/L	0.05	103.6	75-125	12/22/2009	1/4/2010
091221022-002	Cadmium	ND	0.0518	mg/L	0.05	103.6	75-125	12/22/2009	1/4/2010
091221022-002	Barium	0.0455	0.0952	mg/L	0.05	99.4	75-125	12/22/2009	1/4/2010
091221022-002	Arsenic	ND	0.0517	mg/L	0.05	103.4	75-125	12/22/2009	1/4/2010
091217043-002	Mercury	ND	0.0000836	mg/L	0.0001	83.6	75-125	12/29/2009	12/29/2009
091216028-005	Dissolved Nickel	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Lead	ND	0.0956	mg/L	0.1	95.6	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Copper	ND	0.100	mg/L	0.1	100.0	75-125	1/4/2010	1/4/2010
091216028-005	Dissolved Arsenic	0.00398	0.110	mg/L	0.1	106.0	75-125	1/4/2010	1/4/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 091221022
Project Name: EAST BAY DEC GW

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Mercury	0.0000921	mg/L	0.0001	92.1	9.7	0-20	12/29/2009	12/29/2009
Dissolved Nickel	0.100	mg/L	0.1	100.0	0.0	0-20	1/4/2010	1/4/2010
Dissolved Lead	0.0961	mg/L	0.1	96.1	0.5	0-20	1/4/2010	1/4/2010
Dissolved Copper	0.101	mg/L	0.1	101.0	1.0	0-20	1/4/2010	1/4/2010
Dissolved Arsenic	0.111	mg/L	0.1	107.0	0.9	0-20	1/4/2010	1/4/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	12/22/2009	1/4/2010
Barium	ND	mg/L	0.001	12/22/2009	1/4/2010
Cadmium	ND	mg/L	0.001	12/22/2009	1/4/2010
Chromium	ND	mg/L	0.001	12/22/2009	1/4/2010
Copper	ND	mg/L	0.001	12/22/2009	1/4/2010
Dissolved Arsenic	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Copper	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Lead	ND	mg/L	0.001	1/4/2010	1/4/2010
Dissolved Nickel	ND	mg/L	0.001	1/4/2010	1/4/2010
Lead	ND	mg/L	0.001	12/22/2009	1/4/2010
Mercury	<0.0000005	mg/L	0.00001	12/29/2009	12/29/2009
Nickel	ND	mg/L	0.001	12/22/2009	1/4/2010
Selenium	ND	mg/L	0.001	12/22/2009	1/4/2010
Silver	ND	mg/L	0.001	12/22/2009	1/4/2010

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
091221022-002	Dissolved Nickel	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Lead	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Copper	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010
091221022-002	Dissolved Arsenic	ND	ND	mg/L	0.0	0-20	1/4/2010	1/4/2010

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221022
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

Sample #: 091221022-001 **Customer Sample #:** MW07-121809

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/18/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/21/2009 10:05:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/6/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/6/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/6/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/6/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/6/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/6/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221022
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

Sample #: 091221022-002 **Customer Sample #:** MW15-121809

Recv'd: ☑ **Collector:** TROY **Date Collected:** 12/18/2009
Quantity: 11 **Matrix:** Water **Date Received:** 12/21/2009 10:05:00
Comment:

Test	Test Group	Method	Due Date	Priority
ARSENIC BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
BARIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
CADMIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
COPPER BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 60		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 602		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
LEAD BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
MERCURY-CV-7471A		EPA 7471A	1/6/2010	***Normal (6-10 Days)***
NICKEL BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
PAH 8270 LOW		EPA 8270C	1/6/2010	***Normal (6-10 Days)***
PCB 8082		EPA 8082	1/6/2010	***Normal (6-10 Days)***
SELENIUM BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
SILVER BY 6020A		EPA 6020A	1/6/2010	***Normal (6-10 Days)***
TPHDX-NW		NWTPHDX	1/6/2010	***Normal (6-10 Days)***
TPHG-NW		NWTPHG	1/6/2010	***Normal (6-10 Days)***
VOLATILES 8260		EPA 8260B	1/6/2010	***Normal (6-10 Days)***

Sample #: 091221022-003 **Customer Sample #:** TRIP BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 12/18/2009
Quantity: 1 **Matrix:** Water **Date Received:** 12/21/2009 10:05:00
Comment:

Test	Test Group	Method	Due Date	Priority
VOLATILES 8260		EPA 8260B	1/6/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 091221022
Order Date: 12/21/2009

Contact Name: TROY BUSSEY

Project Name: EAST BAY DEC GW

Comment:

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	4.6
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	No
Is there a trip blank to accompany VOC samples?	Yes
Labels and chain agree?	Yes

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

Pace Project #: 10119191
Sample Receipt Date: 12/18/2009
Client Project #: East Bay Dec GW
Client Sub PO #: N/A
State Cert #: C755

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:

January 12, 2010

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
January 12, 2010

Report of Laboratory Analysis

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of Pioneer Technologies Corporation. The sample was analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise calculations.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extract ranged from 50-94%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Since the quantification of the native 2,3,7,8-substituted isomers was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In one case, an interfering substance impacted the determination of a PCDD congener. The affected value was flagged "I" where an incorrect isotope ratio was obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits.

Laboratory spike samples were also prepared with the sample batch using clean water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 89-119%, with relative percent differences of 1.0-10.8%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample batch.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	
Arizona	AZ0014	Nevada	MN00064_2000
Arkansas	88-0680	New Jersey (NE	MN002
California	01155CA	New Mexico	MN00064
Colorado	MN00064	New York (NEL	11647
Connecticut	PH-0256	North Carolina	27700
EPA Region 5	WD-15J	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP	E87605	Ohio VAP	CL101
Georgia (DNR)	959	Oklahoma	D9922
Guam	09-019r	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN200001-005
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana		South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	LA0900016	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q
Mississippi	MN00064		

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® www.pacelabs.com

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

10119191

Page: 1 of 1

1308040

Section A Required Client Information:

Company: PTC

Address: 2612 Yelm Hwy Olympia WA 98501

Email To: bussert@uspioneer.com

Phone: 3605704700 Fax:

Requested Due Date/TAT: 10 day

Section B Required Project Information:

Report To: Tom Bussert

Copy To:

Purchase Order No.:

Project Name: East Bay Dec GW

Project Number:

Section C Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager: Cory Lundand

Pace Profile #: Scott Hinze

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Report No.: 101191_8290

Section D Required Client Information

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAH 8270	Dioxin/Furans 8290	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW18_121709	WT					915		2	X									X			
2	MW16-121709	WT					1030		4	X									X	X		10119191001
3	MW23_121709	WT					1100		2	X									X			
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Feden PTC	121109	1630	Pace MN	12/10/09	0952	1.3	4	N	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 12/11/09

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

*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

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC **Project #** 10119191

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____
Tracking #: 8392-2231-5426

Optional: Proj. Due Date: Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used 80844042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.3 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: 12/18/09

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GST		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Initial when completed — Lot # of added preservative
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): —		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 12/18/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW16-121709		
Lab Sample ID	10119191001		
Filename	U100108C_09		
Injected By	BAL		
Total Amount Extracted	876 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	12/17/2009 10:30
ICAL ID	U100106	Received	12/18/2009 09:52
CCal Filename(s)	U100108B_07 & U100108C_15	Extracted	01/06/2010 18:00
Method Blank ID	BLANK-23287	Analyzed	01/09/2010 04:49

Native Isomers	**Conc** pg/L	**EMPC** pg/L	**RL** pg/L		**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	3.1		2,3,7,8-TCDF-13C	2.00	71
Total TCDF	ND	-----	3.1		2,3,7,8-TCDD-13C	2.00	79
					1,2,3,7,8-PeCDF-13C	2.00	68
2,3,7,8-TCDD	ND	-----	2.8		2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	ND	-----	2.8		1,2,3,7,8-PeCDD-13C	2.00	83
					1,2,3,4,7,8-HxCDF-13C	2.00	85
1,2,3,7,8-PeCDF	ND	-----	4.6		1,2,3,6,7,8-HxCDF-13C	2.00	83
2,3,4,7,8-PeCDF	ND	-----	5.1		2,3,4,6,7,8-HxCDF-13C	2.00	81
Total PeCDF	ND	-----	4.9		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	ND	-----	5.5		1,2,3,6,7,8-HxCDD-13C	2.00	89
Total PeCDD	ND	-----	5.5		1,2,3,4,6,7,8-HpCDF-13C	2.00	77
					1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	ND	-----	3.3		1,2,3,4,6,7,8-HpCDD-13C	2.00	79
1,2,3,6,7,8-HxCDF	ND	-----	3.5		OCDD-13C	4.00	50
2,3,4,6,7,8-HxCDF	ND	-----	3.1				
1,2,3,7,8,9-HxCDF	ND	-----	4.2		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	3.5		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	3.6		2,3,7,8-TCDD-37Cl4	0.20	88
1,2,3,6,7,8-HxCDD	ND	-----	4.0				
1,2,3,7,8,9-HxCDD	ND	-----	3.1				
Total HxCDD	ND	-----	3.5				
1,2,3,4,6,7,8-HpCDF	ND	-----	5.9		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	6.5		Equivalence: 6.5 pg/L		
Total HpCDF	ND	-----	6.2		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	ND	-----	4.6				
Total HpCDD	ND	-----	4.6				
OCDF	ND	-----	6.1				
OCDD	-----	18	9.9	I			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

I = Interference present

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-23287	Matrix	Water
Filename	F100108A_06	Dilution	NA
Total Amount Extracted	968 mL	Extracted	01/06/2010 18:00
ICAL ID	F91217	Analyzed	01/08/2010 11:18
CCal Filename(s)	F100108A_01 & F100108A_09	Injected By	BAL

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.20	2,3,7,8-TCDF-13C	2.00	82
Total TCDF	ND	-----	1.20	2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	-----	1.10	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	ND	-----	1.10	1,2,3,7,8-PeCDD-13C	2.00	87
				1,2,3,4,7,8-HxCDF-13C	2.00	97
1,2,3,7,8-PeCDF	ND	-----	0.72	1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	-----	0.72	2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	ND	-----	0.72	1,2,3,7,8,9-HxCDF-13C	2.00	85
				1,2,3,4,7,8-HxCDD-13C	2.00	80
1,2,3,7,8-PeCDD	ND	-----	1.20	1,2,3,6,7,8-HxCDD-13C	2.00	91
Total PeCDD	ND	-----	1.20	1,2,3,4,6,7,8-HpCDF-13C	2.00	70
				1,2,3,4,7,8,9-HpCDF-13C	2.00	58
1,2,3,4,7,8-HxCDF	ND	-----	0.48	1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	ND	-----	0.81	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	ND	-----	0.71			
1,2,3,7,8,9-HxCDF	ND	-----	1.20	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.80	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	1.10	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	ND	-----	1.20			
1,2,3,7,8,9-HxCDD	ND	-----	1.40			
Total HxCDD	ND	-----	1.20			
1,2,3,4,6,7,8-HpCDF	ND	-----	1.40	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.00	Equivalence: 1.7 pg/L		
Total HpCDF	ND	-----	1.70	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	ND	-----	1.80			
Total HpCDD	ND	-----	1.80			
OCDF	ND	-----	2.30			
OCDD	ND	-----	2.40			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-23288		
Filename	F100108A_02	Matrix	Water
Total Amount Extracted	959 mL	Dilution	NA
ICAL ID	F91217	Extracted	01/06/2010 18:00
CCal Filename(s)	F100108A_01 & F100108A_09	Analyzed	01/08/2010 08:10
Method Blank ID	BLANK-23287	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.20	101	2,3,7,8-TCDF-13C	2.0	79
Total TCDF				2,3,7,8-TCDD-13C	2.0	89
				1,2,3,7,8-PeCDF-13C	2.0	73
2,3,7,8-TCDD	0.20	0.19	97	2,3,4,7,8-PeCDF-13C	2.0	73
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	86
				1,2,3,4,7,8-HxCDF-13C	2.0	89
1,2,3,7,8-PeCDF	1.0	0.98	98	1,2,3,6,7,8-HxCDF-13C	2.0	81
2,3,4,7,8-PeCDF	1.0	0.94	94	2,3,4,6,7,8-HxCDF-13C	2.0	85
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	81
				1,2,3,4,7,8-HxCDD-13C	2.0	78
1,2,3,7,8-PeCDD	1.0	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.0	93
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	72
				1,2,3,4,7,8,9-HpCDF-13C	2.0	62
1,2,3,4,7,8-HxCDF	1.0	0.97	97	1,2,3,4,6,7,8-HpCDD-13C	2.0	66
1,2,3,6,7,8-HxCDF	1.0	1.0	102	OCDD-13C	4.0	52
2,3,4,6,7,8-HxCDF	1.0	0.96	96			
1,2,3,7,8,9-HxCDF	1.0	0.97	97	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	0.96	96	2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	1.0	0.96	96			
1,2,3,7,8,9-HxCDD	1.0	1.0	100			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	108			
1,2,3,4,7,8,9-HpCDF	1.0	0.99	99			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.92	92			
Total HpCDD						
OCDF	2.0	2.1	107			
OCDD	2.0	2.1	105			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCSD-23289		
Filename	F100108A_03	Matrix	Water
Total Amount Extracted	954 mL	Dilution	NA
ICAL ID	F91217	Extracted	01/06/2010 18:00
CCal Filename(s)	F100108A_01 & F100108A_09	Analyzed	01/08/2010 08:57
Method Blank ID	BLANK-23287	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.0	78
Total TCDF				2,3,7,8-TCDD-13C	2.0	89
				1,2,3,7,8-PeCDF-13C	2.0	70
2,3,7,8-TCDD	0.20	0.21	103	2,3,4,7,8-PeCDF-13C	2.0	69
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	82
				1,2,3,4,7,8-HxCDF-13C	2.0	88
1,2,3,7,8-PeCDF	1.0	1.0	102	1,2,3,6,7,8-HxCDF-13C	2.0	83
2,3,4,7,8-PeCDF	1.0	0.99	99	2,3,4,6,7,8-HxCDF-13C	2.0	82
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	82
				1,2,3,4,7,8-HxCDD-13C	2.0	84
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	88
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	69
				1,2,3,4,7,8,9-HpCDF-13C	2.0	61
1,2,3,4,7,8-HxCDF	1.0	1.0	104	1,2,3,4,6,7,8-HpCDD-13C	2.0	62
1,2,3,6,7,8-HxCDF	1.0	1.0	103	OCDD-13C	4.0	51
2,3,4,6,7,8-HxCDF	1.0	1.0	102			
1,2,3,7,8,9-HxCDF	1.0	1.00	100	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	107	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	1.0	1.0	101			
1,2,3,7,8,9-HxCDD	1.0	1.0	104			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	114			
1,2,3,4,7,8,9-HpCDF	1.0	1.1	109			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.94	94			
Total HpCDD						
OCDF	2.0	2.4	119			
OCDD	2.0	2.2	112			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290

Spike Recovery Relative Percent Difference (RPD) Results

Client Pioneer Technologies Corporation

Spike 1 ID LCS-23288 Spike 2 ID LCSD-23289
Spike 1 Filename F100108A_02 Spike 2 Filename F100108A_03

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	101	104	2.9
2,3,7,8-TCDD	97	103	6.0
1,2,3,7,8-PeCDF	98	102	4.0
2,3,4,7,8-PeCDF	94	99	5.2
1,2,3,7,8-PeCDD	89	95	6.5
1,2,3,4,7,8-HxCDF	97	104	7.0
1,2,3,6,7,8-HxCDF	102	103	1.0
2,3,4,6,7,8-HxCDF	96	102	6.1
1,2,3,7,8,9-HxCDF	97	100	3.0
1,2,3,4,7,8-HxCDD	96	107	10.8
1,2,3,6,7,8-HxCDD	96	101	5.1
1,2,3,7,8,9-HxCDD	100	104	3.9
1,2,3,4,6,7,8-HpCDF	108	114	5.4
1,2,3,4,7,8,9-HpCDF	99	109	9.6
1,2,3,4,6,7,8-HpCDD	92	94	2.2
OCDF	107	119	10.6
OCDD	105	112	6.5

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia WA 98501-4826

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

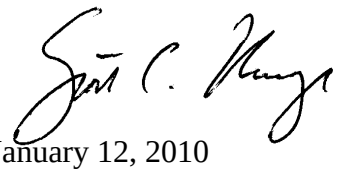
Pace Project #: 10119192
Sample Receipt Date: 12/18/2009
Client Project #: East Bay Dec GW
Client Sub PO #: N/A
State Cert #: C755

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:



January 12, 2010

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
January 12, 2010

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of Pioneer Technologies Corporation. The sample was analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise calculations.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extract ranged from 49-93%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Since the quantification of the native 2,3,7,8-substituted isomers was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits.

Laboratory spike samples were also prepared with the sample batch using clean water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 89-119%, with relative percent differences of 1.0-10.8%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample batch.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	
Arizona	AZ0014	Nevada	MN00064_2000
Arkansas	88-0680	New Jersey (NE	MN002
California	01155CA	New Mexico	MN00064
Colorado	MN00064	New York (NEL	11647
Connecticut	PH-0256	North Carolina	27700
EPA Region 5	WD-15J	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP	E87605	Ohio VAP	CL101
Georgia (DNR)	959	Oklahoma	D9922
Guam	09-019r	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN200001-005
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana		South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	LA0900016	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q
Mississippi	MN00064		

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

Pace Analytical®
www.pacelabs.com

1132

CHAIN-OF-CUSTODY / Analytical Request Document

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

10119192

Page: 1 of 1

1288410

Section A
Required Client Information:

Company:	PTC
Address:	2612 Yelm Hwy SE Olympia WA 98501
Email To:	bussryt@usp.onecr.com
Phone:	360-[illegible]
Fax:	
Requested Due Date/TAT:	normal 10 day

Section B
Required Project Information:

Report To:	Troy Bussey
Copy To:	Kara Roberts
Purchase Order No.:	
Project Name:	East Bay Dec GW
Project Number:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Cory Lundand
Pace Profile #:	Scott Unze

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: WA

Section D
Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	PAHs 8270 (N)	Dioxin/Furans 8290 (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW12-121709	WT		121709	1200				2	X									X			10119192001
2	MW24S-121709	WT		121709	1300				4	X									X	X		
3	MW11-121709	WT		121709	1430				2	X									X			
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Melody Foden / PTC	121709	1630	[signature]	12/18/09	0952	6.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Foden

SIGNATURE of SAMPLER: Melody Foden

DATE Signed (MM/DD/YY): 12/17/09

3

*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

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC **Project #** 10119192

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____
Tracking #: 8392-2231-5437

Options: Proj. Due Date: Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used ~~80344642~~ or 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 6.0 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: 12/18/09

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 Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: (2) **Date:** 12/18/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - Pioneer Technologies Corporation

Client's Sample ID	MW24S-121709		
Lab Sample ID	10119192001		
Filename	U100108C_10		
Injected By	BAL		
Total Amount Extracted	827 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	12/17/2009 13:00
ICAL ID	U100106	Received	12/18/2009 09:52
CCal Filename(s)	U100108B_07 & U100108C_15	Extracted	01/06/2010 18:00
Method Blank ID	BLANK-23287	Analyzed	01/09/2010 05:36

Native Isomers	**Conc** pg/L	**EMPC** pg/L	**RL** pg/L		**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	ND	-----	3.3		2,3,7,8-TCDF-13C	2.00	70
Total TCDF	ND	-----	3.3		2,3,7,8-TCDD-13C	2.00	81
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	ND	-----	3.1		2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	ND	-----	3.1		1,2,3,7,8-PeCDD-13C	2.00	93
					1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	-----	5.1		1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	-----	5.4		2,3,4,6,7,8-HxCDF-13C	2.00	81
Total PeCDF	ND	-----	5.3		1,2,3,7,8,9-HxCDF-13C	2.00	77
					1,2,3,4,7,8-HxCDD-13C	2.00	90
1,2,3,7,8-PeCDD	ND	-----	6.8		1,2,3,6,7,8-HxCDD-13C	2.00	91
Total PeCDD	ND	-----	6.8		1,2,3,4,6,7,8-HpCDF-13C	2.00	77
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	ND	-----	3.6		1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	ND	-----	3.7		OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	ND	-----	3.5				
1,2,3,7,8,9-HxCDF	ND	-----	4.6		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	3.9		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	4.9		2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	ND	-----	4.7				
1,2,3,7,8,9-HxCDD	ND	-----	4.2				
Total HxCDD	ND	-----	4.6				
1,2,3,4,6,7,8-HpCDF	ND	-----	6.4		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	7.2		Equivalence: 7.6 pg/L		
Total HpCDF	ND	-----	6.8		(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	ND	-----	6.9				
Total HpCDD	8.0	-----	6.9	J			
OCDF	ND	-----	10.0				
OCDD	94.0	-----	12.0	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

J = Estimated value

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample ID	BLANK-23287	Matrix	Water
Filename	F100108A_06	Dilution	NA
Total Amount Extracted	968 mL	Extracted	01/06/2010 18:00
ICAL ID	F91217	Analyzed	01/08/2010 11:18
CCal Filename(s)	F100108A_01 & F100108A_09	Injected By	BAL

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.20	2,3,7,8-TCDF-13C	2.00	82
Total TCDF	ND	-----	1.20	2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	-----	1.10	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	ND	-----	1.10	1,2,3,7,8-PeCDD-13C	2.00	87
				1,2,3,4,7,8-HxCDF-13C	2.00	97
1,2,3,7,8-PeCDF	ND	-----	0.72	1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	-----	0.72	2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	ND	-----	0.72	1,2,3,7,8,9-HxCDF-13C	2.00	85
				1,2,3,4,7,8-HxCDD-13C	2.00	80
1,2,3,7,8-PeCDD	ND	-----	1.20	1,2,3,6,7,8-HxCDD-13C	2.00	91
Total PeCDD	ND	-----	1.20	1,2,3,4,6,7,8-HpCDF-13C	2.00	70
				1,2,3,4,7,8,9-HpCDF-13C	2.00	58
1,2,3,4,7,8-HxCDF	ND	-----	0.48	1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	ND	-----	0.81	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	ND	-----	0.71			
1,2,3,7,8,9-HxCDF	ND	-----	1.20	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.80	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	1.10	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	ND	-----	1.20			
1,2,3,7,8,9-HxCDD	ND	-----	1.40			
Total HxCDD	ND	-----	1.20			
1,2,3,4,6,7,8-HpCDF	ND	-----	1.40	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	2.00	Equivalence: 1.7 pg/L		
Total HpCDF	ND	-----	1.70	(Using 2005 WHO Factors - Using PRL/2 where ND)		
1,2,3,4,6,7,8-HpCDD	ND	-----	1.80			
Total HpCDD	ND	-----	1.80			
OCDF	ND	-----	2.30			
OCDD	ND	-----	2.40			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-23288		
Filename	F100108A_02	Matrix	Water
Total Amount Extracted	959 mL	Dilution	NA
ICAL ID	F91217	Extracted	01/06/2010 18:00
CCal Filename(s)	F100108A_01 & F100108A_09	Analyzed	01/08/2010 08:10
Method Blank ID	BLANK-23287	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.20	101	2,3,7,8-TCDF-13C	2.0	79
Total TCDF				2,3,7,8-TCDD-13C	2.0	89
				1,2,3,7,8-PeCDF-13C	2.0	73
2,3,7,8-TCDD	0.20	0.19	97	2,3,4,7,8-PeCDF-13C	2.0	73
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	86
				1,2,3,4,7,8-HxCDF-13C	2.0	89
1,2,3,7,8-PeCDF	1.0	0.98	98	1,2,3,6,7,8-HxCDF-13C	2.0	81
2,3,4,7,8-PeCDF	1.0	0.94	94	2,3,4,6,7,8-HxCDF-13C	2.0	85
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	81
				1,2,3,4,7,8-HxCDD-13C	2.0	78
1,2,3,7,8-PeCDD	1.0	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.0	93
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	72
				1,2,3,4,7,8,9-HpCDF-13C	2.0	62
1,2,3,4,7,8-HxCDF	1.0	0.97	97	1,2,3,4,6,7,8-HpCDD-13C	2.0	66
1,2,3,6,7,8-HxCDF	1.0	1.0	102	OCDD-13C	4.0	52
2,3,4,6,7,8-HxCDF	1.0	0.96	96			
1,2,3,7,8,9-HxCDF	1.0	0.97	97	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	0.96	96	2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	1.0	0.96	96			
1,2,3,7,8,9-HxCDD	1.0	1.0	100			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	108			
1,2,3,4,7,8,9-HpCDF	1.0	0.99	99			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.92	92			
Total HpCDD						
OCDF	2.0	2.1	107			
OCDD	2.0	2.1	105			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range
Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCSD-23289		
Filename	F100108A_03	Matrix	Water
Total Amount Extracted	954 mL	Dilution	NA
ICAL ID	F91217	Extracted	01/06/2010 18:00
CCal Filename(s)	F100108A_01 & F100108A_09	Analyzed	01/08/2010 08:57
Method Blank ID	BLANK-23287	Injected By	BAL

Native Isomers	**Qs** (ng)	**Qm** (ng)	% Rec.	**Internal Standards**	**ng's Added**	**Percent Recovery**
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.0	78
Total TCDF				2,3,7,8-TCDD-13C	2.0	89
				1,2,3,7,8-PeCDF-13C	2.0	70
2,3,7,8-TCDD	0.20	0.21	103	2,3,4,7,8-PeCDF-13C	2.0	69
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	82
				1,2,3,4,7,8-HxCDF-13C	2.0	88
1,2,3,7,8-PeCDF	1.0	1.0	102	1,2,3,6,7,8-HxCDF-13C	2.0	83
2,3,4,7,8-PeCDF	1.0	0.99	99	2,3,4,6,7,8-HxCDF-13C	2.0	82
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	82
				1,2,3,4,7,8-HxCDD-13C	2.0	84
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	88
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	69
				1,2,3,4,7,8,9-HpCDF-13C	2.0	61
1,2,3,4,7,8-HxCDF	1.0	1.0	104	1,2,3,4,6,7,8-HpCDD-13C	2.0	62
1,2,3,6,7,8-HxCDF	1.0	1.0	103	OCDD-13C	4.0	51
2,3,4,6,7,8-HxCDF	1.0	1.0	102			
1,2,3,7,8,9-HxCDF	1.0	1.00	100	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	107	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	1.0	1.0	101			
1,2,3,7,8,9-HxCDD	1.0	1.0	104			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	114			
1,2,3,4,7,8,9-HpCDF	1.0	1.1	109			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.94	94			
Total HpCDD						
OCDF	2.0	2.4	119			
OCDD	2.0	2.2	112			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290

Spike Recovery Relative Percent Difference (RPD) Results

Client Pioneer Technologies Corporation

Spike 1 ID LCS-23288 Spike 2 ID LCSD-23289
Spike 1 Filename F100108A_02 Spike 2 Filename F100108A_03

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	101	104	2.9
2,3,7,8-TCDD	97	103	6.0
1,2,3,7,8-PeCDF	98	102	4.0
2,3,4,7,8-PeCDF	94	99	5.2
1,2,3,7,8-PeCDD	89	95	6.5
1,2,3,4,7,8-HxCDF	97	104	7.0
1,2,3,6,7,8-HxCDF	102	103	1.0
2,3,4,6,7,8-HxCDF	96	102	6.1
1,2,3,7,8,9-HxCDF	97	100	3.0
1,2,3,4,7,8-HxCDD	96	107	10.8
1,2,3,6,7,8-HxCDD	96	101	5.1
1,2,3,7,8,9-HxCDD	100	104	3.9
1,2,3,4,6,7,8-HpCDF	108	114	5.4
1,2,3,4,7,8,9-HpCDF	99	109	9.6
1,2,3,4,6,7,8-HpCDD	92	94	2.2
OCDF	107	119	10.6
OCDD	105	112	6.5

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 23, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10118974001	**MW02R-121509**	Water	12/15/09 09:30	12/16/09 10:00
10118974002	**MW20-121509**	Water	12/15/09 10:30	12/16/09 10:00
10118974003	**MW04-121509**	Water	12/15/09 11:30	12/16/09 10:00
10118974004	**MW01-121509**	Water	12/15/09 14:30	12/16/09 10:00
10118974005	**MW03-121509**	Water	12/15/09 15:30	12/16/09 10:00

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(612)607-1700

SAMPLE ANALYTE COUNT

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10118974001	**MW02R-121509**	EPA 8270 by SIM	HRG	19
10118974002	**MW20-121509**	EPA 8270 by SIM	HRG	19
10118974003	**MW04-121509**	EPA 8270 by SIM	HRG	19
10118974004	**MW01-121509**	EPA 8270 by SIM	HRG	19
10118974005	**MW03-121509**	EPA 8270 by SIM	HRG	19

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Sample: MW02R-121509 **Lab ID: 10118974001** Collected: 12/15/09 09:30 Received: 12/16/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:47	129-00-0	
Nitrobenzene-d5 (S)	83	%	51-125	1	12/17/09 17:43	12/22/09 01:47	4165-60-0	
2-Fluorobiphenyl (S)	77	%	58-125	1	12/17/09 17:43	12/22/09 01:47	321-60-8	
Terphenyl-d14 (S)	94	%	57-134	1	12/17/09 17:43	12/22/09 01:47	1718-51-0	

Sample: MW20-121509 **Lab ID: 10118974002** Collected: 12/15/09 10:30 Received: 12/16/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 02:07	129-00-0	
Nitrobenzene-d5 (S)	80	%	51-125	1	12/17/09 17:43	12/22/09 02:07	4165-60-0	
2-Fluorobiphenyl (S)	74	%	58-125	1	12/17/09 17:43	12/22/09 02:07	321-60-8	
Terphenyl-d14 (S)	92	%	57-134	1	12/17/09 17:43	12/22/09 02:07	1718-51-0	

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ANALYTICAL RESULTS

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Sample: MW04-121509 **Lab ID: 10118974003** Collected: 12/15/09 11:30 Received: 12/16/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	206-44-0	
Fluorene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:26	129-00-0	
Nitrobenzene-d5 (S)	79	%	51-125	1	12/17/09 17:43	12/22/09 02:26	4165-60-0	
2-Fluorobiphenyl (S)	73	%	58-125	1	12/17/09 17:43	12/22/09 02:26	321-60-8	
Terphenyl-d14 (S)	89	%	57-134	1	12/17/09 17:43	12/22/09 02:26	1718-51-0	

Sample: MW01-121509 **Lab ID: 10118974004** Collected: 12/15/09 14:30 Received: 12/16/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	206-44-0	
Fluorene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 02:46	129-00-0	
Nitrobenzene-d5 (S)	71	%	51-125	1	12/17/09 17:43	12/22/09 02:46	4165-60-0	
2-Fluorobiphenyl (S)	74	%	58-125	1	12/17/09 17:43	12/22/09 02:46	321-60-8	
Terphenyl-d14 (S)	90	%	57-134	1	12/17/09 17:43	12/22/09 02:46	1718-51-0	

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ANALYTICAL RESULTS

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

Sample: MW03-121509 **Lab ID: 10118974005** Collected: 12/15/09 15:30 Received: 12/16/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.18**	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 03:06	129-00-0	
Nitrobenzene-d5 (S)	68	%	51-125	1	12/17/09 17:43	12/22/09 03:06	4165-60-0	
2-Fluorobiphenyl (S)	69	%	58-125	1	12/17/09 17:43	12/22/09 03:06	321-60-8	
Terphenyl-d14 (S)	88	%	57-134	1	12/17/09 17:43	12/22/09 03:06	1718-51-0	

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QUALITY CONTROL DATA

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

QC Batch: OEXT/12106 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10118974001, 10118974002, 10118974003, 10118974004, 10118974005

METHOD BLANK: 728096 Matrix: Water
Associated Lab Samples: 10118974001, 10118974002, 10118974003, 10118974004, 10118974005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	12/21/09 22:28	
Acenaphthylene	ug/L	ND	0.040	12/21/09 22:28	
Anthracene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(a)anthracene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(a)pyrene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(b)fluoranthene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(g,h,i)perylene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(k)fluoranthene	ug/L	ND	0.040	12/21/09 22:28	
Chrysene	ug/L	ND	0.040	12/21/09 22:28	
Dibenz(a,h)anthracene	ug/L	ND	0.040	12/21/09 22:28	
Fluoranthene	ug/L	ND	0.040	12/21/09 22:28	
Fluorene	ug/L	ND	0.040	12/21/09 22:28	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	12/21/09 22:28	
Naphthalene	ug/L	ND	0.040	12/21/09 22:28	
Phenanthrene	ug/L	ND	0.040	12/21/09 22:28	
Pyrene	ug/L	ND	0.040	12/21/09 22:28	
2-Fluorobiphenyl (S)	%	74	58-125	12/21/09 22:28	
Nitrobenzene-d5 (S)	%	80	51-125	12/21/09 22:28	
Terphenyl-d14 (S)	%	94	57-134	12/21/09 22:28	

LABORATORY CONTROL SAMPLE & LCSD: 728097 728098

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.75	0.72	75	72	56-125	4	20	
Acenaphthylene	ug/L	1	0.73	0.70	73	70	51-125	4	20	
Anthracene	ug/L	1	0.85	0.81	85	81	58-125	5	20	
Benzo(a)anthracene	ug/L	1	0.79	0.79	79	79	61-125	1	20	
Benzo(a)pyrene	ug/L	1	0.79	0.83	79	83	56-125	5	20	
Benzo(b)fluoranthene	ug/L	1	0.78	0.78	78	78	54-125	0	20	
Benzo(g,h,i)perylene	ug/L	1	0.90	0.94	90	94	42-125	4	20	
Benzo(k)fluoranthene	ug/L	1	0.86	0.88	86	88	60-125	3	20	
Chrysene	ug/L	1	0.86	0.85	86	85	64-125	1	20	
Dibenz(a,h)anthracene	ug/L	1	0.87	0.89	87	89	46-125	2	20	
Fluoranthene	ug/L	1	0.84	0.80	84	80	54-125	5	20	
Fluorene	ug/L	1	0.77	0.75	77	75	55-125	3	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.87	0.88	87	88	46-125	1	20	
Naphthalene	ug/L	1	0.74	0.72	74	72	47-125	4	20	
Phenanthrene	ug/L	1	0.82	0.77	82	77	55-125	7	20	
Pyrene	ug/L	1	0.83	0.83	83	83	57-125	0	20	
2-Fluorobiphenyl (S)	%				65	68	58-125			
Nitrobenzene-d5 (S)	%				74	71	51-125			

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QUALITY CONTROL DATA

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

LABORATORY CONTROL SAMPLE & LCSD: 728097 728098

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				90	89	57-134			

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QUALIFIERS

Project: Dec 09 East Bay GWM
Pace Project No.: 10118974

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5231

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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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.

10118974

Page: of

1308038

Section A Required Client Information:

Company: PTC
Address: 2612 Yelm Hwy SE Olympia WA 98501
Email To: robertsk@uspioneer.com
Phone: 360 570 1700 Fax:
Requested Due Date/TAT: 10 day

Section B Required Project Information:

Report To:
Copy To: Bussey@uspioneer.com
Purchase Order No.: Credit Card
Project Name: DEC09 East Bay GWM
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Cory Lund
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAH 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW02R-121509	WT					930		2									Y	X		001
2	MW20-121509	WT					1030		2									Y	X		002
3	MW04-121509	WT					1130		2									Y	X		003
4	MW01-121509	WT					1430		2									Y	X		004
5	MW03-121509	WT					1530		2									Y	X		005
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Feden	12/15/09	1700	Alt / Pace	12/16/09	0800	1.6	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 12/15/09

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

*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.

83922231 7207

Sample Condition Upon Receipt

Pace Analytical

Client Name: PTC **Project #** 1018974

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 8392 2231 5242

Optional
Proj. Due Date:
Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other ______   Temp Blank: Yes ✓ No ____

Thermometer Used 80344042 or 179425   **Type of Ice:** Wet Blue None   ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.6, 4.3   **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12/16/09 SA

				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 & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☑No	☐N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):______				

Client Notification/ Resolution: **Field Data Required?** Y / N

Person Contacted: ______ Date/Time: ______

Comments/ Resolution: ______

Project Manager Review: [signature]   **Date:** 12/17/09

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)

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December 23, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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CERTIFICATIONS

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10119016001	**MW09-121609**	Water	12/16/09 10:30	12/17/09 10:00
10119016002	**MW08-121609**	Water	12/16/09 11:15	12/17/09 10:00
10119016003	**MW25S-121609**	Water	12/16/09 12:00	12/17/09 10:00
10119016004	**MW22S-121609**	Water	12/16/09 14:00	12/17/09 10:00
10119016005	**MW14-121609**	Water	12/16/09 15:00	12/17/09 10:00

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SAMPLE ANALYTE COUNT

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10119016001	**MW09-121609**	EPA 8270 by SIM	HRG	19
10119016002	**MW08-121609**	EPA 8270 by SIM	HRG	19
10119016003	**MW25S-121609**	EPA 8270 by SIM	HRG	19
10119016004	**MW22S-121609**	EPA 8270 by SIM	HRG	19
10119016005	**MW14-121609**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Sample: MW09-121609 **Lab ID: 10119016001** Collected: 12/16/09 10:30 Received: 12/17/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	206-44-0	
Fluorene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/17/09 17:43	12/22/09 00:07	129-00-0	
Nitrobenzene-d5 (S)	70	%	51-125	1	12/17/09 17:43	12/22/09 00:07	4165-60-0	
2-Fluorobiphenyl (S)	67	%	58-125	1	12/17/09 17:43	12/22/09 00:07	321-60-8	
Terphenyl-d14 (S)	97	%	57-134	1	12/17/09 17:43	12/22/09 00:07	1718-51-0	

Sample: MW08-121609 **Lab ID: 10119016002** Collected: 12/16/09 11:15 Received: 12/17/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.22**	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	83-32-9	
Acenaphthylene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	208-96-8	
Anthracene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	207-08-9	
Chrysene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	53-70-3	
Fluoranthene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	206-44-0	
Fluorene	**0.079**	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	193-39-5	
Naphthalene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	91-20-3	
Phenanthrene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	85-01-8	
Pyrene	ND	ug/L	0.046	1	12/17/09 17:43	12/22/09 00:27	129-00-0	
Nitrobenzene-d5 (S)	76	%	51-125	1	12/17/09 17:43	12/22/09 00:27	4165-60-0	
2-Fluorobiphenyl (S)	74	%	58-125	1	12/17/09 17:43	12/22/09 00:27	321-60-8	
Terphenyl-d14 (S)	96	%	57-134	1	12/17/09 17:43	12/22/09 00:27	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Sample: MW25S-121609 **Lab ID: 10119016003** Collected: 12/16/09 12:00 Received: 12/17/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 00:47	129-00-0	
Nitrobenzene-d5 (S)	77	%	51-125	1	12/17/09 17:43	12/22/09 00:47	4165-60-0	
2-Fluorobiphenyl (S)	74	%	58-125	1	12/17/09 17:43	12/22/09 00:47	321-60-8	
Terphenyl-d14 (S)	95	%	57-134	1	12/17/09 17:43	12/22/09 00:47	1718-51-0	

Sample: MW22S-121609 **Lab ID: 10119016004** Collected: 12/16/09 14:00 Received: 12/17/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	208-96-8	
Anthracene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	207-08-9	
Chrysene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	53-70-3	
Fluoranthene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	206-44-0	
Fluorene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	193-39-5	
Naphthalene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	85-01-8	
Pyrene	ND	ug/L	0.043	1	12/17/09 17:43	12/22/09 01:07	129-00-0	
Nitrobenzene-d5 (S)	69	%	51-125	1	12/17/09 17:43	12/22/09 01:07	4165-60-0	
2-Fluorobiphenyl (S)	66	%	58-125	1	12/17/09 17:43	12/22/09 01:07	321-60-8	
Terphenyl-d14 (S)	94	%	57-134	1	12/17/09 17:43	12/22/09 01:07	1718-51-0	

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ANALYTICAL RESULTS

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

Sample: MW14-121609 **Lab ID: 10119016005** Collected: 12/16/09 15:00 Received: 12/17/09 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/17/09 17:43	12/22/09 01:27	129-00-0	
Nitrobenzene-d5 (S)	74	%	51-125	1	12/17/09 17:43	12/22/09 01:27	4165-60-0	
2-Fluorobiphenyl (S)	70	%	58-125	1	12/17/09 17:43	12/22/09 01:27	321-60-8	
Terphenyl-d14 (S)	99	%	57-134	1	12/17/09 17:43	12/22/09 01:27	1718-51-0	

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QUALITY CONTROL DATA

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

QC Batch: OEXT/12106 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10119016001, 10119016002, 10119016003, 10119016004, 10119016005

METHOD BLANK: 728096 Matrix: Water
Associated Lab Samples: 10119016001, 10119016002, 10119016003, 10119016004, 10119016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	12/21/09 22:28	
Acenaphthylene	ug/L	ND	0.040	12/21/09 22:28	
Anthracene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(a)anthracene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(a)pyrene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(b)fluoranthene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(g,h,i)perylene	ug/L	ND	0.040	12/21/09 22:28	
Benzo(k)fluoranthene	ug/L	ND	0.040	12/21/09 22:28	
Chrysene	ug/L	ND	0.040	12/21/09 22:28	
Dibenz(a,h)anthracene	ug/L	ND	0.040	12/21/09 22:28	
Fluoranthene	ug/L	ND	0.040	12/21/09 22:28	
Fluorene	ug/L	ND	0.040	12/21/09 22:28	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	12/21/09 22:28	
Naphthalene	ug/L	ND	0.040	12/21/09 22:28	
Phenanthrene	ug/L	ND	0.040	12/21/09 22:28	
Pyrene	ug/L	ND	0.040	12/21/09 22:28	
2-Fluorobiphenyl (S)	%	74	58-125	12/21/09 22:28	
Nitrobenzene-d5 (S)	%	80	51-125	12/21/09 22:28	
Terphenyl-d14 (S)	%	94	57-134	12/21/09 22:28	

LABORATORY CONTROL SAMPLE & LCSD: 728097 728098

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.75	0.72	75	72	56-125	4	20	
Acenaphthylene	ug/L	1	0.73	0.70	73	70	51-125	4	20	
Anthracene	ug/L	1	0.85	0.81	85	81	58-125	5	20	
Benzo(a)anthracene	ug/L	1	0.79	0.79	79	79	61-125	1	20	
Benzo(a)pyrene	ug/L	1	0.79	0.83	79	83	56-125	5	20	
Benzo(b)fluoranthene	ug/L	1	0.78	0.78	78	78	54-125	0	20	
Benzo(g,h,i)perylene	ug/L	1	0.90	0.94	90	94	42-125	4	20	
Benzo(k)fluoranthene	ug/L	1	0.86	0.88	86	88	60-125	3	20	
Chrysene	ug/L	1	0.86	0.85	86	85	64-125	1	20	
Dibenz(a,h)anthracene	ug/L	1	0.87	0.89	87	89	46-125	2	20	
Fluoranthene	ug/L	1	0.84	0.80	84	80	54-125	5	20	
Fluorene	ug/L	1	0.77	0.75	77	75	55-125	3	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.87	0.88	87	88	46-125	1	20	
Naphthalene	ug/L	1	0.74	0.72	74	72	47-125	4	20	
Phenanthrene	ug/L	1	0.82	0.77	82	77	55-125	7	20	
Pyrene	ug/L	1	0.83	0.83	83	83	57-125	0	20	
2-Fluorobiphenyl (S)	%				65	68	58-125			
Nitrobenzene-d5 (S)	%				74	71	51-125			

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QUALITY CONTROL DATA

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

LABORATORY CONTROL SAMPLE & LCSD: 728097 728098

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				90	89	57-134			

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QUALIFIERS

Project: EAST BAY DEC GW EVENT
Pace Project No.: 10119016

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5231

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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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.

10119016

Page: of

1308039

Section A Required Client Information:

Company: PTC
Address: 2612 Yelm Hwy SE
Olympia WA 98501
Email To: busseyt@pioneer.com
Phone: 360-570-1700 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Troy Bussey
Copy To: Kara Roberts
Purchase Order No.:
Project Name: East Bay Dec GW Event
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAHs 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	[illegible]	[illegible]		[illegible]	[illegible]				[illegible]												
2	MW09-121609	WT		12/16/09	1030				2			NO						X	X		021
3	MW08-121609	WT		12/16/09	1115				2			PRES						X	X		022
4	MW25S-121609	WT		12/16/09	1200				2									X	X		023
5	MW22S-121609	WT		12/16/09	1400				2									X	X		024
6	MW14-121609	WT		12/16/09	1500				2									X	X		025
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Kara Roberts PTC	121609	1630	[signature] Pace	12/17	1000	4°C 0.6	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Kara Roberts
SIGNATURE of SAMPLER: Kara Roberts
DATE Signed (MM/DD/YY): 12/16/09

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

*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

Pace Analytical™

Client Name: pioneer tech **Project #** 10114606

Optional
Proj Due Date:
Proj Name:

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ______

Tracking #: 839222316275, 839222315220

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other ______ **Temp Blank:** Yes ✓ No ____

Thermometer Used 80344042 or (179425) **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.8c, 0.6c **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: 12-17-09

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 Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	☑Yes	☐No	☐N/A	12.
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes	☐No	☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	Samp #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): ______				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ______ Date/Time: ______

Comments/ Resolution: ______

Project Manager Review: [signature] **Date:** 12/17/09

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)

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 29, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay Dec GW
Pace Project No.: 10119188

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on December 18, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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(612)607-1700

CERTIFICATIONS

Project: East Bay Dec GW
Pace Project No.: 10119188

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: East Bay Dec GW
Pace Project No.: 10119188

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10119188001	**MW12-121709**	Water	12/17/09 12:00	12/18/09 09:56
10119188002	**MW24S-121709**	Water	12/17/09 13:00	12/18/09 09:56
10119188003	**MW11-121709**	Water	12/17/09 14:30	12/18/09 09:56

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SAMPLE ANALYTE COUNT

Project: East Bay Dec GW
Pace Project No.: 10119188

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10119188001	**MW12-121709**	EPA 8270 by SIM	HRG	19
10119188002	**MW24S-121709**	EPA 8270 by SIM	HRG	19
10119188003	**MW11-121709**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay Dec GW
Pace Project No.: 10119188

Sample: MW12-121709 **Lab ID: 10119188001** Collected: 12/17/09 12:00 Received: 12/18/09 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	83-32-9	
Acenaphthylene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	208-96-8	
Anthracene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	207-08-9	
Chrysene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	53-70-3	
Fluoranthene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	206-44-0	
Fluorene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	193-39-5	
Naphthalene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	91-20-3	
Phenanthrene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	85-01-8	
Pyrene	ND	ug/L	0.050	1	12/18/09 17:06	12/23/09 20:10	129-00-0	
Nitrobenzene-d5 (S)	66	%	51-125	1	12/18/09 17:06	12/23/09 20:10	4165-60-0	
2-Fluorobiphenyl (S)	65	%	58-125	1	12/18/09 17:06	12/23/09 20:10	321-60-8	
Terphenyl-d14 (S)	97	%	57-134	1	12/18/09 17:06	12/23/09 20:10	1718-51-0	

Sample: MW24S-121709 **Lab ID: 10119188002** Collected: 12/17/09 13:00 Received: 12/18/09 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 20:30	129-00-0	
Nitrobenzene-d5 (S)	71	%	51-125	1	12/18/09 17:06	12/23/09 20:30	4165-60-0	
2-Fluorobiphenyl (S)	71	%	58-125	1	12/18/09 17:06	12/23/09 20:30	321-60-8	
Terphenyl-d14 (S)	91	%	57-134	1	12/18/09 17:06	12/23/09 20:30	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay Dec GW
Pace Project No.: 10119188

Sample: MW11-121709 **Lab ID: 10119188003** Collected: 12/17/09 14:30 Received: 12/18/09 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	206-44-0	
Fluorene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 20:50	129-00-0	
Nitrobenzene-d5 (S)	74	%	51-125	1	12/18/09 17:06	12/23/09 20:50	4165-60-0	
2-Fluorobiphenyl (S)	71	%	58-125	1	12/18/09 17:06	12/23/09 20:50	321-60-8	
Terphenyl-d14 (S)	92	%	57-134	1	12/18/09 17:06	12/23/09 20:50	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay Dec GW
Pace Project No.: 10119188

QC Batch: OEXT/12115 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10119188001, 10119188002, 10119188003

METHOD BLANK: 729077 Matrix: Water
Associated Lab Samples: 10119188001, 10119188002, 10119188003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	12/23/09 18:50	
Acenaphthylene	ug/L	ND	0.040	12/23/09 18:50	
Anthracene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(a)anthracene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(a)pyrene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(b)fluoranthene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(g,h,i)perylene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(k)fluoranthene	ug/L	ND	0.040	12/23/09 18:50	
Chrysene	ug/L	ND	0.040	12/23/09 18:50	
Dibenz(a,h)anthracene	ug/L	ND	0.040	12/23/09 18:50	
Fluoranthene	ug/L	ND	0.040	12/23/09 18:50	
Fluorene	ug/L	ND	0.040	12/23/09 18:50	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	12/23/09 18:50	
Naphthalene	ug/L	ND	0.040	12/23/09 18:50	
Phenanthrene	ug/L	ND	0.040	12/23/09 18:50	
Pyrene	ug/L	ND	0.040	12/23/09 18:50	
2-Fluorobiphenyl (S)	%	78	58-125	12/23/09 18:50	
Nitrobenzene-d5 (S)	%	81	51-125	12/23/09 18:50	
Terphenyl-d14 (S)	%	103	57-134	12/23/09 18:50	

LABORATORY CONTROL SAMPLE & LCSD: 729078 729079

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.74	0.82	74	82	56-125	10	20	
Acenaphthylene	ug/L	1	0.71	0.77	71	77	51-125	9	20	
Anthracene	ug/L	1	0.89	0.89	89	89	58-125	0	20	
Benzo(a)anthracene	ug/L	1	0.75	0.71	75	71	61-125	5	20	
Benzo(a)pyrene	ug/L	1	0.90	0.94	90	94	56-125	4	20	
Benzo(b)fluoranthene	ug/L	1	0.88	0.83	88	83	54-125	6	20	
Benzo(g,h,i)perylene	ug/L	1	0.90	0.89	90	89	42-125	1	20	
Benzo(k)fluoranthene	ug/L	1	0.92	0.95	92	95	60-125	3	20	
Chrysene	ug/L	1	1.0	1.0	100	104	64-125	4	20	
Dibenz(a,h)anthracene	ug/L	1	0.87	0.87	87	87	46-125	0	20	
Fluoranthene	ug/L	1	0.90	0.92	90	92	54-125	2	20	
Fluorene	ug/L	1	0.82	0.87	82	87	55-125	6	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.87	0.86	87	86	46-125	0	20	
Naphthalene	ug/L	1	0.73	0.80	73	80	47-125	9	20	
Phenanthrene	ug/L	1	0.79	0.82	79	82	55-125	3	20	
Pyrene	ug/L	1	0.88	0.86	88	86	57-125	2	20	
2-Fluorobiphenyl (S)	%				72	79	58-125			
Nitrobenzene-d5 (S)	%				71	77	51-125			

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QUALITY CONTROL DATA

Project: East Bay Dec GW
Pace Project No.: 10119188

LABORATORY CONTROL SAMPLE & LCSD: 729078 729079

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				97	95	57-134			

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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: East Bay Dec GW
Pace Project No.: 10119188

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5240

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical®
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1146

CHAIN-OF-CUSTODY / Analytical Request Document

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

10119188

Page: 1 of 1

1288410

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To: Troy Bussey	Attention:
Address: 2612 Yelm Hwy SE Olympia WA 98501	Copy To: Kara Roberts	Company Name:
Email To: bussey t@uspioneer.com	Purchase Order No.:	Address:
Phone: 360-570-1700 Fax:	Project Name: East Bay Dec GW	Pace Quote Reference:
Requested Due Date/TAT: normal 10 day	Project Number:	Pace Project Manager: Cory Lundand
		Pace Profile #: Scott Unze

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAHs 8270	Dioxin/Furans 8290	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW12-121709	WT		121709	1200				2	X								X	X			10119188001
2	MW24S-121709	WT		121709	1300				4	X								X	X	X		002
3	MW11-121709	WT		121709	1430				2	X								X				003
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Melody Feden / PTC	121709	1630	[signature] Pace MN	12/18/09	0956	6.0	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden DATE Signed (MM/DD/YY): 12/17/09

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

*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

Pace Analytical

Client Name: PTC **Project #** 10119188

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

Tracking #: 8392-2231-5437

Optional
Proj. Due Date:
Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ✓ No _____

Thermometer Used 80344842 or 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 6.0 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and initials of person examining contents: 12/18/09

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 & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 12/21/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

January 03, 2010

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay Dec GW
Pace Project No.: 10119189

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on December 18, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: East Bay Dec GW
Pace Project No.: 10119189

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: East Bay Dec GW
Pace Project No.: 10119189

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10119189001	**MW18-121709**	Water	12/17/09 09:15	12/18/09 09:52
10119189002	**MW16-121709**	Water	12/17/09 10:30	12/18/09 09:52
10119189003	**MW23S-121709**	Water	12/17/09 11:00	12/18/09 09:52

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SAMPLE ANALYTE COUNT

Project: East Bay Dec GW
Pace Project No.: 10119189

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10119189001	**MW18-121709**	EPA 8270 by SIM	HRG	19
10119189002	**MW16-121709**	EPA 8270 by SIM	HRG	19
10119189003	**MW23S-121709**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay Dec GW
Pace Project No.: 10119189

Sample: MW18-121709 **Lab ID: 10119189001** Collected: 12/17/09 09:15 Received: 12/18/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/18/09 17:06	12/23/09 21:09	129-00-0	
Nitrobenzene-d5 (S)	68	%	51-125	1	12/18/09 17:06	12/23/09 21:09	4165-60-0	
2-Fluorobiphenyl (S)	73	%	58-125	1	12/18/09 17:06	12/23/09 21:09	321-60-8	
Terphenyl-d14 (S)	94	%	57-134	1	12/18/09 17:06	12/23/09 21:09	1718-51-0	

Sample: MW16-121709 **Lab ID: 10119189002** Collected: 12/17/09 10:30 Received: 12/18/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	**0.32**	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	206-44-0	
Fluorene	**0.10**	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/30/09 22:45	129-00-0	
Nitrobenzene-d5 (S)	76	%	51-125	1	12/18/09 17:06	12/30/09 22:45	4165-60-0	
2-Fluorobiphenyl (S)	72	%	58-125	1	12/18/09 17:06	12/30/09 22:45	321-60-8	
Terphenyl-d14 (S)	96	%	57-134	1	12/18/09 17:06	12/30/09 22:45	1718-51-0	

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ANALYTICAL RESULTS

Project: East Bay Dec GW
Pace Project No.: 10119189

Sample: MW23S-121709 **Lab ID: 10119189003** Collected: 12/17/09 11:00 Received: 12/18/09 09:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	206-44-0	
Fluorene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/18/09 17:06	12/23/09 21:49	129-00-0	
Nitrobenzene-d5 (S)	67	%	51-125	1	12/18/09 17:06	12/23/09 21:49	4165-60-0	
2-Fluorobiphenyl (S)	66	%	58-125	1	12/18/09 17:06	12/23/09 21:49	321-60-8	
Terphenyl-d14 (S)	87	%	57-134	1	12/18/09 17:06	12/23/09 21:49	1718-51-0	

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QUALITY CONTROL DATA

Project: East Bay Dec GW
Pace Project No.: 10119189

QC Batch: OEXT/12115 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10119189001, 10119189002, 10119189003

METHOD BLANK: 729077 Matrix: Water
Associated Lab Samples: 10119189001, 10119189002, 10119189003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	12/23/09 18:50	
Acenaphthylene	ug/L	ND	0.040	12/23/09 18:50	
Anthracene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(a)anthracene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(a)pyrene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(b)fluoranthene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(g,h,i)perylene	ug/L	ND	0.040	12/23/09 18:50	
Benzo(k)fluoranthene	ug/L	ND	0.040	12/23/09 18:50	
Chrysene	ug/L	ND	0.040	12/23/09 18:50	
Dibenz(a,h)anthracene	ug/L	ND	0.040	12/23/09 18:50	
Fluoranthene	ug/L	ND	0.040	12/23/09 18:50	
Fluorene	ug/L	ND	0.040	12/23/09 18:50	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	12/23/09 18:50	
Naphthalene	ug/L	ND	0.040	12/23/09 18:50	
Phenanthrene	ug/L	ND	0.040	12/23/09 18:50	
Pyrene	ug/L	ND	0.040	12/23/09 18:50	
2-Fluorobiphenyl (S)	%	78	58-125	12/23/09 18:50	
Nitrobenzene-d5 (S)	%	81	51-125	12/23/09 18:50	
Terphenyl-d14 (S)	%	103	57-134	12/23/09 18:50	

LABORATORY CONTROL SAMPLE & LCSD: 729078 729079

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.74	0.82	74	82	56-125	10	20	
Acenaphthylene	ug/L	1	0.71	0.77	71	77	51-125	9	20	
Anthracene	ug/L	1	0.89	0.89	89	89	58-125	0	20	
Benzo(a)anthracene	ug/L	1	0.75	0.71	75	71	61-125	5	20	
Benzo(a)pyrene	ug/L	1	0.90	0.94	90	94	56-125	4	20	
Benzo(b)fluoranthene	ug/L	1	0.88	0.83	88	83	54-125	6	20	
Benzo(g,h,i)perylene	ug/L	1	0.90	0.89	90	89	42-125	1	20	
Benzo(k)fluoranthene	ug/L	1	0.92	0.95	92	95	60-125	3	20	
Chrysene	ug/L	1	1.0	1.0	100	104	64-125	4	20	
Dibenz(a,h)anthracene	ug/L	1	0.87	0.87	87	87	46-125	0	20	
Fluoranthene	ug/L	1	0.90	0.92	90	92	54-125	2	20	
Fluorene	ug/L	1	0.82	0.87	82	87	55-125	6	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.87	0.86	87	86	46-125	0	20	
Naphthalene	ug/L	1	0.73	0.80	73	80	47-125	9	20	
Phenanthrene	ug/L	1	0.79	0.82	79	82	55-125	3	20	
Pyrene	ug/L	1	0.88	0.86	88	86	57-125	2	20	
2-Fluorobiphenyl (S)	%				72	79	58-125			
Nitrobenzene-d5 (S)	%				71	77	51-125			

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1700 Elm Street - Suite 200
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QUALITY CONTROL DATA

Project: East Bay Dec GW
Pace Project No.: 10119189

LABORATORY CONTROL SAMPLE & LCSD: 729078 729079

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				97	95	57-134			

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QUALIFIERS

Project: East Bay Dec GW
Pace Project No.: 10119189

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5240

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® www.pacelabs.com

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

1130

10/19/09

Page: 1 of 1

1308040

Section A Required Client Information:

Company: PTC

Address: 2612 Yelm Hwy Olympia WA 98501

Email To: busseyt@uspioneer.com

Phone: 3605704700 Fax:

Requested Due Date/TAT: 10 day

Section B Required Project Information:

Report To: Troy Bussey

Copy To:

Purchase Order No.:

Project Name: East Bay Dec GW

Project Number:

Section C Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager: Cory Lundand

Pace Profile #: Scott Unze

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	PAH 8270	Dioxin/Furans 1613B	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW18-121709	WT					915		2	X									X			10119189001
2	MW16-121709	WT					1030		4	X									X	X		002
3	MW23S-121709	WT					1100		2	X									X			003
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

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)
	Melody Feden IPTC	121709	1630	FedEx MN	12/18/09	0952	1.3	4	N	4

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Melody Feden

SIGNATURE of SAMPLER: Melody Feden

DATE Signed (MM/DD/YY): 12/17/09

*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

Pace Analytical

Client Name: PTC Project # 10119189

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

Tracking #: 8392-2231-5426

Optional: Proj. Due Date: Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used 80844042 or 179425 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.3 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C Comments:

Date and initials of person examining contents: 12/18/09

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☐No	☑N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: LST			
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes	☐No	☑N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes	☑No	
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A
Trip Blank Present:	☐Yes	☐No	☑N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased): —			

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl

Samp #

Initial when completed	Lot # of added preservative
—	

14. 15. 16.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 12/21/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 30, 2009

Troy Bussey
Pioneer Technologies Corporation
2612 Yelm Highway S.E.
Suite B
Olympia, WA 985014826

RE: Project: East Bay Dec GW
Pace Project No.: 10119265

Dear Troy Bussey:
Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Cory C Lund

cory.lund@pacelabs.com
Project Manager

Enclosures

cc: Brad Grimsted, Pioneer Technologies Corporati
Kara Roberts, Pioneer Technologies Corporati

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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: East Bay Dec GW
Pace Project No.: 10119265

Minnesota Certification IDs

1700 Elm Street SE, Suite 200 Minneapolis, MN 55414
Alaska Certification #: UST-078
Washington Certification #: C754
Tennessee Certification #: 02818
Pennsylvania Certification #: 68-00563
Oregon Certification #: MN200001
North Dakota Certification #: R-036
North Carolina Certification #: 530
New York Certification #: 11647
New Jersey Certification #: MN-002
Montana Certification #: MT CERT0092
Minnesota Certification #: 027-053-137
Michigan DEQ Certification #: 9909
Maine Certification #: 2007029
Louisiana Certification #: LA080009
Louisiana Certification #: 03086
Kansas Certification #: E-10167
Iowa Certification #: 368
Illinois Certification #: 200011
Florida/NELAP Certification #: E87605
California Certification #: 01155CA
Arizona Certification #: AZ-0014
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: East Bay Dec GW
Pace Project No.: 10119265

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10119265001	**MW07-121809**	Water	12/18/09 09:00	12/21/09 09:32
10119265002	**MW18-121809**	Water	12/18/09 10:00	12/21/09 09:32

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SAMPLE ANALYTE COUNT

Project: East Bay Dec GW
Pace Project No.: 10119265

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10119265001	**MW07-121809**	EPA 8270 by SIM	HRG	19
10119265002	**MW18-121809**	EPA 8270 by SIM	HRG	19

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ANALYTICAL RESULTS

Project: East Bay Dec GW
Pace Project No.: 10119265

Sample: MW07-121809 **Lab ID: 10119265001** Collected: 12/18/09 09:00 Received: 12/21/09 09:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	83-32-9	
Acenaphthylene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	208-96-8	
Anthracene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	207-08-9	
Chrysene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	53-70-3	
Fluoranthene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	206-44-0	
Fluorene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	193-39-5	
Naphthalene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	91-20-3	
Phenanthrene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	85-01-8	
Pyrene	ND	ug/L	0.044	1	12/21/09 12:37	12/24/09 20:01	129-00-0	
Nitrobenzene-d5 (S)	68	%	51-125	1	12/21/09 12:37	12/24/09 20:01	4165-60-0	
2-Fluorobiphenyl (S)	65	%	58-125	1	12/21/09 12:37	12/24/09 20:01	321-60-8	
Terphenyl-d14 (S)	75	%	57-134	1	12/21/09 12:37	12/24/09 20:01	1718-51-0	

Sample: MW18-121809 **Lab ID: 10119265002** Collected: 12/18/09 10:00 Received: 12/21/09 09:32 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	83-32-9	
Acenaphthylene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	208-96-8	
Anthracene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	207-08-9	
Chrysene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	53-70-3	
Fluoranthene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	206-44-0	
Fluorene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	193-39-5	
Naphthalene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	91-20-3	
Phenanthrene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	85-01-8	
Pyrene	ND	ug/L	0.045	1	12/21/09 12:37	12/24/09 20:21	129-00-0	
Nitrobenzene-d5 (S)	69	%	51-125	1	12/21/09 12:37	12/24/09 20:21	4165-60-0	
2-Fluorobiphenyl (S)	72	%	58-125	1	12/21/09 12:37	12/24/09 20:21	321-60-8	
Terphenyl-d14 (S)	73	%	57-134	1	12/21/09 12:37	12/24/09 20:21	1718-51-0	

These are actually results for MW15. Incorrect ID was used on chain-of-custody sent to PACE. See field notes and chain-of-custody sent to Anatek.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: East Bay Dec GW
Pace Project No.: 10119265

QC Batch: OEXT/12128 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by SIM MSSV
Associated Lab Samples: 10119265001, 10119265002

METHOD BLANK: 729974 Matrix: Water
Associated Lab Samples: 10119265001, 10119265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	ND	0.040	12/24/09 13:03	
Acenaphthylene	ug/L	ND	0.040	12/24/09 13:03	
Anthracene	ug/L	ND	0.040	12/24/09 13:03	
Benzo(a)anthracene	ug/L	ND	0.040	12/24/09 13:03	
Benzo(a)pyrene	ug/L	ND	0.040	12/24/09 13:03	
Benzo(b)fluoranthene	ug/L	ND	0.040	12/24/09 13:03	
Benzo(g,h,i)perylene	ug/L	ND	0.040	12/24/09 13:03	
Benzo(k)fluoranthene	ug/L	ND	0.040	12/24/09 13:03	
Chrysene	ug/L	ND	0.040	12/24/09 13:03	
Dibenz(a,h)anthracene	ug/L	ND	0.040	12/24/09 13:03	
Fluoranthene	ug/L	ND	0.040	12/24/09 13:03	
Fluorene	ug/L	ND	0.040	12/24/09 13:03	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	12/24/09 13:03	
Naphthalene	ug/L	ND	0.040	12/24/09 13:03	
Phenanthrene	ug/L	ND	0.040	12/24/09 13:03	
Pyrene	ug/L	ND	0.040	12/24/09 13:03	
2-Fluorobiphenyl (S)	%	70	58-125	12/24/09 13:03	
Nitrobenzene-d5 (S)	%	70	51-125	12/24/09 13:03	
Terphenyl-d14 (S)	%	81	57-134	12/24/09 13:03	

LABORATORY CONTROL SAMPLE & LCSD: 729975 729976

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	1	0.81	0.84	81	84	56-125	3	20	
Acenaphthylene	ug/L	1	0.77	0.78	77	78	51-125	2	20	
Anthracene	ug/L	1	0.81	0.88	81	88	58-125	8	20	
Benzo(a)anthracene	ug/L	1	0.69	0.73	69	73	61-125	6	20	
Benzo(a)pyrene	ug/L	1	0.79	0.82	79	82	56-125	4	20	
Benzo(b)fluoranthene	ug/L	1	0.81	0.83	81	83	54-125	2	20	
Benzo(g,h,i)perylene	ug/L	1	0.77	0.81	77	81	42-125	5	20	
Benzo(k)fluoranthene	ug/L	1	0.85	0.84	85	84	60-125	2	20	
Chrysene	ug/L	1	0.93	0.92	93	92	64-125	1	20	
Dibenz(a,h)anthracene	ug/L	1	0.74	0.77	74	77	46-125	4	20	
Fluoranthene	ug/L	1	0.94	0.95	94	95	54-125	1	20	
Fluorene	ug/L	1	0.87	0.89	87	89	55-125	2	20	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.75	0.77	75	77	46-125	3	20	
Naphthalene	ug/L	1	0.80	0.82	80	82	47-125	3	20	
Phenanthrene	ug/L	1	0.73	0.75	73	75	55-125	4	20	
Pyrene	ug/L	1	0.76	0.80	76	80	57-125	5	20	
2-Fluorobiphenyl (S)	%				76	78	58-125			
Nitrobenzene-d5 (S)	%				71	74	51-125			

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: East Bay Dec GW
Pace Project No.: 10119265

LABORATORY CONTROL SAMPLE & LCSD: 729975 729976

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				81	84	57-134			

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(612)607-1700

QUALIFIERS

Project: East Bay Dec GW
Pace Project No.: 10119265

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.

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

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

BATCH QUALIFIERS

Batch: MSSV/5241

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical®
www.pacelabs.com

1140

CHAIN-OF-CUSTODY / Analytical Request Document

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

0119765

Page: of

1269215

These are actually results for MW15. Incorrect ID was used on chain-of-custody sent to PACE. See field notes and chain-of-custody sent to Anatek.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: PTC	Report To: Troy Bussey	Attention:
Address: 2612 Yelm Hwy SE Olympia WA 98501	Copy To: Kara Roberts	Company Name:
Email To: bussey t@uspioneer.com	Purchase Order No.:	Address:
Phone: 360-570-1700 Fax:	Project Name: East Bay Dec GW	Pace Quote Reference:
Requested Due Date/TAT: 10 day	Project Number:	Pace Project Manager:
		Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	PAHs 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW07-121809	WT		12/18/09	0900					X								X	X		001
2	MW18-121809	WT		12/18/09	1000					X								X	X		002
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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)
	Kara Roberts PTC	121809	1200	Matt Fs / Pace	12/19/09	0932	3.3°	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kara Roberts

SIGNATURE of SAMPLER: Kara Roberts

DATE Signed (MM/DD/YY): 12/18/09

*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

Pace Analytical

Client Name: PTC **Project #** 10119765

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

Tracking #: 8392 2231 5448

Optional: Proj. Due Date: Proj. Name:

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

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ☒ No _____

Thermometer Used 80344042 or 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.3° **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: 12-19-09 MT

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 Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<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	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. Sample MW18 on CoC has MW15 on bottles
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	☐Yes ☐No ☒N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp #
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☒No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] **Date:** 12/21/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Data Quality Review
East Bay Redevelopment Site – December 2009 GWM Event (Primary Samples)

1. Precision
Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs are within acceptable ranges.

2. Accuracy
Accuracy was assessed by analysis of laboratory method blanks and trip blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. No analytes were detected in the laboratory method blanks or trip blanks. As shown in the analytical reports, recoveries for blank spikes, matrix spikes, and surrogates for all analyses were within acceptable ranges.

3. Representativeness
Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. Samples were collected, preserved, handled, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), which was designed to obtain representative samples (GeoEngineers and PIONEER 2008). In addition, samples were extracted and analyzed within appropriate holding times listed in the QAPP.

4. Comparability
Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity
Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with project-specific PQL expectations (Ecology 2009b). The actual PQLs were equal to or less than the expected PQLs, with the following exceptions. The actual PQLs for all metals (except for mercury, which had an actual PQL lower than PQL expectations) were twice the revised PQL expectations of 0.5 ug/L (Ecology 2009b) due to a different laboratory being used, but are still acceptable for project use in comparison with surface water screening levels. The actual PQL for total petroleum hydrocarbons in the gasoline range (TPH-G) of 500 ug/L exceeded the revised PQL expectation of 50 ug/L (Ecology 2009b) due to Anatek Labs interpretation of an appropriate PQL for the NWTPH-G methodology. This actual TPH-G PQL is still acceptable for project use in comparison with the TPH-G surface water screening level of 1,000 ug/L. The actual PQLs for individual polychlorinated biphenyls (PCBs) congeners were four times higher than the revised PQL expectation of 0.05 ug/L, and are unacceptable. However, the actual method detection limit was 0.05 ug/L and no PCBs were detected down to the method detection limit.

6. Completeness
Completeness was assessed by calculating the percentage of useable results to all results. A total of 1,960 primary sample analyses were performed. All of the analyte results were useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions
This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

APPENDIX O

ANALYTICAL REPORTS AND DATA QUALITY REVIEW FOR MARCH 2010 GROUNDWATER MONITORING EVENT

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-001	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW01-031510	**Sampling Time**	3:00 PM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/18/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100316018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	101.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-002	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW21S-031510	**Sampling Time**	2:00 PM			
Matrix	Water					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/18/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100316018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	98.2	70-130

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-003	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW13-031510	**Sampling Time**	11:00 AM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/18/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100316018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	98.6	70-130

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-004	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW22S-031510	**Sampling Time**	10:00 AM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/18/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100316018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	101.0	70-130

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-005	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW11-031510	**Sampling Time**	12:00 PM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/18/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100316018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	100.0	70-130

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Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-006	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW09-031510	**Sampling Time**	1:00 PM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/18/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100316018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	100.0	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	1.05	mg/L	1	105.0	70-130	3/18/2010	3/18/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100316018-002	Gasoline	ND	1.08	mg/L	1	108.0	70-130	3/18/2010	3/18/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	1.10	mg/L	1	110.0	1.8	0-25	3/18/2010	3/18/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Gasoline	ND	mg/L	0.25	3/18/2010	3/18/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100316018-001
Client Sample ID MW01-031510
Matrix Water
Comments

Sampling Date 3/15/2010
Sampling Time 3:00 PM
Sample Location

Date/Time Received 3/16/2010 10:40 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	99.6	70-130
4-Bromofluorobenzene	EPA 8260B	100.8	70-130
Toluene-d8	EPA 8260B	102.4	70-130

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Analytical Results Report

Sample Number	100316018-002	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW21S-031510	**Sampling Time**	2:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	98.0	70-130
4-Bromofluorobenzene	EPA 8260B	99.6	70-130
Toluene-d8	EPA 8260B	104.4	70-130

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Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-003	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW13-031510	**Sampling Time**	11:00 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	99.2	70-130
4-Bromofluorobenzene	EPA 8260B	100.4	70-130
Toluene-d8	EPA 8260B	104.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Analytical Results Report

Sample Number	100316018-004	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW22S-031510	**Sampling Time**	10:00 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	99.6	70-130
4-Bromofluorobenzene	EPA 8260B	100.4	70-130
Toluene-d8	EPA 8260B	104.4	70-130

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Batch #: 100316018
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Analytical Results Report

Sample Number	100316018-005	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW11-031510	**Sampling Time**	12:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	100.4	70-130
4-Bromofluorobenzene	EPA 8260B	101.6	70-130
Toluene-d8	EPA 8260B	102.8	70-130

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Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-006	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010 10:40 AM
Client Sample ID	MW09-031510	**Sampling Time**	1:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	101.2	70-130
4-Bromofluorobenzene	EPA 8260B	102.0	70-130
Toluene-d8	EPA 8260B	102.8	70-130

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Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100316018-007
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 3/15/2010
Sampling Time
Sample Location

Date/Time Received 3/16/2010 10:40 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/18/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/18/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100316018-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	101.2	70-130
4-Bromofluorobenzene	EPA 8260B	102.4	70-130
Toluene-d8	EPA 8260B	103.6	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	5.47	ug/L	5	109.4	72-127	3/18/2010	3/18/2010
o-Xylene	5.03	ug/L	5	100.6	84-115	3/18/2010	3/18/2010
Ethylbenzene	5.00	ug/L	5	100.0	85-116	3/18/2010	3/18/2010
Benzene	5.59	ug/L	5	111.8	72-125	3/18/2010	3/18/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100316018-001	Toluene	ND	11.3	ug/L	10	113.0	66-136	3/18/2010	3/18/2010
100316018-001	o-Xylene	ND	10.0	ug/L	10	100.0	68-134	3/18/2010	3/18/2010
100316018-001	Ethylbenzene	ND	10.1	ug/L	10	101.0	70-137	3/18/2010	3/18/2010
100316018-001	Benzene	ND	11.2	ug/L	10	112.0	63-139	3/18/2010	3/18/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Toluene	12.7	ug/L	10	127.0	11.7	0-25	3/18/2010	3/18/2010
o-Xylene	10.9	ug/L	10	109.0	8.6	0-25	3/18/2010	3/18/2010
m+p-Xylene	21.7	ug/L	20	108.5	7.7	0-25	3/18/2010	3/18/2010
Ethylbenzene	10.9	ug/L	10	109.0	7.6	0-25	3/18/2010	3/18/2010
Benzene	12.9	ug/L	10	129.0	14.1	0-25	3/18/2010	3/18/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	ug/L	1	3/18/2010	3/18/2010
Ethylbenzene	ND	ug/L	1	3/18/2010	3/18/2010
m+p-Xylene	ND	ug/L	2	3/18/2010	3/18/2010
o-Xylene	ND	ug/L	1	3/18/2010	3/18/2010
Toluene	ND	ug/L	1	3/18/2010	3/18/2010

Comments:

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Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-001	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW01-031510	**Sampling Time**	3:00 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00205	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-002	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW21S-031510	**Sampling Time**	2:00 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00323	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00101	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Analytical Results Report

Sample Number	100316018-003	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW13-031510	**Sampling Time**	11:00 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00475	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	0.00130	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Analytical Results Report

Sample Number	100316018-004	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW22S-031510	**Sampling Time**	10:00 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00224	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	0.00108	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00198	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	0.00201	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Analytical Results Report

Sample Number	100316018-005	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW11-031510	**Sampling Time**	12:00 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00102	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00143	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-006	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW09-031510	**Sampling Time**	1:00 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0477	mg/L	0.05	95.4	80-120	3/31/2010	3/31/2010
Dissolved Lead	0.0465	mg/L	0.05	93.0	80-120	3/31/2010	3/31/2010
Dissolved Copper	0.0476	mg/L	0.05	95.2	80-120	3/31/2010	3/31/2010
Dissolved Chromium	0.0477	mg/L	0.05	95.4	80-120	3/31/2010	3/31/2010
Dissolved Arsenic	0.0466	mg/L	0.05	93.2	80-120	3/31/2010	3/31/2010
Nickel	0.0485	mg/L	0.05	97.0	80-120	3/26/2010	3/26/2010
Lead	0.0503	mg/L	0.05	100.6	80-120	3/26/2010	3/26/2010
Copper	0.0490	mg/L	0.05	98.0	80-120	3/26/2010	3/26/2010
Chromium	0.0502	mg/L	0.05	100.4	80-120	3/26/2010	3/26/2010
Arsenic	0.0512	mg/L	0.05	102.4	80-120	3/26/2010	3/26/2010

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Arsenic	0.0504	mg/L	0.05	100.8	1.6	0-20	3/26/2010	3/26/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100319027-001A	Nickel	ND	0.239	mg/L	0.25	95.6	75-125	3/26/2010	3/26/2010
100319027-001A	Lead	ND	0.238	mg/L	0.25	95.2	75-125	3/26/2010	3/26/2010
100319027-001A	Copper	ND	0.257	mg/L	0.25	102.8	75-125	3/26/2010	3/26/2010
100319027-001A	Chromium	ND	0.255	mg/L	0.25	102.0	75-125	3/26/2010	3/26/2010
100319027-001A	Arsenic	ND	0.275	mg/L	0.25	110.0	75-125	3/26/2010	3/26/2010
100316018-001	Dissolved Nickel	ND	0.0477	mg/L	0.05	95.4	75-125	3/31/2010	3/31/2010
100316018-001	Dissolved Lead	ND	0.0468	mg/L	0.05	93.6	75-125	3/31/2010	3/31/2010
100316018-001	Dissolved Copper	ND	0.0478	mg/L	0.05	95.6	75-125	3/31/2010	3/31/2010
100316018-001	Dissolved Chromium	ND	0.0481	mg/L	0.05	96.2	75-125	3/31/2010	3/31/2010
100316018-001	Dissolved Arsenic	ND	0.0482	mg/L	0.05	96.4	75-125	3/31/2010	3/31/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.240	mg/L	0.25	96.0	0.4	0-20	3/26/2010	3/26/2010
Lead	0.243	mg/L	0.25	97.2	2.1	0-20	3/26/2010	3/26/2010

Comments:

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Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Copper	0.256	mg/L	0.25	102.4	0.4	0-20	3/26/2010	3/26/2010
Chromium	0.258	mg/L	0.25	103.2	1.2	0-20	3/26/2010	3/26/2010
Arsenic	0.271	mg/L	0.25	108.4	1.5	0-20	3/26/2010	3/26/2010
Dissolved Nickel	0.0484	mg/L	0.05	96.8	1.5	0-20	3/31/2010	3/31/2010
Dissolved Lead	0.0469	mg/L	0.05	93.8	0.2	0-20	3/31/2010	3/31/2010
Dissolved Copper	0.0484	mg/L	0.05	96.8	1.2	0-20	3/31/2010	3/31/2010
Dissolved Chromium	0.0487	mg/L	0.05	97.4	1.2	0-20	3/31/2010	3/31/2010
Dissolved Arsenic	0.0488	mg/L	0.05	97.6	1.2	0-20	3/31/2010	3/31/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	3/26/2010	3/26/2010
Chromium	ND	mg/L	0.001	3/26/2010	3/26/2010
Copper	ND	mg/L	0.001	3/26/2010	3/26/2010
Dissolved Arsenic	ND	mg/L	0.001	3/31/2010	3/31/2010
Dissolved Chromium	ND	mg/L	0.001	3/31/2010	3/31/2010
Dissolved Copper	ND	mg/L	0.001	3/31/2010	3/31/2010
Dissolved Lead	ND	mg/L	0.001	3/31/2010	3/31/2010
Dissolved Nickel	ND	mg/L	0.001	3/31/2010	3/31/2010
Lead	ND	mg/L	0.001	3/26/2010	3/26/2010
Nickel	ND	mg/L	0.001	3/26/2010	3/26/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-001	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW01-031510	**Sampling Time**	3:00 PM	**Extraction Date**	3/17/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/19/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/19/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100316018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	88.0	50-150

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-002	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW21S-031510	**Sampling Time**	2:00 PM	**Extraction Date**	3/17/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/19/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/19/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100316018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	94.4	50-150

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Analytical Results Report

Sample Number	100316018-003	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW13-031510	**Sampling Time**	11:00 AM	**Extraction Date**	3/17/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/19/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/19/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100316018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	91.2	50-150

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Analytical Results Report

Sample Number	100316018-004	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW22S-031510	**Sampling Time**	10:00 AM	**Extraction Date**	3/17/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/19/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/19/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100316018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	85.6	50-150

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Analytical Results Report

Sample Number	100316018-005	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW11-031510	**Sampling Time**	12:00 PM	**Extraction Date**	3/17/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/19/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/19/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100316018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-006	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW09-031510	**Sampling Time**	1:00 PM	**Extraction Date**	3/17/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/19/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/19/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100316018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

TPHDx extracts were subjected to silica gel/sulfuric acid cleanup before analysis

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.828	mg/L	1	82.8	50-150	3/17/2010	3/19/2010

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.740	mg/L	1	74.0	11.2	0-50	3/17/2010	3/19/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	3/17/2010	3/19/2010
Lube Oil	ND	mg/L	0.5	3/17/2010	3/19/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client Sample ID	MW01-031510	**Sampling Time**	3:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.015	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client Sample ID	MW01-031510	**Sampling Time**	3:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.024	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100316018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	107.2	10-125

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Analytical Results Report

Sample Number	100316018-002	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW21S-031510	**Sampling Time**	2:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Sample Number	100316018-002	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW21S-031510	**Sampling Time**	2:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100316018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	91.2	10-125

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Analytical Results Report

Sample Number	100316018-003	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW13-031510	**Sampling Time**	11:00 AM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.930	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	0.017	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	0.066	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.338	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Client Sample ID	MW13-031510	**Sampling Time**	11:00 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.040	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	0.035	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100316018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	99.2	10-125

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Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Client Sample ID	MW22S-031510	**Sampling Time**	10:00 AM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.021	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100316018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	96.2	10-125

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-005	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW11-031510	**Sampling Time**	12:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.017	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.012	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-005	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW11-031510	**Sampling Time**	12:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100316018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	91.7	10-125

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-006	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW09-031510	**Sampling Time**	1:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100316018-006	**Sampling Date**	3/15/2010	**Date/Time Received**	3/16/2010	10:40 AM
Client Sample ID	MW09-031510	**Sampling Time**	1:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100316018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	86.1	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.912	ug/L	1	91.2	30-140	3/18/2010	3/26/2010
Acenaphthene	0.927	ug/L	1	92.7	30-140	3/18/2010	3/26/2010
Acenaphthylene	0.957	ug/L	1	95.7	30-140	3/18/2010	3/26/2010
Anthracene	0.926	ug/L	1	92.6	30-140	3/18/2010	3/26/2010
Benzo(ghi)perylene	0.994	ug/L	1	99.4	30-140	3/18/2010	3/26/2010
Benzo[a]anthracene	1.05	ug/L	1	105.0	30-140	3/18/2010	3/26/2010
Benzo[a]pyrene	0.983	ug/L	1	98.3	30-140	3/18/2010	3/26/2010
2-Methylnaphthalene	0.913	ug/L	1	91.3	30-140	3/18/2010	3/26/2010
Benzo[k]fluoranthene	1.07	ug/L	1	107.0	30-140	3/18/2010	3/26/2010
Pyrene	1.29	ug/L	1	129.0	30-140	3/18/2010	3/26/2010
Dibenz[a,h]anthracene	1.01	ug/L	1	101.0	30-140	3/18/2010	3/26/2010
Fluoranthene	1.08	ug/L	1	108.0	30-140	3/18/2010	3/26/2010
Fluorene	1.03	ug/L	1	103.0	30-140	3/18/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	0.994	ug/L	1	99.4	30-140	3/18/2010	3/26/2010
Naphthalene	0.834	ug/L	1	83.4	30-140	3/18/2010	3/26/2010
Phenanthrene	0.975	ug/L	1	97.5	30-140	3/18/2010	3/26/2010
Benzo[b]fluoranthene	1.05	ug/L	1	105.0	30-140	3/18/2010	3/26/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-007	Chrysene	ND	0.921	ug/L	1	92.1	30-140	3/18/2010	3/26/2010
100317018-007	Acenaphthene	0.032	0.989	ug/L	1	95.7	30-140	3/18/2010	3/26/2010
100317018-007	Acenaphthylene	ND	0.914	ug/L	1	91.4	30-140	3/18/2010	3/26/2010
100317018-007	Anthracene	ND	0.864	ug/L	1	86.4	30-140	3/18/2010	3/26/2010
100317018-007	Benzo(ghi)perylene	ND	1.10	ug/L	1	110.0	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[a]anthracene	ND	1.10	ug/L	1	110.0	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[a]pyrene	ND	1.13	ug/L	1	113.0	30-140	3/18/2010	3/26/2010
100317018-007	2-Methylnaphthalene	0.032	0.862	ug/L	1	83.0	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[k]fluoranthene	ND	1.22	ug/L	1	122.0	30-140	3/18/2010	3/26/2010
100317018-007	Pyrene	ND	1.28	ug/L	1	128.0	30-140	3/18/2010	3/26/2010
100317018-007	Dibenz[a,h]anthracene	ND	1.10	ug/L	1	110.0	30-140	3/18/2010	3/26/2010
100317018-007	Fluoranthene	0.012	1.39	ug/L	1	137.8	30-140	3/18/2010	3/26/2010
100317018-007	Fluorene	0.041	1.05	ug/L	1	100.9	30-140	3/18/2010	3/26/2010
100317018-007	Indeno[1,2,3-cd]pyrene	ND	1.09	ug/L	1	109.0	30-140	3/18/2010	3/26/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-007	Naphthalene	0.022	0.793	ug/L	1	77.1	30-140	3/18/2010	3/26/2010
100317018-007	Phenanthrene	0.059	1.09	ug/L	1	103.1	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[b]fluoranthene	ND	1.11	ug/L	1	111.0	30-140	3/18/2010	3/26/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.957	ug/L	1	95.7	3.8	0-50	3/18/2010	3/26/2010
Acenaphthene	0.928	ug/L	1	89.6	6.4	0-50	3/18/2010	3/26/2010
Acenaphthylene	0.863	ug/L	1	86.3	5.7	0-50	3/18/2010	3/26/2010
Anthracene	0.881	ug/L	1	88.1	1.9	0-50	3/18/2010	3/26/2010
Benzo(ghi)perylene	1.09	ug/L	1	109.0	0.9	0-50	3/18/2010	3/26/2010
Benzo[a]anthracene	1.07	ug/L	1	107.0	2.8	0-50	3/18/2010	3/26/2010
Benzo[a]pyrene	1.12	ug/L	1	112.0	0.9	0-50	3/18/2010	3/26/2010
2-Methylnaphthalene	0.799	ug/L	1	76.7	7.6	0-50	3/18/2010	3/26/2010
Benzo[k]fluoranthene	1.22	ug/L	1	122.0	0.0	0-50	3/18/2010	3/26/2010
Pyrene	1.31	ug/L	1	131.0	10.1	0-50	3/18/2010	3/26/2010
Dibenz[a,h]anthracene	1.09	ug/L	1	109.0	0.9	0-50	3/18/2010	3/26/2010
Fluoranthene	1.33	ug/L	1	131.8	6.5	0-50	3/18/2010	3/26/2010
Fluorene	0.998	ug/L	1	95.7	5.1	0-50	3/18/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	1.10	ug/L	1	110.0	0.9	0-50	3/18/2010	3/26/2010
Naphthalene	0.751	ug/L	1	72.9	5.4	0-50	3/18/2010	3/26/2010
Phenanthrene	1.06	ug/L	1	100.1	2.8	0-50	3/18/2010	3/26/2010
Benzo[b]fluoranthene	1.13	ug/L	1	113.0	1.8	0-50	3/18/2010	3/26/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	3/18/2010	3/26/2010
Acenaphthene	ND	ug/L	0.01	3/18/2010	3/26/2010
Acenaphthylene	ND	ug/L	0.01	3/18/2010	3/26/2010
Anthracene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo(ghi)perylene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[a]anthracene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[a]pyrene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[b]fluoranthene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[k]fluoranthene	ND	ug/L	0.01	3/18/2010	3/26/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100316018
Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	3/18/2010	3/26/2010
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/18/2010	3/26/2010
Fluoranthene	ND	ug/L	0.01	3/18/2010	3/26/2010
Fluorene	ND	ug/L	0.01	3/18/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/18/2010	3/26/2010
Naphthalene	ND	ug/L	0.01	3/18/2010	3/26/2010
Phenanthrene	ND	ug/L	0.01	3/18/2010	3/26/2010
Pyrene	ND	ug/L	0.01	3/18/2010	3/26/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100316018
Order Date: 3/16/2010

Contact Name: TROY BUSSEY
Comment:

Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Sample #: 100316018-001 **Customer Sample #:** MW01-031510

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-001A **Customer Sample #:** MW01-031510A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100316018
Order Date: 3/16/2010

Contact Name: TROY BUSSEY
Comment:

Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Sample #: 100316018-002 **Customer Sample #:** MW21S-031510

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-002A **Customer Sample #:** MW21S-031510A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-003 **Customer Sample #:** MW13-031510

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100316018
Order Date: 3/16/2010

Contact Name: TROY BUSSEY

Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Comment:

BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-003A **Customer Sample #:** MW13-031510A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-004 **Customer Sample #:** MW22S-031510

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100316018
Order Date: 3/16/2010

Contact Name: TROY BUSSEY
Comment:

Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

DISSOLVED NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-004A **Customer Sample #:** MW22S-031510A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-005 **Customer Sample #:** MW11-031510

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/26/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100316018
Order Date: 3/16/2010

Contact Name: TROY BUSSEY
Comment:

Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Sample #: 100316018-005A **Customer Sample #:** MW11-031510A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-006 **Customer Sample #:** MW09-031510

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/26/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-006A **Customer Sample #:** MW09-031510A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/15/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/26/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100316018
Order Date: 3/16/2010

Contact Name: TROY BUSSEY

Project Name: PORT OF OLYMPIA EAST BAY MARCH 2010 GWM

Comment:

TPHDX-NW	NWTPHDX	3/26/2010	***Normal (6-10 Days)***

Sample #: 100316018-007 **Customer Sample #:** TRIP BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 3/15/2010
Quantity: 1 **Matrix:** Water **Date Received:** 3/16/2010 10:40:00 A
Comment:

Test	Method	Due Date	Priority
BTEX 8260	EPA 8260B	3/26/2010	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	SEE COC
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	Yes
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

100316 018 PITC Last Due 3/26/2010
Anat Log-1st SAMP 3/15/2010 1st RCVD 3/16/2010
PORT OF OLYMPIA EAST BAY
MARCH 2010 GWM

Company Name: Pioneer Technologies	Project Manager: Troy Bussey
Address: 3612 Yelm Hwy SE	Project Name & #: Port of Olympia East Bay March 2010 GWM
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: melodyfedan 360-570-1700

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	NWTPH-G	BTEX 8260 or 8021	Total Metals 6000/7000	Diss Metals 6000/7000	NWTPH-Dx	PAHs 8270				
1	MW01-031510	031510/1500	Water	6			X	X	X	X		X				
2	MW2S-031510	031510/1400	Water	8			X	X	X	X	X	X				

Note Special Instructions/Comments

* Metals As, Cr, Cu, Pb, Ni.

extract jars for filtration & analysis of PAHs or TPH-D/HO-Silica gel prep

MWBS

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Fedex

Temperature (°C): 4.2

Preservative: HCl

Date & Time:

Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Fedan	Melody Fedan	PTC	3/15/10	5:00
Received by	Jason Day		Anatek	3/16/10	1040
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #:

Company Name: Pioneer Technologies Corp.
Address: 2612 Yelm Hwy SE
City: Olympia State: WA Zip: 98501
Phone: 360-570-1700
Fax:

Project Manager:
Project Name & #: East Bay Gw 2010 March Event
Email Address: bussey@uspioneer.com
Purchase Order #: Credit Card
Sampler Name & phone: Melody Feden 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
X Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative	NWTPH-G	BTEX 8260 or 8021	Total Metals 6020/7000	Diss Metals 6020/7000	NWTPH-Dx	PAHs 8270				
1	MW01-031510	031510/1500	Water	2							X					
3	MW13-031510	031510/1100	Water	8			X	X	X	X	X	X				
4	MW22S-031510	031510/1000	Water	8			X	X	X	X	X	X				

Note Special Instructions/Comments

*Metals As C- Cu Pb Ni.

extract for filtration & analysis of PAHs or TPH-D/HO-Silica Gel prep

Majority of Lids arrived cracked

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden		Pioneer	3/15/10	5:00
Received by	Justin Doty		Anatek	3/16/10	1040
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	(N) ICE
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	(N)
VOC Head Space?	Y	(N)

Fedex

Temperature (°C): 4.4

Preservative: HCl

Date & Time: 3-16-10

Inspected By:

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: Pioneer Technologies Corporation	Project Manager:
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay GW 2010 March Event
City: Olympia State: WA Zip: 98501	Email Address: bussey+@uspioneer.com
Phone: 360 570 1700	Purchase Order #: Credit Card
Fax:	Sampler Name & phone: Melody Feden 360 570 1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:									
						NWTPH-G	BTEX 8260 or 8021	Total Metals 6000/7000	Dissolved Metals 6000/7000	NWTPH-Dx	PAHs 8270				
5	MW11-031510	031510/1200	Water	8		X	X	X	X	X	X				
6	MW09-031510	031510/1300	Water	8		X	X	X	X	X	X				
7	TRIP BLANK														

Note Special Instructions/Comments

Metals As Cr Cu Pb Ni

extract for filtration & analysis of PAHs or TPH-D/Ho-Silica gel prep

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	Pioneer	3/15/10	5:00
Received by	Jason Daly		Anatek	3/15/10	1040
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Feden

Temperature (°C): 3.5

Preservative: HCl

Date & Time:

Inspected By:

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-001	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW03-031610	**Sampling Time**	2:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	99.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-002	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW23S-031610	**Sampling Time**	2:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	98.3	70-130

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-003	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW14-031610	**Sampling Time**	12:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	97.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-004	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW24S-031610	**Sampling Time**	1:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	98.8	70-130

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100317018
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100317018-005	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW12-031610	**Sampling Time**	8:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	95.4	70-130

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-006	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW08-031610	**Sampling Time**	9:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	96.2	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100317018
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100317018-007	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW25S-031610	**Sampling Time**	10:00 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-007

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	99.9	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100317018
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100317018-008	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW07-031610	**Sampling Time**	11:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	97.2	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-009	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW15-031610	**Sampling Time**	3:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	96.6	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-010	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	EQUIPMENT BLANK	**Sampling Time**	3:15 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	95.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
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Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-011	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	FIELD BLANK	**Sampling Time**	3:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100317018-011

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	92.4	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	0.81	mg/L	1	81.0	70-130	3/23/2010	3/23/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-003	Gasoline	ND	0.83	mg/L	1	83.0	70-130	3/23/2010	3/23/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	0.91	mg/L	1	91.0	9.2	0-25	3/23/2010	3/23/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Gasoline	ND	mg/L	0.25	3/23/2010	3/23/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-001
Client Sample ID MW03-031610
Matrix Water
Comments

Sampling Date 3/16/2010
Sampling Time 2:00 PM
Sample Location

Date/Time Received 3/17/2010 10:25 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	93.6	70-130
4-Bromofluorobenzene	EPA 8260B	96.8	70-130
Toluene-d8	EPA 8260B	100.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-002	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW23S-031610	**Sampling Time**	2:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.0	70-130
4-Bromofluorobenzene	EPA 8260B	95.6	70-130
Toluene-d8	EPA 8260B	102.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-003
Client Sample ID MW14-031610
Matrix Water
Comments

Sampling Date 3/16/2010
Sampling Time 12:30 PM
Sample Location

Date/Time Received 3/17/2010 10:25 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	1.21	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	89.6	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	104.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-004	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW24S-031610	**Sampling Time**	1:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	92.0	70-130
4-Bromofluorobenzene	EPA 8260B	96.0	70-130
Toluene-d8	EPA 8260B	102.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-005	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW12-031610	**Sampling Time**	8:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	86.4	70-130
4-Bromofluorobenzene	EPA 8260B	92.4	70-130
Toluene-d8	EPA 8260B	102.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-006	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW08-031610	**Sampling Time**	9:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.4	70-130
4-Bromofluorobenzene	EPA 8260B	93.2	70-130
Toluene-d8	EPA 8260B	101.2	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-007	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW25S-031610	**Sampling Time**	10:00 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	93.2	70-130
4-Bromofluorobenzene	EPA 8260B	97.6	70-130
Toluene-d8	EPA 8260B	103.6	70-130

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-008	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW07-031610	**Sampling Time**	11:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.8	70-130
4-Bromofluorobenzene	EPA 8260B	94.4	70-130
Toluene-d8	EPA 8260B	102.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-009
Client Sample ID MW15-031610
Matrix Water
Comments

Sampling Date 3/16/2010
Sampling Time 3:00 PM
Sample Location

Date/Time Received 3/17/2010 10:25 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.8	70-130
4-Bromofluorobenzene	EPA 8260B	94.0	70-130
Toluene-d8	EPA 8260B	101.6	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-010	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	EQUIPMENT BLANK	**Sampling Time**	3:15 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	90.8	70-130
4-Bromofluorobenzene	EPA 8260B	92.4	70-130
Toluene-d8	EPA 8260B	101.2	70-130

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-011	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	FIELD BLANK	**Sampling Time**	3:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-011

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	88.4	70-130
4-Bromofluorobenzene	EPA 8260B	90.0	70-130
Toluene-d8	EPA 8260B	104.0	70-130

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Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-012
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 3/16/2010
Sampling Time
Sample Location

Date/Time Received 3/17/2010 10:25 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100317018-012

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	89.2	70-130
4-Bromofluorobenzene	EPA 8260B	91.6	70-130
Toluene-d8	EPA 8260B	101.2	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	4.72	ug/L	5	94.4	72-127	3/23/2010	3/23/2010
o-Xylene	4.98	ug/L	5	99.6	84-115	3/23/2010	3/23/2010
Ethylbenzene	5.07	ug/L	5	101.4	85-116	3/23/2010	3/23/2010
Benzene	4.81	ug/L	5	96.2	72-125	3/23/2010	3/23/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-001	Toluene	ND	8.87	ug/L	10	88.7	66-136	3/23/2010	3/23/2010
100317018-001	o-Xylene	ND	8.27	ug/L	10	82.7	68-134	3/23/2010	3/23/2010
100317018-001	Ethylbenzene	ND	8.44	ug/L	10	84.4	70-137	3/23/2010	3/23/2010
100317018-001	Benzene	ND	9.49	ug/L	10	94.9	63-139	3/23/2010	3/23/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	ug/L	1	3/23/2010	3/23/2010
Ethylbenzene	ND	ug/L	1	3/23/2010	3/23/2010
m+p-Xylene	ND	ug/L	2	3/23/2010	3/23/2010
o-Xylene	ND	ug/L	1	3/23/2010	3/23/2010
Toluene	ND	ug/L	1	3/23/2010	3/23/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-001	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW03-031610	**Sampling Time**	2:00 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00219	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00226	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-002	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW23S-031610	**Sampling Time**	2:30 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.00157	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	0.00116	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	0.00120	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-003 **Sampling Date** 3/16/2010 **Date/Time Received** 3/17/2010 10:25 AM
Client Sample ID MW14-031610 **Sampling Time** 12:30 PM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00180	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	0.0518	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.0155	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00114	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	0.00358	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	0.00345	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	0.00100	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	0.00410	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	0.00159	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-004
Client Sample ID MW24S-031610
Matrix Water
Comments

Sampling Date 3/16/2010
Sampling Time 1:00 PM
Sample Location

Date/Time Received 3/17/2010 10:25 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00500	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.00477	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00498	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	0.00163	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-005	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW12-031610	**Sampling Time**	8:30 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00108	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	0.00164	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.00155	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	0.00106	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	0.00300	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	0.00339	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-006	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW08-031610	**Sampling Time**	9:30 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00295	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.00152	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-007 **Sampling Date** 3/16/2010 **Date/Time Received** 3/17/2010 10:25 AM
Client Sample ID MW25S-031610 **Sampling Time** 10:00 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00141	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.00257	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	0.00234	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-008	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW07-031610	**Sampling Time**	11:30 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00245	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00218	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100317018-009 **Sampling Date** 3/16/2010 **Date/Time Received** 3/17/2010 10:25 AM
Client Sample ID MW15-031610 **Sampling Time** 3:00 PM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-010	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	EQUIPMENT BLANK	**Sampling Time**	3:15 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00130	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Copper	0.120	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00146	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Copper	0.0447	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/24/2010	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0497	mg/L	0.05	99.4	80-120	4/2/2010	4/2/2010
Dissolved Lead	0.0525	mg/L	0.05	105.0	80-120	4/2/2010	4/2/2010
Dissolved Copper	0.0497	mg/L	0.05	99.4	80-120	4/2/2010	4/2/2010
Dissolved Chromium	0.0494	mg/L	0.05	98.8	80-120	4/2/2010	4/2/2010
Dissolved Arsenic	0.0511	mg/L	0.05	102.2	80-120	4/2/2010	4/2/2010
Nickel	0.0491	mg/L	0.05	98.2	80-120	3/18/2010	3/24/2010
Lead	0.0499	mg/L	0.05	99.8	80-120	3/18/2010	3/24/2010
Copper	0.0490	mg/L	0.05	98.0	80-120	3/18/2010	3/24/2010
Chromium	0.0491	mg/L	0.05	98.2	80-120	3/18/2010	3/24/2010
Arsenic	0.0490	mg/L	0.05	98.0	80-120	3/18/2010	3/24/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-010	Nickel	ND	0.0491	mg/L	0.05	98.2	75-125	3/18/2010	3/24/2010
100317018-010	Lead	ND	0.0513	mg/L	0.05	102.6	75-125	3/18/2010	3/24/2010
100317018-010	Copper	0.120	0.170	mg/L	0.05	100.0	75-125	3/18/2010	3/24/2010
100317018-010	Chromium	ND	0.0498	mg/L	0.05	99.6	75-125	3/18/2010	3/24/2010
100317018-010	Arsenic	0.00130	0.0518	mg/L	0.05	101.0	75-125	3/18/2010	3/24/2010
100317018-001	Dissolved Nickel	ND	0.0922	mg/L	0.1	92.2	75-125	4/2/2010	4/2/2010
100317018-001	Dissolved Lead	ND	0.0944	mg/L	0.1	94.4	75-125	4/2/2010	4/2/2010
100317018-001	Dissolved Copper	ND	0.0921	mg/L	0.1	92.1	75-125	4/2/2010	4/2/2010
100317018-001	Dissolved Chromium	ND	0.0930	mg/L	0.1	93.0	75-125	4/2/2010	4/2/2010
100317018-001	Dissolved Arsenic	0.00226	0.101	mg/L	0.1	98.7	75-125	4/2/2010	4/2/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.0493	mg/L	0.05	98.6	0.4	0-20	3/18/2010	3/24/2010
Lead	0.0507	mg/L	0.05	101.4	1.2	0-20	3/18/2010	3/24/2010
Copper	0.167	mg/L	0.05	94.0	1.8	0-20	3/18/2010	3/24/2010
Chromium	0.0490	mg/L	0.05	98.0	1.6	0-20	3/18/2010	3/24/2010
Arsenic	0.0505	mg/L	0.05	98.4	2.5	0-20	3/18/2010	3/24/2010
Dissolved Nickel	0.0991	mg/L	0.1	99.1	7.2	0-20	4/2/2010	4/2/2010

Comments:

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dissolved Lead	0.0947	mg/L	0.1	94.7	0.3	0-20	4/2/2010	4/2/2010
Dissolved Copper	0.0986	mg/L	0.1	98.6	6.8	0-20	4/2/2010	4/2/2010
Dissolved Chromium	0.0992	mg/L	0.1	99.2	6.5	0-20	4/2/2010	4/2/2010
Dissolved Arsenic	0.107	mg/L	0.1	104.7	5.8	0-20	4/2/2010	4/2/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	3/18/2010	3/24/2010
Chromium	ND	mg/L	0.001	3/18/2010	3/24/2010
Copper	ND	mg/L	0.001	3/18/2010	3/24/2010
Dissolved Arsenic	ND	mg/L	0.001	4/2/2010	4/2/2010
Dissolved Chromium	ND	mg/L	0.001	4/2/2010	4/2/2010
Dissolved Copper	ND	mg/L	0.001	4/2/2010	4/2/2010
Dissolved Lead	ND	mg/L	0.001	4/2/2010	4/2/2010
Dissolved Nickel	ND	mg/L	0.001	4/2/2010	4/2/2010
Lead	ND	mg/L	0.001	3/18/2010	3/24/2010
Nickel	ND	mg/L	0.001	3/18/2010	3/24/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100317018
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100317018-001	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW03-031610	**Sampling Time**	2:00 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/24/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/24/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-002	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW23S-031610	**Sampling Time**	2:30 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/24/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/24/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.8	50-150

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-003	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW14-031610	**Sampling Time**	12:30 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/24/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/24/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	94.4	50-150

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-004	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW24S-031610	**Sampling Time**	1:00 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/24/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/24/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-005	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW12-031610	**Sampling Time**	8:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/24/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/24/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-006	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW08-031610	**Sampling Time**	9:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-007	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW25S-031610	**Sampling Time**	10:00 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-007

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	104.0	50-150

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Batch #: 100317018
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Analytical Results Report

Sample Number	100317018-008	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW07-031610	**Sampling Time**	11:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150

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Analytical Results Report

Sample Number	100317018-009	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW15-031610	**Sampling Time**	3:00 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150

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Analytical Results Report

Sample Number	100317018-010	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	EQUIPMENT BLANK	**Sampling Time**	3:15 PM	**Extraction Date**	3/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.0	50-150

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Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-011	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	FIELD BLANK	**Sampling Time**	3:30 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100317018-011

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	94.4	50-150

TPHDx extracts were subjected to silica gel/sulfuric acid cleanup before analysis

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.762	mg/L	1	76.2	50-150	3/19/2010	3/25/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-006	Diesel	ND	0.649	mg/L	1	64.9	50-150	3/19/2010	3/25/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.766	mg/L	1	76.6	16.5	0-50	3/19/2010	3/25/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	3/19/2010	3/25/2010
Lube Oil	ND	mg/L	0.5	3/19/2010	3/25/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-001	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW03-031610	**Sampling Time**	2:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.146	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.035	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-001	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW03-031610	**Sampling Time**	2:00 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	99.9	10-125

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-002	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW23S-031610	**Sampling Time**	2:30 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100317018-002	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW23S-031610	**Sampling Time**	2:30 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.015	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	89.6	10-125

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Analytical Results Report

Sample Number	100317018-003	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW14-031610	**Sampling Time**	12:30 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100317018-003	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW14-031610	**Sampling Time**	12:30 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.016	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	82.8	10-125

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Analytical Results Report

Sample Number	100317018-004	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW24S-031610	**Sampling Time**	1:00 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.012	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.023	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	0.020	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.014	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100317018-004	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW24S-031610	**Sampling Time**	1:00 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.026	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	0.033	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	0.020	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	99.5	10-125

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Analytical Results Report

Sample Number	100317018-005	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW12-031610	**Sampling Time**	8:30 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-005	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW12-031610	**Sampling Time**	8:30 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	100.6	10-125

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Analytical Results Report

Sample Number	100317018-006	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW08-031610	**Sampling Time**	9:30 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.034	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.281	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.203	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-006	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW08-031610	**Sampling Time**	9:30 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.027	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	0.087	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-006

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	90.9	10-125

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-007	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW25S-031610	**Sampling Time**	10:00 AM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.032	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.032	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	0.012	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.041	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-007	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW25S-031610	**Sampling Time**	10:00 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.022	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	0.059	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-007

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	82.2	10-125

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-008	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	MW07-031610	**Sampling Time**	11:30 AM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.012	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-008	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW07-031610	**Sampling Time**	11:30 AM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-008

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	93.2	10-125

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Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100317018-009	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW15-031610	**Sampling Time**	3:00 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100317018-009	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	MW15-031610	**Sampling Time**	3:00 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.012	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-009

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	98.6	10-125

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Analytical Results Report

Sample Number	100317018-010	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	EQUIPMENT BLANK	**Sampling Time**	3:15 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100317018-010	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010	10:25 AM
Client Sample ID	EQUIPMENT BLANK	**Sampling Time**	3:15 PM	**Extraction Date**	3/18/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-010

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	99.0	10-125

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Analytical Results Report

Sample Number	100317018-011	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	FIELD BLANK	**Sampling Time**	3:30 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100317018-011	**Sampling Date**	3/16/2010	**Date/Time Received**	3/17/2010 10:25 AM
Client Sample ID	FIELD BLANK	**Sampling Time**	3:30 PM	**Extraction Date**	3/18/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100317018-011

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	95.0	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.912	ug/L	1	91.2	30-140	3/18/2010	3/26/2010
Acenaphthene	0.927	ug/L	1	92.7	30-140	3/18/2010	3/26/2010
Acenaphthylene	0.957	ug/L	1	95.7	30-140	3/18/2010	3/26/2010
Anthracene	0.926	ug/L	1	92.6	30-140	3/18/2010	3/26/2010
Benzo(ghi)perylene	0.994	ug/L	1	99.4	30-140	3/18/2010	3/26/2010
Benzo[a]anthracene	1.05	ug/L	1	105.0	30-140	3/18/2010	3/26/2010
Benzo[a]pyrene	0.983	ug/L	1	98.3	30-140	3/18/2010	3/26/2010
2-Methylnaphthalene	0.913	ug/L	1	91.3	30-140	3/18/2010	3/26/2010
Benzo[k]fluoranthene	1.07	ug/L	1	107.0	30-140	3/18/2010	3/26/2010
Pyrene	1.29	ug/L	1	129.0	30-140	3/18/2010	3/26/2010
Dibenz[a,h]anthracene	1.01	ug/L	1	101.0	30-140	3/18/2010	3/26/2010
Fluoranthene	1.08	ug/L	1	108.0	30-140	3/18/2010	3/26/2010
Fluorene	1.03	ug/L	1	103.0	30-140	3/18/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	0.994	ug/L	1	99.4	30-140	3/18/2010	3/26/2010
Naphthalene	0.834	ug/L	1	83.4	30-140	3/18/2010	3/26/2010
Phenanthrene	0.975	ug/L	1	97.5	30-140	3/18/2010	3/26/2010
Benzo[b]fluoranthene	1.05	ug/L	1	105.0	30-140	3/18/2010	3/26/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-007	Chrysene	ND	0.921	ug/L	1	92.1	30-140	3/18/2010	3/26/2010
100317018-007	Acenaphthene	0.032	0.989	ug/L	1	95.7	30-140	3/18/2010	3/26/2010
100317018-007	Acenaphthylene	ND	0.914	ug/L	1	91.4	30-140	3/18/2010	3/26/2010
100317018-007	Anthracene	ND	0.864	ug/L	1	86.4	30-140	3/18/2010	3/26/2010
100317018-007	Benzo(ghi)perylene	ND	1.10	ug/L	1	110.0	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[a]anthracene	ND	1.10	ug/L	1	110.0	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[a]pyrene	ND	1.13	ug/L	1	113.0	30-140	3/18/2010	3/26/2010
100317018-007	2-Methylnaphthalene	0.032	0.862	ug/L	1	83.0	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[k]fluoranthene	ND	1.22	ug/L	1	122.0	30-140	3/18/2010	3/26/2010
100317018-007	Pyrene	ND	1.28	ug/L	1	128.0	30-140	3/18/2010	3/26/2010
100317018-007	Dibenz[a,h]anthracene	ND	1.10	ug/L	1	110.0	30-140	3/18/2010	3/26/2010
100317018-007	Fluoranthene	0.012	1.39	ug/L	1	137.8	30-140	3/18/2010	3/26/2010
100317018-007	Fluorene	0.041	1.05	ug/L	1	100.9	30-140	3/18/2010	3/26/2010
100317018-007	Indeno[1,2,3-cd]pyrene	ND	1.09	ug/L	1	109.0	30-140	3/18/2010	3/26/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-007	Naphthalene	0.022	0.793	ug/L	1	77.1	30-140	3/18/2010	3/26/2010
100317018-007	Phenanthrene	0.059	1.09	ug/L	1	103.1	30-140	3/18/2010	3/26/2010
100317018-007	Benzo[b]fluoranthene	ND	1.11	ug/L	1	111.0	30-140	3/18/2010	3/26/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.957	ug/L	1	95.7	3.8	0-50	3/18/2010	3/26/2010
Acenaphthene	0.928	ug/L	1	89.6	6.4	0-50	3/18/2010	3/26/2010
Acenaphthylene	0.863	ug/L	1	86.3	5.7	0-50	3/18/2010	3/26/2010
Anthracene	0.881	ug/L	1	88.1	1.9	0-50	3/18/2010	3/26/2010
Benzo(ghi)perylene	1.09	ug/L	1	109.0	0.9	0-50	3/18/2010	3/26/2010
Benzo[a]anthracene	1.07	ug/L	1	107.0	2.8	0-50	3/18/2010	3/26/2010
Benzo[a]pyrene	1.12	ug/L	1	112.0	0.9	0-50	3/18/2010	3/26/2010
2-Methylnaphthalene	0.799	ug/L	1	76.7	7.6	0-50	3/18/2010	3/26/2010
Benzo[k]fluoranthene	1.22	ug/L	1	122.0	0.0	0-50	3/18/2010	3/26/2010
Pyrene	1.31	ug/L	1	131.0	10.1	0-50	3/18/2010	3/26/2010
Dibenz[a,h]anthracene	1.09	ug/L	1	109.0	0.9	0-50	3/18/2010	3/26/2010
Fluoranthene	1.33	ug/L	1	131.8	6.5	0-50	3/18/2010	3/26/2010
Fluorene	0.998	ug/L	1	95.7	5.1	0-50	3/18/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	1.10	ug/L	1	110.0	0.9	0-50	3/18/2010	3/26/2010
Naphthalene	0.751	ug/L	1	72.9	5.4	0-50	3/18/2010	3/26/2010
Phenanthrene	1.06	ug/L	1	100.1	2.8	0-50	3/18/2010	3/26/2010
Benzo[b]fluoranthene	1.13	ug/L	1	113.0	1.8	0-50	3/18/2010	3/26/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	3/18/2010	3/26/2010
Acenaphthene	ND	ug/L	0.01	3/18/2010	3/26/2010
Acenaphthylene	ND	ug/L	0.01	3/18/2010	3/26/2010
Anthracene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo(ghi)perylene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[a]anthracene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[a]pyrene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[b]fluoranthene	ND	ug/L	0.01	3/18/2010	3/26/2010
Benzo[k]fluoranthene	ND	ug/L	0.01	3/18/2010	3/26/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100317018
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	3/18/2010	3/26/2010
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/18/2010	3/26/2010
Fluoranthene	ND	ug/L	0.01	3/18/2010	3/26/2010
Fluorene	ND	ug/L	0.01	3/18/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/18/2010	3/26/2010
Naphthalene	ND	ug/L	0.01	3/18/2010	3/26/2010
Phenanthrene	ND	ug/L	0.01	3/18/2010	3/26/2010
Pyrene	ND	ug/L	0.01	3/18/2010	3/26/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100317018-001 **Customer Sample #:** MW03-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-001A **Customer Sample #:** MW03-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100317018-002 **Customer Sample #:** MW23S-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-002A **Customer Sample #:** MW23S-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-003 **Customer Sample #:** MW14-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-003A **Customer Sample #:** MW14-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-004 **Customer Sample #:** MW24S-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-004A **Customer Sample #:** MW24S-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-005 **Customer Sample #:** MW12-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100317018-005A **Customer Sample #:** MW12-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-006 **Customer Sample #:** MW08-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 7 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment: TPHDX-NW MS/MSD

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-006A **Customer Sample #:** MW08-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-007 **Customer Sample #:** MW25S-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 8 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment: PAH MS/MSD

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-007A **Customer Sample #:** MW25S-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100317018-008 **Customer Sample #:** MW07-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-008A **Customer Sample #:** MW07-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-009 **Customer Sample #:** MW15-031610

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-009A **Customer Sample #:** MW15-031610A - FILTERED

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-010 **Customer Sample #:** EQUIPMENT BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100317018
Order Date: 3/17/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

DISSOLVED NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-011 **Customer Sample #:** FIELD BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 5 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/29/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/29/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/29/2010	***Normal (6-10 Days)***

Sample #: 100317018-012 **Customer Sample #:** TRIP BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 3/16/2010
Quantity: 1 **Matrix:** Water **Date Received:** 3/17/2010 10:25:00 A
Comment:

Test	Method	Due Date	Priority
BTEX 8260	EPA 8260B	3/29/2010	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	No
What is the temperature inside the cooler?	SEE COC
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	Yes
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

00317 018 **PITC** Last Due 3/29/2010
Ani Lost SAMP 3/16/2010 1st RCVD 3/17/2010
AST BAY MARCH 2010 GWM

Company Name: PIONEER TECHNOLOGY CORPORATION	Project Manager: TROY BUSSEY
Address: 2612 4TH AVE SE, SUITE B	Project Name & # : EAST BAY MARCH 2010 GWM
City: OLYMPIA State: WA Zip: 98501	Email Address : bussey@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: MELODY FEDEY

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
X Mail
__Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:									
						HCl	HCl	HCl	—	—	—				
						TPH-G by NWTPH-G	BTEX by 8260/NWTPH-Gx	TPH-D/TPH-Hcid by NWTPH-Dx	PAHs 8270	Total As, Cr, Cu, Pb, Ni	Dissolved As, Cr, Cu, Pb, Ni	Filter - Extract (Check PAH + NWTPH-Dx)	Bottle(s) for possible follow-up analyses		
1	MW03-031610	3/16/10 1400	WATER	8	4L 3 VOAs	X	X	X	X	X	X				
2	MW23S-031610	3/16/10 1930	″	″	″	X	X	X	X	X	X				

Note Special Instructions/Comments

1) RL = 0.01 µg/L for PAHs
2) SILICA GEL PREP FOR HCl NWTPH-Dx ANALYSIS
3) LAB FILTER FOR DISSOLVED METALS
4) METALS BY 6000/7000 SERIES
   4 ARSENIC, CHROMIUM, COPPER, LEAD, NICKEL
5) HOLD EXTRACTED FILTERED PAH + NWTPH-Dx bottles for possible follow-up analyses

MW3S

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY		PTC	3/16/10	1600
Received by	John Doty		Anatek	3/17/10	1025
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Fedex
Temperature (°C): 5.7
Preservative: HCl
Date & Time:
Inspected By:

Anatek Labs, Inc.

Chain of Custody Record

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Anatek Log-In #:

Company Name: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 4TH AVENUE SE, SUITE B
City: OLYMPIA State: WA Zip: 98501
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY MARCH 2010 GWM
Email Address: bussey@pioneer.com
Purchase Order #:
Sampler Name & phone: MELODY FEDEN

Turn Around Time & Reporting

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http://www.anateklabs.com/services/guidelines/reporting.asp

- [X] Normal
- [ ] Next Day*
- [ ] 2nd Day*
- [ ] Other*_____

*All rush order requests must be prior approved.

- [ ] Phone FAX
- [X] Mail
- [ ] Fax
- [X] Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	TPH-G by NWTPH-Gx	BTEX by 8260/8021	TPH-D, TPH-HD by NWTPH-Dx	Phenols 8270	Total As, Cr, Cu, Pb, Ni	Dissolved As, Cr, Cu, Pb, Ni	Filter + Extract Extra Phenols	Bottles for possible follow-on testing
3	MW14-031610	3/16/10 1230	WATER	8	4L 3VOA		X	X	X	X	X	X		
4	MW24S-031610	3/16/10 1300	WATER	8	↓		X	X	X	X	X	X		

Note Special Instructions/Comments

1) RL = 0.01 µg/L for PAHs
2) SILICA GEL prep for all NWTPH-Dx analyses
3) LAB FILTER FOR DISSOLVED METALS
4) METALS By 6000/7000 Series
   As Arsenic, Chromium, Copper, Lead, Nickel
5) HOLD EXTRA FILTERED PAH & NWTPH-Dx BOTTLES FOR POSSIBLE FOLLOW-ON TESTING

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Fedex

Temperature (°C): 4.9
Preservative: HCL

Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY		PTC	3/16/10	1600
Received by	JOHN DOLY		Anatek	3/17/10	1025
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

Chain of Custody Record

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Anatek Log-In #

Company Name: PIONEER TECHNOLOGIES CORPORATION	Project Manager: TROY BUSSEY
Address: 2612 YELM HWY SE, SUITE B	Project Name & #: EAST BAY MARCH 2010 GWM
City: OLYMPIA State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: MELODY FEDEN ~~[illegible]~~ 570-1700

Turn Around Time & Reporting

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X Normal
__ Next Day*
__ 2nd Day*
__ Other*______

*All rush order requests must be prior approved.

__ Phone
X Mail Final
__ Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume 1 plastic	TPH-G by NWTPH-G	BTEX 8260/8021	TPH-D & TPH-HO by NWTPH-Dx	PAHs by 8270	Total As, Cr, Cu, Pb, Ni	Dissolved As, Cr, Cu, Pb, Ni		Filtered & Extract Extra PAH	And NWTPH-Dx Bottles For	Possible Follow Analyses
Preservative:						HCl	HCl	HCl	—	—	—				
5	MW12-031610	3/16/10 0830	WATER	8	4L 3 VOAs	X	X	X	X	X	X				
6	MW08-031610	3/16/10 0930	↓	9	5L 3 VOAs F/1 plastic	X	X	X	X	X	X				←
12	TRIP BLANK	N/A	WATER	1	1 VOA	X	X								

Note Special Instructions/Comments

1) RL = 0.01 µg/L for PAHs
2) SILICA GEL PREP FOR ALL NWTPH-Dx ANALYSIS
3) LAB FILTER FOR DISSOLVED METALS
4) METALS BY 6000/7000 SERIES → ARSENIC, CHROMIUM, COPPER, LEAD, NICKEL
5) HOLD EXTRA FILTERED PAH & NWTPH-Dx BOTTLES FOR POSSIBLE FOLLOW-ON ANALYSES

← Extra bottle for NWTPH-Dx MS/MSD

MW08 1 HCl vial arrived broken

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY	Troy Bussey	PTC	3/16/10	1600
Received by	Jason Ashley	[signature]	Anatek	3/17/10	1025
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	(N)
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

FedEx

Temperature (°C): 5.7

Preservative: HCl

Date & Time:

Inspected By:

Anatek Labs, Inc.

Chain of Custody Record

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504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #:

Company Name: PIONEER TECHNOLOGIES CORPORATION	Project Manager: TROY BUSSEY
Address: 2612 YELM HIGHWAY SE, SUITE B	Project Name & #: EAST BAY MARCH 2010 GW
City: OLYMPIA State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: MELODY FOSDEN

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
X Mail Final
__Fax
X Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G by NWTPH-G (HCl)	BTEX 8260/8021 (HCl)	TPH-D: TPH-HO NWTPH-Dx (HCl)	PAHs 8270 (—)	Total As, Cr, Cu, Pb, Ni (—)	Dissolved As, Cr, Cu, Pb, Ni (—)		Filter & extract extra PAH & NWTPH-Dx bottles for possible follow-on analyses			Note Special Instructions/Comments
7	MW25S-031610	3/16/10 1000	WATER	10	6L 3 vials 1 plastic	X	X	X	X	X	X				←	Two extra bottles for MS/MSD PAHs
	~~MW07-031610~~	~~↓ 1130~~	~~↓~~													
8	MW07-031610	3/16/10 1130	WATER	8	4L 3 vials 1 plastic	X	X	X	X	X	X					

Special Instructions/Comments:
1) RL = 0.01 µg/L for PAHs
2) SILICA GEL PREP FOR ALL NWTPH-Dx analyses
3) LAB FILTER FOR DISSOLVED METALS
4) METALS BY 6000/7000 SERIES → ARSENIC, CHROMIUM, COPPER, LEAD, NICKEL
5) HOLD EXTRA FILTERED PAH & NWTPH-Dx BOTTLES FOR POSSIBLE FOLLOW-ON ANALYSES

1L Lid cracked

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY	Troy Bussey	PTC	3/16/10	1600
Received by	Jason Doty	[signature]	Anatek	3/17/10	1125
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	(N)
VOC Head Space?	(Y)	N

Fedex

Temperature (°C): 5.1

Preservative: HCL

Date & Time: ______

Inspected By: ______

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #

Company Name: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YGNACIO VALLEY RD, SUITE B
City: WALNUT CREEK State: CA Zip: 94598
Phone: 360-570-1700
Fax:

Project Manager: TROY BUSSEY
Project Name & #: EAST BAY MARCH 2010 GWM
Email Address: bussey+@uspioneer.com
Purchase Order #:
Sampler Name & phone: MELODY FEDEN

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
X Mail
__Fax
X Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	HCl	HCl	HCl	—	—	—			
						TPH-G by NWTPH-G	BTEX 8260/8021	NWTPH-Dx TPH-D, TPH-HO	PAHs 8270	Total As, Cu, Pb, Ni	Dissolved As, Cr, Cu, Pb, Ni				
9	MW15-031610	3/16/10 1500	WATER	8	4L 3 VOAs 1 Plastic	X	X	X	X	X	X				
10	EQUIPMENT BLANK	3/16/10 1515	WATER	6	2L 3 VOAs	X	X	X	X	X	X				
11	FIELD BLANK	3/16/10 1530	↓	5	4L 3 VOAs	X	X	X	X						

Note Special Instructions/Comments

1) PQL = 0.01 µg/L for PAHs
2) SILICA GEL PREP for all NWTPH-Dx analyses
3) LAB FILTER FOR DISSOLVED METALS
4) METALS BY 6000/7000 SERIES
LIST: ARSENIC, CHROMIUM, COPPER, LEAD, NICKEL

← FILTER, EXTRACT, AND HOLD EXTRA PAH & NWTPH-Dx bottles from this sample for possible follow-on analyses

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Fedex

Temperature (°C): 6.0
Preservative: HCl

Date & Time:
Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY		PTC	3/16/10	1600
Received by	Justin Doty		Anclok	3/17/10	1025
Relinquished by					
Received by					
Relinquished by					
Received by					

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100318013
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100318013-001	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW04-031710	**Sampling Time**	10:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100318013-001

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	96.3	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-002	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW02R-031710	**Sampling Time**	11:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/23/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100318013-002

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	93.4	70-130

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-003	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW20-031710	**Sampling Time**	12:30 PM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/24/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100318013-003

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	94.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100318013
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100318013-004	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW18-031710	**Sampling Time**	9:00 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/24/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100318013-004

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	94.8	70-130

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-005	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW16-031710	**Sampling Time**	9:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Gasoline	ND	mg/L	0.25	3/24/2010	CAS	NWTPHG	

Surrogate Data

Sample Number 100318013-005

Surrogate Standard	Method	Percent Recovery	Control Limits
4-Bromofluorobenzene	NWTPHG	96.9	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Gasoline	0.89	mg/L	1	89.0	70-130	3/24/2010	3/24/2010
Gasoline	0.81	mg/L	1	81.0	70-130	3/23/2010	3/23/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100318013-005	Gasoline	ND	0.88	mg/L	1	88.0	70-130	3/24/2010	3/24/2010
100317018-003	Gasoline	ND	0.83	mg/L	1	83.0	70-130	3/23/2010	3/23/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Gasoline	0.91	mg/L	1	91.0	9.2	0-25	3/23/2010	3/23/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Gasoline	ND	mg/L	0.25	3/24/2010	3/24/2010
Gasoline	ND	mg/L	0.25	3/23/2010	3/23/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100318013-001
Client Sample ID MW04-031710
Matrix Water
Comments

Sampling Date 3/17/2010
Sampling Time 10:30 AM
Sample Location

Date/Time Received 3/18/2010 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100318013-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	89.6	70-130
4-Bromofluorobenzene	EPA 8260B	93.6	70-130
Toluene-d8	EPA 8260B	100.4	70-130

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-002	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW02R-031710	**Sampling Time**	11:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/23/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/23/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100318013-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	88.0	70-130
4-Bromofluorobenzene	EPA 8260B	91.2	70-130
Toluene-d8	EPA 8260B	102.8	70-130

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100318013-003
Client Sample ID MW20-031710
Matrix Water
Comments

Sampling Date 3/17/2010
Sampling Time 12:30 PM
Sample Location

Date/Time Received 3/18/2010 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/24/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100318013-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	88.4	70-130
4-Bromofluorobenzene	EPA 8260B	92.0	70-130
Toluene-d8	EPA 8260B	102.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100318013-004
Client Sample ID MW18-031710
Matrix Water
Comments

Sampling Date 3/17/2010
Sampling Time 9:00 AM
Sample Location

Date/Time Received 3/18/2010 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/24/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100318013-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	85.6	70-130
4-Bromofluorobenzene	EPA 8260B	92.0	70-130
Toluene-d8	EPA 8260B	102.8	70-130

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100318013-005
Client Sample ID MW16-031710
Matrix Water
Comments

Sampling Date 3/17/2010
Sampling Time 9:30 AM
Sample Location

Date/Time Received 3/18/2010 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/24/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100318013-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	91.2	70-130
4-Bromofluorobenzene	EPA 8260B	96.8	70-130
Toluene-d8	EPA 8260B	102.8	70-130

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OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number 100318013-006
Client Sample ID TRIP BLANK
Matrix Water
Comments

Sampling Date 3/17/2010
Sampling Time
Sample Location

Date/Time Received 3/18/2010 10:30 AM

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Ethylbenzene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
m+p-Xylene	ND	ug/L	1	3/24/2010	CAS	EPA 8260B	
o-Xylene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	
Toluene	ND	ug/L	0.5	3/24/2010	CAS	EPA 8260B	

Surrogate Data

Sample Number 100318013-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260B	91.6	70-130
4-Bromofluorobenzene	EPA 8260B	95.6	70-130
Toluene-d8	EPA 8260B	104.8	70-130

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	4.72	ug/L	5	94.4	72-127	3/23/2010	3/23/2010
o-Xylene	4.98	ug/L	5	99.6	84-115	3/23/2010	3/23/2010
Ethylbenzene	5.07	ug/L	5	101.4	85-116	3/23/2010	3/23/2010
Benzene	4.81	ug/L	5	96.2	72-125	3/23/2010	3/23/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100317018-001	Toluene	ND	8.87	ug/L	10	88.7	66-136	3/23/2010	3/23/2010
100317018-001	o-Xylene	ND	8.27	ug/L	10	82.7	68-134	3/23/2010	3/23/2010
100317018-001	Ethylbenzene	ND	8.44	ug/L	10	84.4	70-137	3/23/2010	3/23/2010
100317018-001	Benzene	ND	9.49	ug/L	10	94.9	63-139	3/23/2010	3/23/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	ug/L	1	3/23/2010	3/23/2010
Ethylbenzene	ND	ug/L	1	3/23/2010	3/23/2010
m+p-Xylene	ND	ug/L	2	3/23/2010	3/23/2010
o-Xylene	ND	ug/L	1	3/23/2010	3/23/2010
Toluene	ND	ug/L	1	3/23/2010	3/23/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Toluene	5.07	ug/L	5	101.4	72-127	3/24/2010	3/24/2010
o-Xylene	4.87	ug/L	5	97.4	84-115	3/24/2010	3/24/2010
Ethylbenzene	4.90	ug/L	5	98.0	85-116	3/24/2010	3/24/2010
Benzene	5.30	ug/L	5	106.0	72-125	3/24/2010	3/24/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100318013-004	Toluene	ND	9.50	ug/L	10	95.0	66-136	3/24/2010	3/24/2010
100318013-004	o-Xylene	ND	8.4	ug/L	10	84.0	68-134	3/24/2010	3/24/2010
100318013-004	Ethylbenzene	ND	8.57	ug/L	10	85.7	70-137	3/24/2010	3/24/2010
100318013-004	Benzene	ND	10.2	ug/L	10	102.0	63-139	3/24/2010	3/24/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzene	ND	ug/L	1	3/24/2010	3/24/2010
Ethylbenzene	ND	ug/L	1	3/24/2010	3/24/2010
m+p-Xylene	ND	ug/L	2	3/24/2010	3/24/2010
o-Xylene	ND	ug/L	1	3/24/2010	3/24/2010
Toluene	ND	ug/L	1	3/24/2010	3/24/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

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Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-001	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW04-031710	**Sampling Time**	10:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00524	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	0.00182	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00257	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-002	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW02R-031710	**Sampling Time**	11:30 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.0103	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00148	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00130	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Lead	0.00747	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-003	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW20-031710	**Sampling Time**	12:30 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00132	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00103	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-004	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW18-031710	**Sampling Time**	9:00 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00372	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Copper	0.00120	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Lead	ND	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	0.00158	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-005	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW16-031710	**Sampling Time**	9:30 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00141	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Chromium	0.00305	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Copper	0.00465	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Chromium	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	4/5/2010	ETL	EPA 6020A	
Lead	0.00250	mg/L	0.001	3/26/2010	JTT	EPA 6020A	
Nickel	0.00245	mg/L	0.001	3/26/2010	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0473	mg/L	0.05	94.6	80-120	4/5/2010	4/5/2010
Dissolved Lead	0.0522	mg/L	0.05	104.4	80-120	4/5/2010	4/5/2010
Dissolved Copper	0.0478	mg/L	0.05	95.6	80-120	4/5/2010	4/5/2010
Dissolved Chromium	0.0464	mg/L	0.05	92.8	80-120	4/5/2010	4/5/2010
Dissolved Arsenic	0.0487	mg/L	0.05	97.4	80-120	4/5/2010	4/5/2010
Nickel	0.0485	mg/L	0.05	97.0	80-120	3/26/2010	3/26/2010
Lead	0.0503	mg/L	0.05	100.6	80-120	3/26/2010	3/26/2010
Copper	0.0490	mg/L	0.05	98.0	80-120	3/26/2010	3/26/2010
Chromium	0.0502	mg/L	0.05	100.4	80-120	3/26/2010	3/26/2010
Arsenic	0.0512	mg/L	0.05	102.4	80-120	3/26/2010	3/26/2010

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Arsenic	0.0504	mg/L	0.05	100.8	1.6	0-20	3/26/2010	3/26/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100319027-001A	Nickel	ND	0.239	mg/L	0.25	95.6	75-125	3/26/2010	3/26/2010
100319027-001A	Lead	ND	0.238	mg/L	0.25	95.2	75-125	3/26/2010	3/26/2010
100319027-001A	Copper	ND	0.257	mg/L	0.25	102.8	75-125	3/26/2010	3/26/2010
100319027-001A	Chromium	ND	0.255	mg/L	0.25	102.0	75-125	3/26/2010	3/26/2010
100319027-001A	Arsenic	ND	0.275	mg/L	0.25	110.0	75-125	3/26/2010	3/26/2010
100318013-004	Dissolved Nickel	ND	0.0776	mg/L	0.1	77.6	75-125	4/5/2010	4/5/2010
100318013-004	Dissolved Lead	ND	0.0901	mg/L	0.1	90.1	75-125	4/5/2010	4/5/2010
100318013-004	Dissolved Copper	0.00120	0.0765	mg/L	0.1	75.3	75-125	4/5/2010	4/5/2010
100318013-004	Dissolved Chromium	ND	0.0841	mg/L	0.1	84.1	75-125	4/5/2010	4/5/2010
100318013-004	Dissolved Arsenic	ND	0.0840	mg/L	0.1	84.0	75-125	4/5/2010	4/5/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.240	mg/L	0.25	96.0	0.4	0-20	3/26/2010	3/26/2010
Lead	0.243	mg/L	0.25	97.2	2.1	0-20	3/26/2010	3/26/2010

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Copper	0.256	mg/L	0.25	102.4	0.4	0-20	3/26/2010	3/26/2010
Chromium	0.258	mg/L	0.25	103.2	1.2	0-20	3/26/2010	3/26/2010
Arsenic	0.271	mg/L	0.25	108.4	1.5	0-20	3/26/2010	3/26/2010
Dissolved Nickel	0.0788	mg/L	0.1	78.8	1.5	0-20	4/5/2010	4/5/2010
Dissolved Lead	0.0924	mg/L	0.1	92.4	2.5	0-20	4/5/2010	4/5/2010
Dissolved Copper	0.0772	mg/L	0.1	76.0	0.9	0-20	4/5/2010	4/5/2010
Dissolved Chromium	0.0850	mg/L	0.1	85.0	1.1	0-20	4/5/2010	4/5/2010
Dissolved Arsenic	0.0856	mg/L	0.1	85.6	1.9	0-20	4/5/2010	4/5/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	3/26/2010	3/26/2010
Chromium	ND	mg/L	0.001	3/26/2010	3/26/2010
Copper	ND	mg/L	0.001	3/26/2010	3/26/2010
Dissolved Arsenic	ND	mg/L	0.001	4/5/2010	4/5/2010
Dissolved Chromium	ND	mg/L	0.001	4/5/2010	4/5/2010
Dissolved Copper	ND	mg/L	0.001	4/5/2010	4/5/2010
Dissolved Lead	ND	mg/L	0.001	4/5/2010	4/5/2010
Dissolved Nickel	ND	mg/L	0.001	4/5/2010	4/5/2010
Lead	ND	mg/L	0.001	3/26/2010	3/26/2010
Nickel	ND	mg/L	0.001	3/26/2010	3/26/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100318013
Address:	2612 YELM HWY SE OLYMPIA, WA 98001	**Project Name:**	EAST BAY MARCH 2010 GWM
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100318013-001	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW04-031710	**Sampling Time**	10:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/24/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/24/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100318013-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	90.4	50-150

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-002	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW02R-031710	**Sampling Time**	11:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.104	mg/L	0.1	3/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100318013-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	91.2	50-150

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Batch #: 100318013
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Analytical Results Report

Sample Number	100318013-003	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW20-031710	**Sampling Time**	12:30 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100318013-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.8	50-150

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Analytical Results Report

Sample Number	100318013-004	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW18-031710	**Sampling Time**	9:00 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100318013-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	95.2	50-150

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Analytical Results Report

Sample Number	100318013-005	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW16-031710	**Sampling Time**	9:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	3/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	3/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100318013-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	97.6	50-150

TPHDx extracts were subjected to silica gel/sulfuric acid cleanup prior to analysis

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.780	mg/L	1	78.0	50-150	3/19/2010	3/25/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100318013-002	Diesel	0.104	0.718	mg/L	1	61.4	50-150	3/19/2010	3/25/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.715	mg/L	1	61.1	0.4	0-50	3/19/2010	3/25/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	3/19/2010	3/25/2010
Lube Oil	ND	mg/L	0.5	3/19/2010	3/25/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Analytical Results Report

Sample Number	100318013-001	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW04-031710	**Sampling Time**	10:30 AM	**Extraction Date**	3/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	0.017	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

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Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-001	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW04-031710	**Sampling Time**	10:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.021	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100318013-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.2	10-125

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-002	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW02R-031710	**Sampling Time**	11:30 AM	**Extraction Date**	3/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-002	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW02R-031710	**Sampling Time**	11:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.020	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100318013-002

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	90.3	10-125

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-003	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW20-031710	**Sampling Time**	12:30 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100318013-003	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW20-031710	**Sampling Time**	12:30 PM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100318013-003

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	91.5	10-125

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-004	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW18-031710	**Sampling Time**	9:00 AM	**Extraction Date**	3/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100318013-004	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW18-031710	**Sampling Time**	9:00 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100318013-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	94.8	10-125

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Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Sample Number	100318013-005	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010	10:30 AM
Client Sample ID	MW16-031710	**Sampling Time**	9:30 AM	**Extraction Date**	3/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Methylnaphthalene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthene	0.228	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Acenaphthylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo(ghi)perylene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[a]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[b]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Benzo[k]fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Chrysene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluoranthene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Fluorene	0.073	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

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Analytical Results Report

Sample Number	100318013-005	**Sampling Date**	3/17/2010	**Date/Time Received**	3/18/2010 10:30 AM
Client Sample ID	MW16-031710	**Sampling Time**	9:30 AM	**Extraction Date**	3/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	0.025	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Phenanthrene	0.027	ug/L	0.01	3/26/2010	EMP	EPA 8270C	
Pyrene	ND	ug/L	0.01	3/26/2010	EMP	EPA 8270C	

Surrogate Data

Sample Number 100318013-005

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270C	88.7	10-125

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Chrysene	0.900	ug/L	1	90.0	30-140	3/19/2010	3/26/2010
Acenaphthene	0.947	ug/L	1	94.7	30-140	3/19/2010	3/26/2010
Acenaphthylene	0.968	ug/L	1	96.8	30-140	3/19/2010	3/26/2010
Anthracene	0.898	ug/L	1	89.8	30-140	3/19/2010	3/26/2010
Benzo(ghi)perylene	0.992	ug/L	1	99.2	30-140	3/19/2010	3/26/2010
Benzo[a]anthracene	0.983	ug/L	1	98.3	30-140	3/19/2010	3/26/2010
Benzo[a]pyrene	1.03	ug/L	1	103.0	30-140	3/19/2010	3/26/2010
2-Methylnaphthalene	0.927	ug/L	1	92.7	30-140	3/19/2010	3/26/2010
Benzo[k]fluoranthene	1.05	ug/L	1	105.0	30-140	3/19/2010	3/26/2010
Pyrene	1.10	ug/L	1	110.0	30-140	3/19/2010	3/26/2010
Dibenz[a,h]anthracene	1.02	ug/L	1	102.0	30-140	3/19/2010	3/26/2010
Fluoranthene	1.11	ug/L	1	111.0	30-140	3/19/2010	3/26/2010
Fluorene	1.04	ug/L	1	104.0	30-140	3/19/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	0.996	ug/L	1	99.6	30-140	3/19/2010	3/26/2010
Naphthalene	0.837	ug/L	1	83.7	30-140	3/19/2010	3/26/2010
Phenanthrene	1.00	ug/L	1	100.0	30-140	3/19/2010	3/26/2010
Benzo[b]fluoranthene	1.23	ug/L	1	123.0	30-140	3/19/2010	3/26/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100318013-003	Chrysene	ND	0.869	ug/L	1	86.9	30-140	3/19/2010	3/26/2010
100318013-003	Acenaphthene	ND	1.03	ug/L	1	103.0	30-140	3/19/2010	3/26/2010
100318013-003	Acenaphthylene	ND	0.879	ug/L	1	87.9	30-140	3/19/2010	3/26/2010
100318013-003	Anthracene	ND	0.937	ug/L	1	93.7	30-140	3/19/2010	3/26/2010
100318013-003	Benzo(ghi)perylene	ND	0.977	ug/L	1	97.7	30-140	3/19/2010	3/26/2010
100318013-003	Benzo[a]anthracene	ND	1.09	ug/L	1	109.0	30-140	3/19/2010	3/26/2010
100318013-003	Benzo[a]pyrene	ND	1.09	ug/L	1	109.0	30-140	3/19/2010	3/26/2010
100318013-003	2-Methylnaphthalene	ND	1.10	ug/L	1	110.0	30-140	3/19/2010	3/26/2010
100318013-003	Benzo[k]fluoranthene	ND	1.19	ug/L	1	119.0	30-140	3/19/2010	3/26/2010
100318013-003	Pyrene	ND	1.14	ug/L	1	114.0	30-140	3/19/2010	3/26/2010
100318013-003	Dibenz[a,h]anthracene	ND	1.02	ug/L	1	102.0	30-140	3/19/2010	3/26/2010
100318013-003	Fluoranthene	ND	1.16	ug/L	1	116.0	30-140	3/19/2010	3/26/2010
100318013-003	Fluorene	ND	1.07	ug/L	1	107.0	30-140	3/19/2010	3/26/2010
100318013-003	Indeno[1,2,3-cd]pyrene	ND	1.01	ug/L	1	101.0	30-140	3/19/2010	3/26/2010

Comments:

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Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100318013-003	Naphthalene	ND	0.984	ug/L	1	98.4	30-140	3/19/2010	3/26/2010
100318013-003	Phenanthrene	ND	1.02	ug/L	1	102.0	30-140	3/19/2010	3/26/2010
100318013-003	Benzo[b]fluoranthene	ND	1.18	ug/L	1	118.0	30-140	3/19/2010	3/26/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Chrysene	0.861	ug/L	1	86.1	0.9	0-50	3/19/2010	3/26/2010
Acenaphthene	0.961	ug/L	1	96.1	6.9	0-50	3/19/2010	3/26/2010
Acenaphthylene	0.836	ug/L	1	83.6	5.0	0-50	3/19/2010	3/26/2010
Anthracene	0.878	ug/L	1	87.8	6.5	0-50	3/19/2010	3/26/2010
Benzo(ghi)perylene	0.898	ug/L	1	89.8	8.4	0-50	3/19/2010	3/26/2010
Benzo[a]anthracene	1.04	ug/L	1	104.0	4.7	0-50	3/19/2010	3/26/2010
Benzo[a]pyrene	1.03	ug/L	1	103.0	5.7	0-50	3/19/2010	3/26/2010
2-Methylnaphthalene	1.08	ug/L	1	108.0	1.8	0-50	3/19/2010	3/26/2010
Benzo[k]fluoranthene	1.10	ug/L	1	110.0	7.9	0-50	3/19/2010	3/26/2010
Pyrene	1.17	ug/L	1	117.0	2.6	0-50	3/19/2010	3/26/2010
Dibenz[a,h]anthracene	0.951	ug/L	1	95.1	7.0	0-50	3/19/2010	3/26/2010
Fluoranthene	1.14	ug/L	1	114.0	1.7	0-50	3/19/2010	3/26/2010
Fluorene	1.03	ug/L	1	103.0	3.8	0-50	3/19/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	0.949	ug/L	1	94.9	6.2	0-50	3/19/2010	3/26/2010
Naphthalene	0.940	ug/L	1	94.0	4.6	0-50	3/19/2010	3/26/2010
Phenanthrene	0.957	ug/L	1	95.7	6.4	0-50	3/19/2010	3/26/2010
Benzo[b]fluoranthene	1.11	ug/L	1	111.0	6.1	0-50	3/19/2010	3/26/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2-Methylnaphthalene	ND	ug/L	0.01	3/19/2010	3/26/2010
Acenaphthene	ND	ug/L	0.01	3/19/2010	3/26/2010
Acenaphthylene	ND	ug/L	0.01	3/19/2010	3/26/2010
Anthracene	ND	ug/L	0.01	3/19/2010	3/26/2010
Benzo(ghi)perylene	ND	ug/L	0.01	3/19/2010	3/26/2010
Benzo[a]anthracene	ND	ug/L	0.01	3/19/2010	3/26/2010
Benzo[a]pyrene	ND	ug/L	0.01	3/19/2010	3/26/2010
Benzo[b]fluoranthene	ND	ug/L	0.01	3/19/2010	3/26/2010
Benzo[k]fluoranthene	ND	ug/L	0.01	3/19/2010	3/26/2010

Comments:

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98001
Attn: TROY BUSSEY

Batch #: 100318013
Project Name: EAST BAY MARCH 2010 GWM

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Chrysene	ND	ug/L	0.01	3/19/2010	3/26/2010
Dibenz[a,h]anthracene	ND	ug/L	0.01	3/19/2010	3/26/2010
Fluoranthene	ND	ug/L	0.01	3/19/2010	3/26/2010
Fluorene	ND	ug/L	0.01	3/19/2010	3/26/2010
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.01	3/19/2010	3/26/2010
Naphthalene	ND	ug/L	0.01	3/19/2010	3/26/2010
Phenanthrene	ND	ug/L	0.01	3/19/2010	3/26/2010
Pyrene	ND	ug/L	0.01	3/19/2010	3/26/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287; MT:Cert0095

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100318013
Order Date: 3/18/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100318013-001 **Customer Sample #:** MW04-031710

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/30/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-001A **Customer Sample #:** MW04-031710A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100318013
Order Date: 3/18/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100318013-002 **Customer Sample #:** MW02R-031710

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 10 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/30/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-002A **Customer Sample #:** MW02R-031710A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-003 **Customer Sample #:** MW20-031710

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 8 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100318013
Order Date: 3/18/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

BTEX 8260	EPA 8260B	3/30/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-003A **Customer Sample #:** MW20-031710A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-004 **Customer Sample #:** MW18-031710

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/30/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100318013
Order Date: 3/18/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

DISSOLVED NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-004A **Customer Sample #:** MW18-031710A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-005 **Customer Sample #:** MW16-031710

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 6 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
BTEX 8260	EPA 8260B	3/30/2010	***Normal (6-10 Days)***
CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED CHROMIUM BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	3/30/2010	***Normal (6-10 Days)***
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***
TPHG-NW	NWTPHG	3/30/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98001

Order ID: 100318013
Order Date: 3/18/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY MARCH 2010 GWM

Comment:

Sample #: 100318013-005A **Customer Sample #:** MW16-031710A - FILTERED

Recv'd: ☑ **Collector:** MELODY FEDEN **Date Collected:** 3/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
PAH 8270 LOW	EPA 8270C	3/30/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	3/30/2010	***Normal (6-10 Days)***

Sample #: 100318013-006 **Customer Sample #:** TRIP BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 3/17/2010
Quantity: 1 **Matrix:** Water **Date Received:** 3/18/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
BTEX 8260	EPA 8260B	3/30/2010	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	No
What is the temperature inside the cooler?	SEE COC
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	Yes
Is there a trip blank to accompany VOC samples?	Yes
Labels and chain agree?	Yes

100318 013 **PITC** Last Due 3/30/2010

Ana Log 1st SAMP 3/17/2010 1st RCVD 3/18/2010

EAST BAY MARCH 2010 GWM

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Company Name: PIONEER TECHNOLOGIES CORPORATION	Project Manager: TROY BUSSEY
Address: 2612 YELM HIGHWAY SE, SUITE 15	Project Name & #: EAST BAY MARCH 2010 GWM
City: OLYMPIA State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: MELODY FEDGN

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
X Mail (Final)
__Fax
X Email

Provide Sample Description

MWBS

List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	PAH-GC by 8270 + NWTPH-G (HCl)	BTEX by 8260/8021 (HCl)	TPH-D + NWTPH by NWTPH-Dx (HCl)	PAHs by 8270 (–)	Total As, Cr, Cu, Pb, Ni (–)	Dissolved As, Cr, Cu, Pb, Ni (–)				
1	MW04-031710	3/17/10 1030	WATER	8	4L 3 VOAs	X	X	X	X	X	X				
2	MW02R-031710	3/17/10 1130	WATER	12	6L 3 VOAs 3 plastic	X	X	X	X	X	X	4 Dx 3m			

Note Special Instructions/Comments

1) PAH RL = 0.01 µg/L
2) SILICA GEL PREP FOR ALL NWTPH Dx ANALYSES
3) LAB FILTER FOR DISSOLVED METALS
4) METALS BY 6000/7000 ARSENIC, CHROMIUM, COPPER, LEAD, NICKEL
5) FILTER, EXTRACT, AND HOLD EXTRA PAH and NWTPH Dx BOTTLES FOR POSSIBLE FOLLOW-ON ANALYSES OF FILTERED SAMPLES

EXTRA BOTTLES FOR MS/MSD ON MW02R IF NECESSARY

	Printed Name	Signature	Company	Date	Time
Relinquished by	TROY BUSSEY	[signature]	PTC	3/17/10	1600
Received by	Justin Daly	[signature]	Anatek	3/18/10	1030
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Fedex

Temperature (°C): 5.4

Preservative: HCL

Date & Time:

Inspected By:

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #:

Company Name: Pioneer Technologies Corporation	Project Manager: Troy Bussey
Address: 2612 Yelm Highway SE, Suite B	Project Name & #: East Bay March 2010 GWM
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: Melody Feden

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other* ______

*All rush order requests must be prior approved.

__Phone
X Mail Final
__Fax
X Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G by NWTPH-G (HCl)	BTEX 8260/8021 (HCl)	* TPH-D & TPH-HO NWTPH-Dx (HCl)	PAHs 8270D (—)	Total As, Cr, Cu, Pb, Ni (—)	Dissolved As, Cr, Cu, Pb, Ni (—)				
3	MW20-031710	3/17/10 1230	Water	10	6 L 3 wate 1 plastic	X	X	X	X	X	X	4 PAH			

Note Special Instructions/Comments

1) PAH RL = 0.01 µg/L
2) Silica gel prep for ALL NWTPH-Dx analyses
3) Lab filter for dissolved metals
4) Metals by 6000/7000 → Arsenic, Chromium, Copper, Lead, Nickel
5) Filter, extract, and hold extra PAH & NWTPH-Dx bottles for possible follow-up analyses of filtered samples
6) Extra PAH bottles for MS/MSD

2 HCl vials arrived broke

	Printed Name	Signature	Company	Date	Time
Relinquished by	Troy Bussey	[signature]	PTC	03/17/10	1600
Received by	Justin Doty	[signature]	Anatek	3/18/10	1030
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	(N)
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

Fedex

Temperature (°C): 5.5

Preservative: HCl

Date & Time:

Inspected By:

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #:

Company Name: Pioneer Technologies Corporation	Project Manager: Troy Bussey
Address: 2612 Yelm Highway SE, Suite B	Project Name & #: East Bay March 2010 GWM
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone: Melody Feden

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

- X Normal
- __Next Day*
- __2nd Day*
- __Other*______

*All rush order requests must be prior approved.

- __Phone
- X Mail Final
- __Fax
- X Email Pr.

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G by NWTPH-G (Preservative: HCl)	BTEX by 8260/8021 (Preservative: HCl)	TPH-D: TPH-HO NWTPH-Dx (Preservative: HCl)	PAHs 8270 (Preservative: —)	Total As, Cr, Cu, Pb, Ni (Preservative: —)	Dissolved As, Cr, Cu, Pb, Ni (Preservative: —)				
4	MW18-031710	3/17/10 0900	Water	8	4L 3 VOA	X	X	X	X	X	X				
5	MW16-031710	3/17/10 0930	Water	↓	↓	X	X	X	X	X	X				
6	Trip Blank	N/A	Water	1	1 VOA	X	X								

Sample Volume note: 1 L amber

Note Special Instructions/Comments

1) PAH RL = 0.01 µg/L
2) Silica gel prep for ALL NWTPH-Dx analyses
3) Lab filter for dissolved metals
4) Metals by 6000/7000: Arsenic, Chromium, Copper, Lead, Nickel
5) Filter, extract, and hold extra PAH and NWTPH-Dx bottles for possible follow-on analyses of filtered samples

	Printed Name	Signature	Company	Date	Time
Relinquished by	Troy Bussey	[signature]	PTC	3/17/10	1600
Received by	Justin Doty	[signature]	Anatek	3/18/10	1030
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	Y	(N)

FedEx

Temperature (°C): 3.3

Preservative: HCL

Date & Time:

Inspected By:

Data Quality Review
East Bay Redevelopment Site – March 2010 GWM Event

1. Precision
Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs are within acceptable ranges.

2. Accuracy
Accuracy was assessed by analysis of laboratory method blanks and trip blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. No analytes were detected in the laboratory method blanks or trip blanks. As shown in the analytical reports, recoveries for blank spikes, matrix spikes, and surrogates for all analyses were within acceptable ranges.

3. Representativeness
Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. Samples were collected, preserved, handled, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), which was designed to obtain representative samples (GeoEngineers and PIONEER 2008). In addition, samples were extracted and analyzed within appropriate holding times listed in the QAPP.

4. Comparability
Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity
Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with project-specific PQL expectations (Ecology 2009b). The actual PQLs were equal to or less than the expected PQLs, with the following exceptions. The actual PQLs for analyzed metals were twice the revised PQL expectations of 0.5 ug/L (Ecology 2009b) due to a different laboratory being used, but are still acceptable for project use in comparison with surface water screening levels. The actual PQL for total petroleum hydrocarbons in the gasoline range (TPH-G) of 250 ug/L exceeded the revised PQL expectation of 50 ug/L (Ecology 2009b) due to Anatek Labs interpretation of an appropriate PQL for the NWTPH-G methodology. This actual TPH-G PQL is still acceptable for project use in comparison with the TPH-G surface water screening level of 1,000 ug/L.

6. Completeness
Completeness was assessed by calculating the percentage of useable results to all results. A total of 700 primary sample analyses were performed. All of the analyte results were useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions
This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

APPENDIX P

ANALYTICAL REPORTS AND DATA QUALITY REVIEW FOR AUGUST 2010 GROUNDWATER MONITORING EVENT

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100818006
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	PORT OF OLYMPIA EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100818006-001	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW21S_081610	**Sampling Time**	11:00 AM	**Extraction Date**	8/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-001

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	100.0	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100818006
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	PORT OF OLYMPIA EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100818006-002	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW01_081610	**Sampling Time**	11:15 AM	**Extraction Date**	8/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	90.4	50-150

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Sample Number	100818006-003	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010 12:05 PM
Client Sample ID	MW03_081610	**Sampling Time**	12:00 PM	**Extraction Date**	8/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-003

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100818006
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	PORT OF OLYMPIA EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100818006-004	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW04_081610	**Sampling Time**	12:30 PM	**Extraction Date**	8/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	90.4	50-150

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100818006
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	PORT OF OLYMPIA EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100818006-005	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW16_081610	**Sampling Time**	1:45 PM	**Extraction Date**	8/19/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150

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OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Sample Number	100818006-006	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010 12:05 PM
Client Sample ID	MW18_081610	**Sampling Time**	2:30 PM	**Extraction Date**	8/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/25/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/25/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150

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Attn: TROY BUSSEY

Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Sample Number	100818006-007	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010 12:05 PM
Client Sample ID	MW20_081610	**Sampling Time**	3:15 PM	**Extraction Date**	8/19/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/26/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/26/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100818006-007

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	88.8	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.793	mg/L	1	79.3	50-150	8/19/2010	8/25/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100818006-003	Diesel	ND	0.818	mg/L	1	81.8	50-150	8/19/2010	8/25/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.764	mg/L	1	76.4	6.8	0-50	8/19/2010	8/25/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	8/19/2010	8/25/2010
Lube Oil	ND	mg/L	0.5	8/19/2010	8/25/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Analytical Results Report

Sample Number	100818006-001	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW21S_081610	**Sampling Time**	11:00 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00389	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00114	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

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Analytical Results Report

Sample Number	100818006-002	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW01_081610	**Sampling Time**	11:15 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00497	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	0.00523	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00243	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.00152	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	0.00440	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

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Analytical Results Report

Sample Number	100818006-003	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW03_081610	**Sampling Time**	12:00 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00716	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	0.00281	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00265	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	0.00122	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

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Analytical Results Report

Sample Number	100818006-004	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW04_081610	**Sampling Time**	12:30 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00110	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	0.00258	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00194	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.00177	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	0.00116	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Sample Number	100818006-005	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW16_081610	**Sampling Time**	1:45 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	0.00195	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

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Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Sample Number	100818006-006	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW18_081610	**Sampling Time**	2:30 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	0.00204	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00173	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100818006
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	PORT OF OLYMPIA EAST BAY
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100818006-007	**Sampling Date**	8/16/2010	**Date/Time Received**	8/17/2010	12:05 PM
Client Sample ID	MW20_081610	**Sampling Time**	3:15 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.0116	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Copper	0.0520	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.0343	mg/L	0.001	8/19/2010	JTT	EPA 6020A	
Nickel	0.0278	mg/L	0.001	8/19/2010	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0478	mg/L	0.05	95.6	80-120	8/23/2010	8/23/2010
Dissolved Lead	0.0472	mg/L	0.05	94.4	80-120	8/23/2010	8/23/2010
Dissolved Copper	0.0479	mg/L	0.05	95.8	80-120	8/23/2010	8/23/2010
Dissolved Arsenic	0.0483	mg/L	0.05	96.6	80-120	8/23/2010	8/23/2010
Nickel	0.0485	mg/L	0.05	97.0	80-120	8/18/2010	8/19/2010
Lead	0.0486	mg/L	0.05	97.2	80-120	8/18/2010	8/19/2010
Copper	0.0500	mg/L	0.05	100.0	80-120	8/18/2010	8/19/2010
Arsenic	0.0510	mg/L	0.05	102.0	80-120	8/18/2010	8/19/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100818006-007	Dissolved Nickel	ND	0.0475	mg/L	0.05	95.0	75-125	8/23/2010	8/23/2010
100818006-007	Dissolved Lead	ND	0.0441	mg/L	0.05	88.2	75-125	8/23/2010	8/23/2010
100818006-007	Dissolved Copper	ND	0.0466	mg/L	0.05	93.2	75-125	8/23/2010	8/23/2010
100818006-007	Dissolved Arsenic	ND	0.0521	mg/L	0.05	104.2	75-125	8/23/2010	8/23/2010
100816014-002A	Nickel	ND	0.0486	mg/L	0.05	97.2	75-125	8/18/2010	8/19/2010
100816014-002A	Lead	ND	0.0491	mg/L	0.05	98.2	75-125	8/18/2010	8/19/2010
100816014-002A	Copper	ND	0.0496	mg/L	0.05	99.2	75-125	8/18/2010	8/19/2010
100816014-002A	Arsenic	ND	0.0512	mg/L	0.05	102.4	75-125	8/18/2010	8/19/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dissolved Nickel	0.0456	mg/L	0.05	91.2	4.1	0-20	8/23/2010	8/23/2010
Dissolved Lead	0.0461	mg/L	0.05	92.2	4.4	0-20	8/23/2010	8/23/2010
Dissolved Copper	0.0444	mg/L	0.05	88.8	4.8	0-20	8/23/2010	8/23/2010
Dissolved Arsenic	0.0491	mg/L	0.05	98.2	5.9	0-20	8/23/2010	8/23/2010
Nickel	0.0486	mg/L	0.05	97.2	0.0	0-20	8/18/2010	8/19/2010
Lead	0.0488	mg/L	0.05	97.6	0.6	0-20	8/18/2010	8/19/2010
Copper	0.0495	mg/L	0.05	99.0	0.2	0-20	8/18/2010	8/19/2010
Arsenic	0.0509	mg/L	0.05	101.8	0.6	0-20	8/18/2010	8/19/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100818006
Project Name: PORT OF OLYMPIA EAST BAY

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	8/18/2010	8/19/2010
Copper	ND	mg/L	0.001	8/18/2010	8/19/2010
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Copper	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Lead	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	8/23/2010
Lead	ND	mg/L	0.001	8/18/2010	8/19/2010
Nickel	ND	mg/L	0.001	8/18/2010	8/19/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Anatek Labs, Inc.

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100818006
Order Date: 8/18/2010

Contact Name: TROY BUSSEY

Project Name: PORT OF OLYMPIA EAST BAY

Comment:

Sample #: 100818006-001 **Customer Sample #:** MW21S_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Sample #: 100818006-002 **Customer Sample #:** MW01_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100818006
Order Date: 8/18/2010

Contact Name: TROY BUSSEY

Project Name: PORT OF OLYMPIA EAST BAY

Comment:

NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Sample #: 100818006-003 **Customer Sample #:** MW03_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Sample #: 100818006-003A **Customer Sample #:** MW03_081610A / MS

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Sample #: 100818006-003B **Customer Sample #:** MW03_081610B / MSD

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100818006
Order Date: 8/18/2010

Contact Name: TROY BUSSEY

Project Name: PORT OF OLYMPIA EAST BAY

Comment:

Sample #: 100818006-004 **Customer Sample #:** MW04_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Sample #: 100818006-005 **Customer Sample #:** MW16_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100818006
Order Date: 8/18/2010

Contact Name: TROY BUSSEY

Project Name: PORT OF OLYMPIA EAST BAY

Comment:

Sample #: 100818006-006 **Customer Sample #:** MW18_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Sample #: 100818006-007 **Customer Sample #:** MW20_081610

Recv'd: ☑ **Collector:** **Date Collected:** 8/16/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/17/2010 12:05:00 P
Comment:

Test	Method	Due Date	Priority
ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED COPPER	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
LEAD	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
NICKEL	EPA 200.8	8/27/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/27/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION

2612 YELM HWY SE

OLYMPIA WA 98501

Contact Name: TROY BUSSEY

Comment:

Order ID: 100818006

Order Date: 8/18/2010

Project Name: PORT OF OLYMPIA EAST BAY

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	5.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

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100818 006 **PITC** Last Due 8/27/2010
1st SAMP 8/16/2010 1st RCVD 8/17/2010
PORT OF OLYMPIA EAST BAY

Company Name: PIONEER Tech Corp	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: Port of Olympia East Bay
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1706	Purchase Order #:
Fax:	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
__ Email

Provide Sample Description / **List Analyses Requested**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: HCl NW-TPHDx	Total + Dissolved #1 6000/7000
1	MW01S_081610	8/16/10 / 1100	GW	2	1L/40z	X	X
2	MW01 081610	8/16/10 / 1115		2	1L/40z	X	X
3	MW03 081610	8/16/10 / 1200		2	1L/40z	X	X
4	MW04_081610	8/16/10 / 1280		2	1L/40z	X	X
5	MW16_081610	8/16/10 / 1345		2	1L/40z	X	X
6	MW13_081610	8/16/10 / 1430		2		X	X
7	MW20_081610	8/16/10 / 1515		2	↓	X	X
3A	MS	8/16/10 / 1200		2	2L	X	X
3B	MSD	8/16/10 / 1200	↓	2	2L	X	X

Note Special Instructions/Comments

MS/MSD are w/ MW03 per Troy

Total and dissolved arsenic, copper, lead and nickel
MWBS

← Metals bottle received ½ full. Will send replacement

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	8/16/10	4:00
Received by	Travis Keane	Travis Keane	Anatek	8/17/10	12:05
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N N/A

Fedex

Temperature (°C): 5.3°
Preservative: HCl
Date & Time: 8/17/10 12:05
Inspected By: TK

Anatek Labs, Inc.

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100819034
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	EAST BAY AUGUST GWM 2010
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100819034-002	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW23S-081710	**Sampling Time**	9:15 AM	**Extraction Date**	8/23/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.124	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-002

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	88.0	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-004	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW09-081710	**Sampling Time**	10:45 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-004

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	89.6	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-005	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW08-081710	**Sampling Time**	11:30 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-005

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	89.6	50-150

Anatek Labs, Inc.

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-006	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW13-081710	**Sampling Time**	12:15 PM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-006

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-007	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW25S-081710	**Sampling Time**	1:45 PM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	0.635	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-007

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-008	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW14-081710	**Sampling Time**	2:15 PM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.143	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-008

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	96.8	50-150

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-009	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW22S-081710	**Sampling Time**	3:00 PM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-009

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

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Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-010	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	MW15-081810	**Sampling Time**	8:15 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-010

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	93.6	50-150

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-011	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	FIELD BLANK	**Sampling Time**	8:30 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-011

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	99.2	50-150

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Client:	PIONEER TECHNOLOGIES CORPORATION	**Batch #:**	100819034
Address:	2612 YELM HWY SE OLYMPIA, WA 98501	**Project Name:**	EAST BAY AUGUST GWM 2010
Attn:	TROY BUSSEY		

Analytical Results Report

Sample Number	100819034-012	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	MW07-081810	**Sampling Time**	9:00 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-012

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	90.4	50-150

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Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-013	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	MW02R-081810	**Sampling Time**	9:30 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	1.08	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-013

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	85.6	50-150

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-014	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	MW11-081810	**Sampling Time**	10:00 AM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.151	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-014

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.8	50-150

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Analytical Results Report

Sample Number	100819034-015	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	MW24S-081810	**Sampling Time**	1:15 PM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	0.101	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-015

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	88.0	50-150

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-016	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	EQUIPMENT RINSATE BLANK	**Sampling Time**	1:30 PM	**Extraction Date**	8/23/2010	
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-016

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	88.8	50-150

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-017	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010 10:30 AM
Client Sample ID	MW12-081810	**Sampling Time**	3:30 PM	**Extraction Date**	8/23/2010
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Diesel	ND	mg/L	0.1	8/28/2010	MAH	NWTPHDX	
Lube Oil	ND	mg/L	0.5	8/28/2010	MAH	NWTPHDX	

Surrogate Data

Sample Number 100819034-017

Surrogate Standard	Method	Percent Recovery	Control Limits
hexacosane	NWTPHDX	92.0	50-150

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Diesel	0.877	mg/L	1	87.7	50-150	8/23/2010	8/23/2010

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Diesel	0.888	mg/L	1	88.8	1.2	0-50	8/23/2010	8/23/2010

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Diesel	ND	mg/L	0.1	8/23/2010	8/23/2010
Lube Oil	ND	mg/L	0.5	8/23/2010	8/23/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-001	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW16-081710	**Sampling Time**	8:45 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00140	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-002	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW23S-081710	**Sampling Time**	9:15 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00311	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.00268	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	0.00106	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-003	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM	
Client Sample ID	MW24S-081710	**Sampling Time**	10:00 AM				
Matrix	Water	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.0125	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00138	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.0119	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-004	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW09-081710	**Sampling Time**	10:45 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-005	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010 11:45 AM
Client Sample ID	MW08-081710	**Sampling Time**	11:30 AM		
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00203	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00162	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00100	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-006	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM	
Client Sample ID	MW13-081710	**Sampling Time**	12:15 PM				
Matrix	Water	**Sample Location**					
Comments							

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00655	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00112	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00288	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-007	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW25S-081710	**Sampling Time**	1:45 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00270	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00171	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00160	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.00228	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-008	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW14-081710	**Sampling Time**	2:15 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00350	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00775	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00307	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00152	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.00262	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	0.00144	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-009	**Sampling Date**	8/17/2010	**Date/Time Received**	8/18/2010	11:45 AM
Client Sample ID	MW22S-081710	**Sampling Time**	3:00 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00214	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00262	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00150	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	0.00156	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-010	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	MW15-081810	**Sampling Time**	8:15 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number 100819034-011 **Sampling Date** 8/18/2010 **Date/Time Received** 8/19/2010 10:30 AM
Client Sample ID FIELD BLANK **Sampling Time** 8:30 AM
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.0373	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00867	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-012	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	MW07-081810	**Sampling Time**	9:00 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00422	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00376	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00188	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-013	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	MW02R-081810	**Sampling Time**	9:30 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.0243	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00869	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00157	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	0.00683	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-014	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	MW11-081810	**Sampling Time**	10:00 AM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	0.00153	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	0.00106	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-016	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	EQUIPMENT RINSATE BLANK	**Sampling Time**	1:30 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.0336	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00610	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

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Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Sample Number	100819034-017	**Sampling Date**	8/18/2010	**Date/Time Received**	8/19/2010	10:30 AM
Client Sample ID	MW12-081810	**Sampling Time**	3:30 PM			
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Copper	0.00300	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Copper	0.00297	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Dissolved Nickel	0.00996	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Lead	ND	mg/L	0.001	8/23/2010	JTT	EPA 6020A	
Nickel	0.0110	mg/L	0.001	8/23/2010	JTT	EPA 6020A	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dissolved Nickel	0.0478	mg/L	0.05	95.6	80-120	8/23/2010	8/23/2010
Dissolved Lead	0.0472	mg/L	0.05	94.4	80-120	8/23/2010	8/23/2010
Dissolved Copper	0.0479	mg/L	0.05	95.8	80-120	8/23/2010	8/23/2010
Dissolved Arsenic	0.0483	mg/L	0.05	96.6	80-120	8/23/2010	8/23/2010
Nickel	0.0491	mg/L	0.05	98.2	80-120	8/23/2010	8/23/2010
Lead	0.0486	mg/L	0.05	97.2	80-120	8/23/2010	8/23/2010
Copper	0.0498	mg/L	0.05	99.6	80-120	8/23/2010	8/23/2010
Arsenic	0.0496	mg/L	0.05	99.2	80-120	8/23/2010	8/23/2010

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
100819034-017	Nickel	0.0110	0.0575	mg/L	0.05	93.0	75-125	8/23/2010	8/23/2010
100819034-017	Lead	ND	0.0448	mg/L	0.05	89.6	75-125	8/23/2010	8/23/2010
100819034-017	Copper	0.00300	0.0491	mg/L	0.05	92.2	75-125	8/23/2010	8/23/2010
100819034-017	Arsenic	ND	0.0528	mg/L	0.05	105.6	75-125	8/23/2010	8/23/2010
100819034-003	Dissolved Nickel	ND	0.0445	mg/L	0.05	89.0	75-125	8/23/2010	8/23/2010
100819034-003	Dissolved Lead	ND	0.0449	mg/L	0.05	89.8	75-125	8/23/2010	8/23/2010
100819034-003	Dissolved Copper	ND	0.0453	mg/L	0.05	90.6	75-125	8/23/2010	8/23/2010
100819034-003	Dissolved Arsenic	0.0119	0.0586	mg/L	0.05	93.4	75-125	8/23/2010	8/23/2010

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Nickel	0.0591	mg/L	0.05	96.2	2.7	0-20	8/23/2010	8/23/2010
Lead	0.0448	mg/L	0.05	89.6	0.0	0-20	8/23/2010	8/23/2010
Copper	0.0500	mg/L	0.05	94.0	1.8	0-20	8/23/2010	8/23/2010
Arsenic	0.0522	mg/L	0.05	104.4	1.1	0-20	8/23/2010	8/23/2010
Dissolved Nickel	0.0464	mg/L	0.05	92.8	4.2	0-20	8/23/2010	8/23/2010
Dissolved Lead	0.0466	mg/L	0.05	93.2	3.7	0-20	8/23/2010	8/23/2010
Dissolved Copper	0.0471	mg/L	0.05	94.2	3.9	0-20	8/23/2010	8/23/2010
Dissolved Arsenic	0.0620	mg/L	0.05	100.2	5.6	0-20	8/23/2010	8/23/2010

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client: PIONEER TECHNOLOGIES CORPORATION
Address: 2612 YELM HWY SE
OLYMPIA, WA 98501
Attn: TROY BUSSEY

Batch #: 100819034
Project Name: EAST BAY AUGUST GWM 2010

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Arsenic	ND	mg/L	0.001	8/23/2010	8/23/2010
Copper	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Arsenic	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Copper	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Lead	ND	mg/L	0.001	8/23/2010	8/23/2010
Dissolved Nickel	ND	mg/L	0.001	8/23/2010	8/23/2010
Lead	ND	mg/L	0.001	8/23/2010	8/23/2010
Nickel	ND	mg/L	0.001	8/23/2010	8/23/2010

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

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Login Report

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-001 **Customer Sample #:** MW16-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 1 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-002 **Customer Sample #:** MW23S-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-003 **Customer Sample #:** MW24S-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 1 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-004 **Customer Sample #:** MW09-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-005 **Customer Sample #:** MW08-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-006 **Customer Sample #:** MW13-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-007 **Customer Sample #:** MW25S-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-008 **Customer Sample #:** MW14-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-009 **Customer Sample #:** MW22S-081710

Recv'd: ☑ **Collector:** **Date Collected:** 8/17/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/18/2010 11:45:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-010 **Customer Sample #:** MW15-081810

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-011 **Customer Sample #:** FIELD BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-012 **Customer Sample #:** MW07-081810

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-013 **Customer Sample #:** MW02R-081810

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-014 **Customer Sample #:** MW11-081810

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

Sample #: 100819034-015 **Customer Sample #:** MW24S-081810

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 1 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-016 **Customer Sample #:** EQUIPMENT RINSATE BLANK

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

Sample #: 100819034-017 **Customer Sample #:** MW12-081810

Recv'd: ☑ **Collector:** **Date Collected:** 8/18/2010
Quantity: 2 **Matrix:** Water **Date Received:** 8/19/2010 10:30:00 A
Comment:

Test	Method	Due Date	Priority
ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED ARSENIC BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED COPPER BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
DISSOLVED NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
LEAD BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***

Customer Name: PIONEER TECHNOLOGIES CORPORATION
2612 YELM HWY SE
OLYMPIA WA 98501

Order ID: 100819034
Order Date: 8/19/2010

Contact Name: TROY BUSSEY

Project Name: EAST BAY AUGUST GWM 2010

Comment:

NICKEL BY 6020A	EPA 6020A	8/31/2010	***Normal (6-10 Days)***
TPHDX-NW	NWTPHDX	8/31/2010	***Normal (6-10 Days)***

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	No
What is the temperature inside the cooler?	SEE COC
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

100819 034 PITC Last Due 8/31/2010
Anatek Log 1st SAMP 8/17/2010 1st RCVD 8/18/2010
EAST BAY AUGUST GWM 2010

Company Name: Pioneer Technologies Corporation
Address: 2612 Yelm Hwy SE ~~Eatonville~~ Olympia WA 98501
City: Olympia State: WA Zip: 98501
Phone: 360-570-1700
Fax:

Project Manager: Troy Bussey
Project Name & #: East Bay August GWM
Email Address: Busseyt@cspioneer.com
Purchase Order #: Credit Card
Sampler Name & phone: Melody Feden 360-570-1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description / **List Analyses Requested** / **Note Special Instructions/Comments**

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	NWTPH-Dx	Total + Dissolved Metals
				Preservative:		HCl	—
1	MW16_081710	081710 / 845	GW	1 402			X
2	MW23S_081710	081710 / 915		1 402 1L		X	X
3	MW24S_081710	081710 / 1000		1 402 1L		X	X
4	MW09_081710	081710 / 1045		1 402 1L		X	X
5	MW08_081710	081710 / 1130		1 402 1L		X	X
6	MW13_081710	081710 / 1215		1 402 1L		X	X
7	MW25S_081710	081710 / 1345		1 402 1L		X	X
8	MW14_081710	081710 / 1415		1 402 1L		X	X
9	MW22S_081710	081710 / 1500		1 402 1L		X	X

MWBS

*Metals: Arsenic, Copper, Nickel and Lead (6000/7000)

← 1L Amber leaked during transit as a result of broken cap. Replacement will be sent per Troy

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	8/17/10	4:30
Received by	Travis Weare	Travis Weare	Anatek	8/18/10	11:45
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N N/A

Fedex

Temperature (°C): 5.5
Preservative: HCl
Date & Time:
Inspected By: TH

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-In #:

Company Name: Pioneer Technologies Corporation
Address: 2612 Yelm Hwy SE Suite B
City: Olympia State: WA Zip: 98501
Phone: 360-570-1700
Fax:

Project Manager: Troy Bussey
Project Name & #: East Bay August GWM 2010
Email Address: Busseyt@uspioneer.com
Purchase Order #: Credit Card
Sampler Name & phone: Melody Feden 360 570 1700

Turn Around Time & Reporting

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__ Next Day*
__ 2nd Day*
__ Other*_____

*All rush order requests must be prior approved.

__ Phone
__ Mail
__ Fax
X Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative: HCl — NWTPH-Dx	Total+Dissolved Metals
10	MW15-081810	081810 / 815	GW	2	1402 1L	X	X
11	Field Blank	081810 / 830		2	1402 1L	X	X
12	MW07-081810	081810 / 900		2	1402 1L	X	X
13	MW02R-081810	081810 / 930		2	1402 1L	X	X
14	MW11-081810	081810 / 1000		2	1402 1L	X	X
15	MW24S-081810	081810 / 1315		1	1L	X	
16	Equipment Rinsate Blank	081810 / 1330		2	1402 1L	X	X
17	MW12-081810	081810 / 1530		2	1402 1L	X	X

* Metals: Arsenic, Copper, Nickel and Lead (6000 / 7000)

* Silica gel prep

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	081810	4:30
Received by	Justin Doty		Anatek	8/19/10	1030
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Fedex

Temperature (°C): 4.7, 1.9

Preservative: HCl

Date & Time:

Inspected By:

Data Quality Review
East Bay Redevelopment Site – August 2010 GWM Event

1. Precision
Precision was assessed via the relative percent difference (RPD) for matrix spike duplicates. As shown in the analytical reports, matrix spike duplicate RPDs are within acceptable ranges.

2. Accuracy
Accuracy was assessed by analysis of laboratory method blanks as well as recoveries in blank spikes, matrix spikes, and surrogates. No analytes were detected in the laboratory method blanks. As shown in the analytical reports, recoveries for blank spikes, matrix spikes, and surrogates for all analyses were within acceptable ranges.

3. Representativeness
Representativeness was assessed by evaluating the sample collection, preservation, handling, and analysis procedures. Samples were collected, preserved, handled, and analyzed in accordance with the Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), which was designed to obtain representative samples (GeoEngineers and PIONEER 2008). In addition, samples were extracted and analyzed within appropriate holding times listed in the QAPP.

4. Comparability
Comparability was assessed by comparing current sample collection and analysis procedures with historical procedures. The samples were collected and analyzed with standard procedures and are comparable with other site data as qualified.

5. Sensitivity
Sensitivity was assessed by comparing actual practical quantitation limits (PQLs) with project-specific PQL expectations (Ecology 2009b). The actual PQLs were equal to or less than the expected PQLs, with the following exceptions. The actual PQLs for analyzed metals were twice the revised PQL expectations of 0.5 ug/L (Ecology 2009b) due to a different laboratory being used, but are still acceptable for project use in comparison with surface water screening levels.

6. Completeness
Completeness was assessed by calculating the percentage of useable results to all results. A total of 80 primary sample analyses were performed. All of the analyte results were useable as qualified. Thus, the completeness of the analytical data is 100 percent.

7. Conclusions
This data is deemed acceptable for use as presented by the laboratory, subject to the qualifications noted in this document. No corrective action or additional data qualification is necessary.

APPENDIX Q

POLYCYCLIC AROMATIC HYDROCARBON AND NWTPH-DX CHROMATOGRAMS FROM JUNE 2009 AND DECEMBER 2009 GROUNDWATER MONITORING EVENTS

ADD ON

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

GWM →

Samples Collected By: ____________
Contact Number: ____________

Client: PTC
Address: 2612 YELM HWY, SUITE B, OLYMPIA, WA 98501
Phone: 570-1700
Fax: ____________
Email: busseyt@uspioneer.com
Project Name: EAST BAY RE - JUNE GW
Project Location: PORT OF OLYMPIA
Project Number: ____________
Project P.O.: ____________
Contact Person: TROY BUSSEY
DAL Project No.: 090630-08 B

* SEE PREVIOUS RL FOR RL EXPECTATIONS (e.g., slightly lower RLs for PAHs)

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	TOTAL Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	DISSOLVED METALS (7000 Series)
MW20-070109	GW	07/01/09	0800	9 VOAs, 1L Amber, 1 plastic		X		X					X	X							X					
MW01-070109	↓	↓	1140	↓		↓		↓					↓	↓							↓					
MW23S-070109	↓	↓	1340	↓		↓		↓					↓	↓							↓					
MW21S-070109	↓	↓	1115	9 VOAs, 1L Amber, 2 plastic		↓		↓					↓	(O)							↓					X
MW02-070109	↓	↓	1215	↓		↓		↓					↓	↓							↓					↓
MW16-070109	↓	↓	1430	↓		↓		↓					↓	↓							↓					↓
MW04-070109	↓	↓	1500	9 VOAs, 2L Amber, 2 plastic		↓		↓				X	↓	↓							↓					↓
MW11-070109	↓	↓	1600	9 VOAs, 2L Amber, 2 plastic		↓		↓					↓	↓							↓					↓
MW18-070109	↓	↓	1630	↓		↓		↓					↓	↓							↓					↓
~~TRIP~~ MW03-070109	↓	↓	1245	↓		↓		↓					↓	↓							↓					↓
TRIP BLANK	W	N/A	→	2 VOAs		X							X													

→ TOTAL METALS FOR RCRA 8 + Copper + Nickel

→ PLEASE FILTER AND RUN FOR RCRA 8 + COPPER + NICKEL (DISSOLVED)

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Troy Bussey	070109 1730	Jim McCall	7/1/09 1735

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: ____________

***Heavy Metals**: Please circle the desired analytes.
(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V Zn (Total)
(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V Zn (Dissolved)
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

GWM

Samples Collected By: TB/KR
Contact Number:

Client: PTC
Address: 2612 Yelm Hwy SE, Olympia, WA 98501
Phone: 570-1700
Fax:
Email: busseyt@uspioneer.com
Project Name: East Bay RI - June GW
Project Location: Port of Olympia
Project Number:
Project P.O.:
Contact Person: Troy Bussey
DAL Project No.: 090630-08 A

** PLEASE SEE PREVIOUS EMAIL RE: RL EXPECTATIONS (e.g., SLIGHTLY LOWER RLs FOR PAHs)

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

	Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA ~~8021b~~) 8260	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	RCRA 8 + Copper & Nickel
X	MW07-063009	GW	06/30/09	1115	9 VOAs, 1L Amber, 1 plastic		X		X		X				X							X					
X	MW25S-063009	↓	↓	1130	↓		↓		↓		↓				↓							↓					
X	~~MW08~~ MW08-063009	↓	↓	1230	↓		↓		↓		↓				↓							↓					
X	MW14-063009	↓	↓	1400	↓		↓		↓		↓				↓							↓					
X	MW22S-063009	↓	↓	1430	↓		↓		↓		↓				↓							↓					
X	MW13-063009	↓	↓	1515	↓		↓		↓		↓				↓							↓					
	~~MW13-063009-FILT~~			~~1520~~	~~1 plastic~~																						Error TB
X	MW05-063009	↓	↓	1630	9 VOAs, 1L Amber, 1 plastic		↓		↓		↓				↓							↓					
	FIELD BLANK	W	6/30/09	0900	3 VOAs		X				X																
	MW13-063009-FILT	GW	06/30/09	1520	1 plastic																	X					
	~~TRIP BLANK~~						X				X																

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Troy Bussey	06-30-09 1745	[signature]	6/30/09 1745
Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: ____

***Heavy Metals**: Please circle the desired analytes.
(Ag) Al (As) (Ba) Be (Cd) (Cr) Cr-VI Co (Cu) Fe (Hg) Li Mg Mn Mo (Ni) (Pb) Sb (Se) Tl V Zn - (Total)
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

wet ice 9C Samples 9-16

DRAGON
Analytical Laboratory

RCRA CHAIN OF CUSTODY RECORD

2818 Madrona Beach Rd. NW, Olympia, WA 98502
Phone: (360) 866-0543 Fax: (360) 866-0556
Email: DragonLab@comcast.net

Samples Collected By: MF
Contact Number:

Client: Pioneer TC
Address: 2612 Yelm Hwy SE, Olympia, WA 98501
Phone: 570-1700
Fax:
Email: busseyt@auspioneer.com
Project Name: East Bay RI- July GWM
Project Location: Port of Olympia
Project Number:
Project P.O.:
Contact Person:
DAL Project No.: 090630-08 C

Matrix Code:
WW = wastewater GW = groundwater S = soil or solid
SL = sludge V = vapor O = other

Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Container Type	MtBE/BTEX (EPA 8021b)	Gasoline (NWTPH-Gx)	Diesel (NWTPH-Dx)	Diesel & Oil (NWTPH-Dx)	Fuel Scan (NWTPH-HCID)	VOC's (EPA 8021b)	Organochlorine Pesticides (EPA 8081)	PCB's (EPA 8082)	Volatiles (EPA 8260)	PAH's (EPA 8100 or 8270/8270SIM)	Semi-Volatiles (EPA 8270)	Ignitability (EPA 1010)	Oil and Grease (EPA 1664 HEM)	pH (EPA 9040/9045)	Specific Conductance (EPA 9050)	Paint Filter Test (EPA 9095)	~~Total~~ Heavy Metals* (EPA 7000 Series)	Biogenic Gases (EPA 3C)	Natural Attenuation Indicators	Gross Alpha Radioactivity (EPA 900)	Gross Beta Radioactivity (EPA 900)	Dissolved metals (7000)	Please filter in lab
X MW15-070209	GW	07/02/09	0745	9 VOA 1 amber 1 plastic		X		X					X	X							X					X	
X MW24S-070209	GW	07/02/09	0845	9 VOA 8 amber 2 plast.		X		X				X	X	X							X					X	
trip blank	GW			2 VOAs		X		~~X~~					X														

Relinquished by (Signature): Melody Fann — Date/Time: 07/02/09 1400 — Received by (Signature): Mistel Smith — Date/Time: 7-2-09 1417
Relinquished by (Signature): — Date/Time: — Received by (Signature): — Date/Time:

Sample Disposal Instructions: ☐ DAL Disposal @ $2.50 per Container ☐ Return ☐ Pickup

Turn-Around-Time
☐ Same Day
☐ 24 Hour
☐ 48 Hour
☐ 5 Day
☒ 10 Day
☐ Other: _____

***Heavy Metals**: Please circle the desired analytes.

Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn — Total
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn — Dissolved
Ag Al As Ba Be Cd Cr Cr-VI Co Cu Fe Hg Li Mg Mn Mo Ni Pb Sb Se Tl V Zn - TCLP

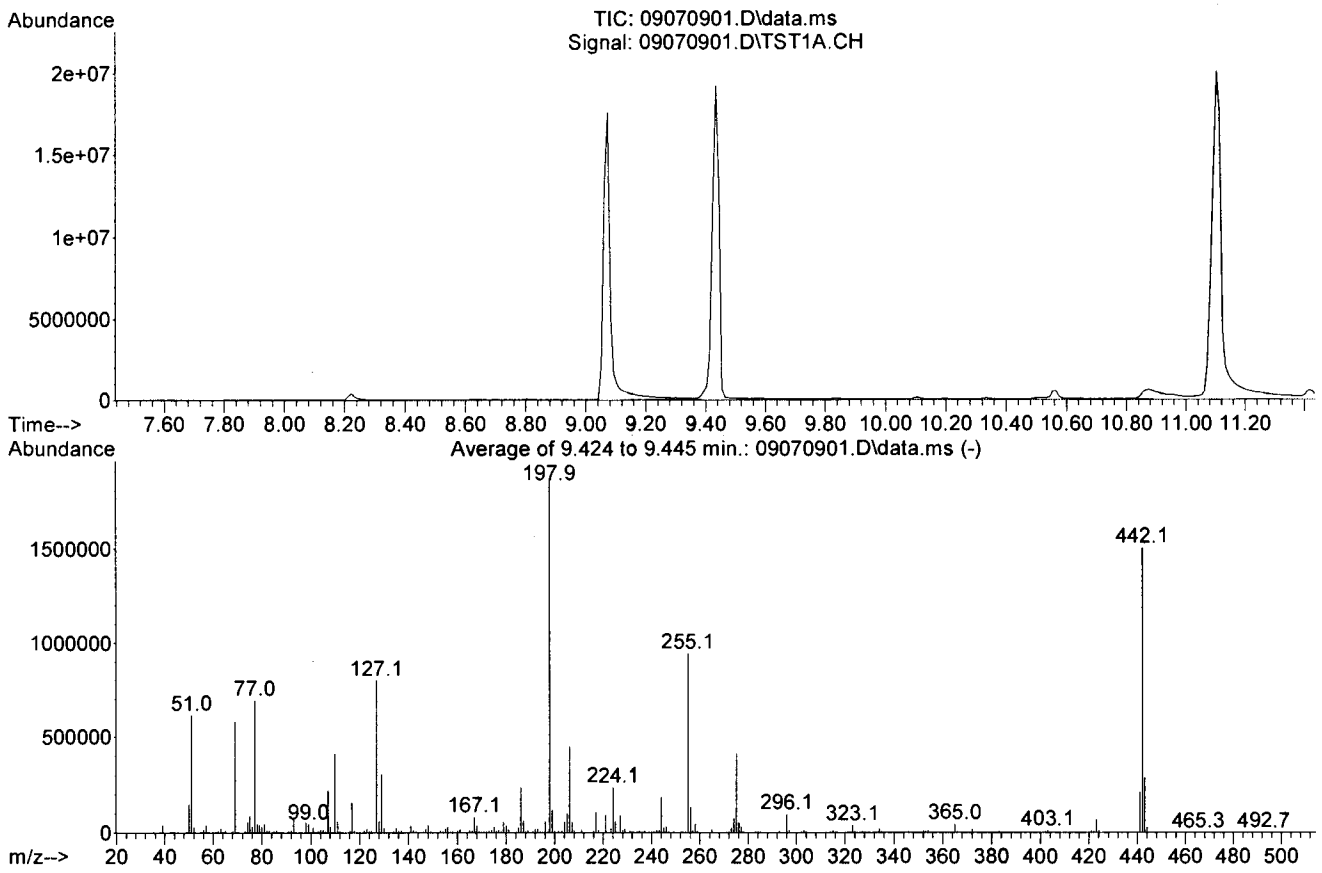
DFTPP

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070901.D
Acq On : 9 Jul 2009 5:44 pm (#1); 09-Jul-09, 17:41:09 (#2)
Operator : ~~TM~~
Sample : 50ng DFTPP
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: RTEINT.P
Integration File signal 2: rteint2.p

TAILING PCP = 1.04
Benzidine = 1.01

Method : C:\msdchem\1\METHODS\8270.M
Title : EPA Method 8270C Calibration
Last Update : Mon Jul 13 12:19:32 2009



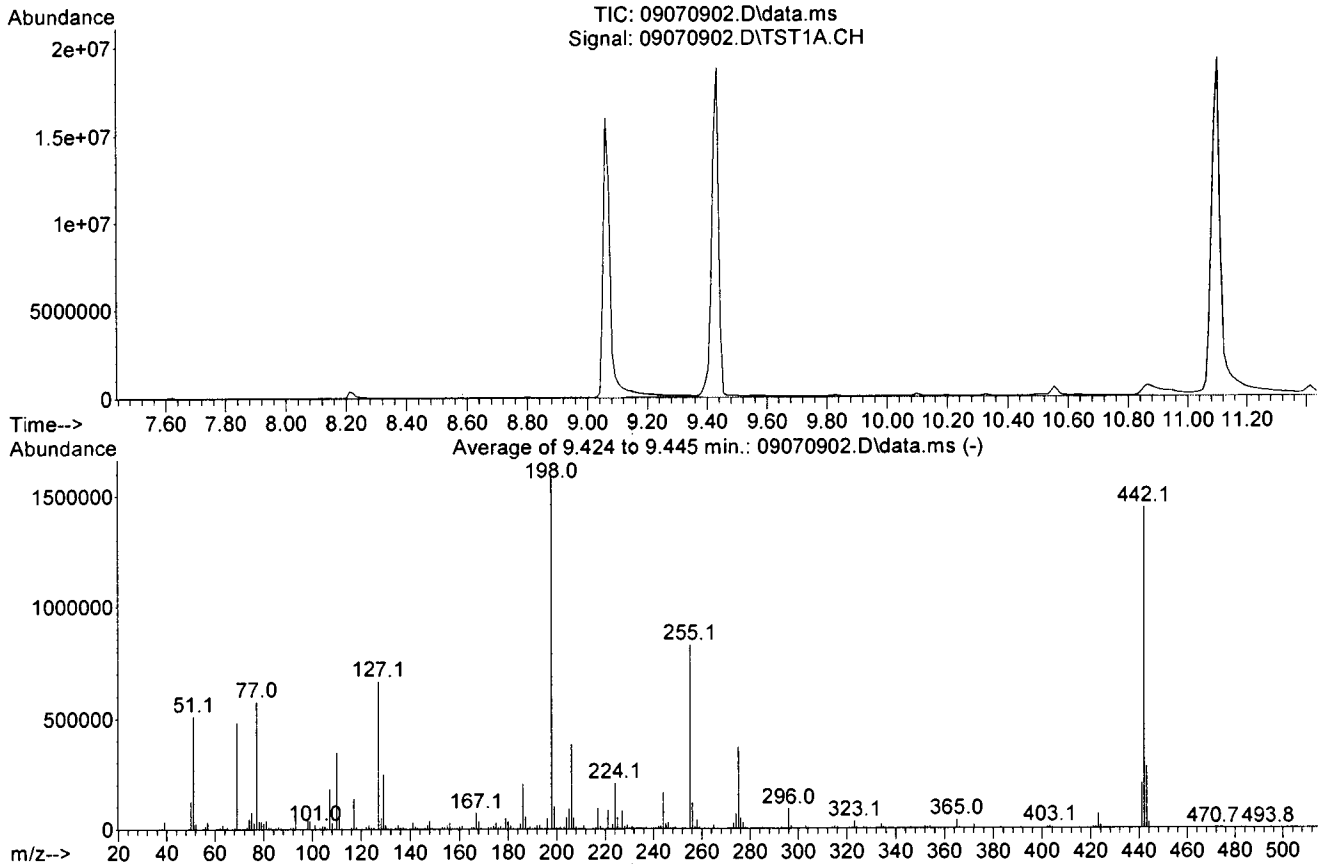
AutoFind: Scans 590, 591, 592; Background Corrected with Scan 581

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	33.1	617045	PASS
68	69	0.00	2	1.7	9887	PASS
69	198	0.00	100	31.3	583377	PASS
70	69	0.00	2	0.5	2789	PASS
127	198	40	60	43.0	801394	PASS
197	198	0.00	1	0.3	4762	PASS
198	198	100	100	100.0	1863948	PASS
199	198	5	9	6.4	119206	PASS
275	198	10	30	22.1	412224	PASS
365	198	1	100	2.4	44253	PASS
441	443	0.01	100	73.8	211600	PASS
442	198	40	100	80.6	1502507	PASS
443	442	17	23	19.1	286664	PASS

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070902.D
Acq On : 9 Jul 2009 6:25 pm (#1); 09-Jul-09, 18:21:54 (#2)
Operator : TM
Sample : 50 ng DFTPP
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: RTEINT.P
Integration File signal 2: rteint2.p

Method : C:\msdchem\1\METHODS\8270.M
Title : EPA Method 8270C Calibration
Last Update : Mon Jul 13 12:19:32 2009



AutoFind: Scans 590, 591, 592; Background Corrected with Scan 582

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	32.3	512980	PASS
68	69	0.00	2	1.6	7853	PASS
69	198	0.00	100	30.5	483630	PASS
70	69	0.00	2	0.5	2381	PASS
127	198	40	60	42.1	667876	PASS
197	198	0.00	1	0.1	995	PASS
198	198	100	100	100.0	1587945	PASS
199	198	5	9	6.3	100643	PASS
275	198	10	30	23.2	368576	PASS
365	198	1	100	2.4	38728	PASS
441	443	0.01	100	73.1	203520	PASS
442	198	40	100	90.8	1441707	PASS
443	442	17	23	19.3	278527	PASS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070903.D
Acq On : 9 Jul 2009 7:07 pm (#1); 09-Jul-09, 19:04:12 (#2)
Operator : TM
Sample : 10 ppm SVOC
Misc : DAL #503 (Sig #1); (Sig #2)
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:33:22 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.776	152	2188452	10.00	ppm		0.00
20) Naphthalene-d8	6.688	136	9047378	10.00	ppm		0.00
37) Acenaphthene-d10	7.963	164	5019276	10.00	ppm		0.00
61) Phenanthrene-d10	9.279	188	7661455	10.00	ppm		0.00
73) Chrysene-d12	14.004	240	6235687	10.00	ppm		-0.01
82) Perylene-d12	18.005	264	3548917	10.00	ppm		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol (SS)	4.843	112	4090790	10.92	ppm		0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 109.20%				
6) Phenol-d6 (SS)	5.476	99	4170916m	10.05	ppm		0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 100.50%				
21) Nitrobenzene-d5 (SS)	6.170	82	3944588	9.90	ppm		0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 99.00%				
41) 2-Fluorobiphenyl (SS)	7.445	172	6823614	9.98	ppm		0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 99.80%				
64) 2,4,6-tribromophenol (SS)	8.595	328	280363	9.49	ppm		0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 94.90%				
75) Terphenyl-d14 (SS)	11.538	244	6143023	8.84	ppm		0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 88.40%				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	3.838	74	1964826	9.95	ppm		97
3) Pyridine	3.869	79	3538750	10.33	ppm		95
5) bis(2-Chloroethyl)ether	6.450	93	3893543	10.10	ppm		98
7) Phenol	5.486	94	3731184	9.43	ppm		99
8) Aniline	5.538	93	7875792	10.11	ppm		99
9) 2-Chlorophenol	5.631	128	3255180	9.87	ppm		99
10) 1,3-Dichlorobenzene	5.735	146	3137201	9.42	ppm		98
11) 1,4-Dichlorobenzene	5.787	146	3255620	9.72	ppm		99
12) 1,2-Dichlorobenzene	5.901	146	2910285	9.28	ppm		99
13) Benzyl alcohol	5.849	108	1906917	9.97	ppm		99
14) bis(2-chloroisopropyl)...	5.921	45	5264236	9.22	ppm		96
15) 2-Methylphenol	5.911	107	2307230	9.43	ppm		99
16) Hexachloroethane	6.149	117	1254138	10.06	ppm		98
17) N-Nitroso-di-n-propyla...	6.025	70	2159693	9.82	ppm		98
18) 3&4-Methylphenol	6.015	108	3041185	10.59	ppm		98
19) a-Terpinol	7.704	59	46402	0.19	ppm	#	32
22) Nitrobenzene	6.180	77	3243163	9.64	ppm		98
23) Isophorone	6.336	82	5695381	9.87	ppm		99
24) 2-Nitrophenol	6.408	139	1689801	12.49	ppm		97
25) 2,4-Dimethylphenol	6.398	122	2823881	10.17	ppm		98
26) bis(2-Chloroethoxy)met...	6.450	93	3901373	9.95	ppm		99
27) Benzoic Acid	7.559	122	29775	0.27	ppm	#	1
28) 2,4-Dichlorophenol	6.574	162	2544444	10.69	ppm		98
29) 1,2,4-Trichlorobenzene	6.636	180	2535416	9.82	ppm		99
30) Naphthalene	6.709	128	10075686m	9.32	ppm		
31) 4-Chloroaniline	6.719	127	4770584	10.00	ppm		99
32) Hexachlorobutadiene	6.771	225	1358338	9.97	ppm		99
33) Diphenylamine	8.439	169	5159059	10.18	ppm		99
34) 4-Chloro-3-methylphenol	7.040	107	2722499	11.14	ppm		98
35) 2-Methylnaphthalene	7.196	142	5493049	9.34	ppm		99
36) 1-methylnaphthalene	7.279	142	5666055	8.92	ppm		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070903.D
Acq On : 9 Jul 2009 7:07 pm (#1); 09-Jul-09, 19:04:12 (#2)
Operator : TM
Sample : 10 ppm SVOC
Misc : DAL #503 (Sig #1); (Sig #2)
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:33:22 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

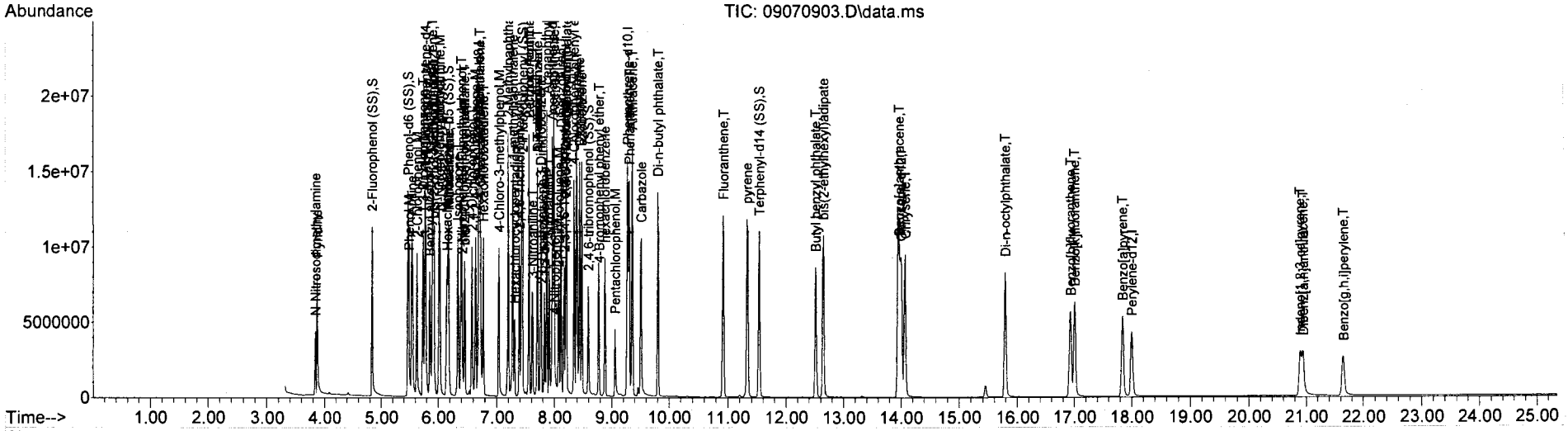
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	7.310	237	1112623	10.55	ppm	99
39) 2,4,6-Trichlorophenol	7.393	196	1532086m	10.09	ppm	
40) 2,4,5-Trichlorophenol	8.201	196	188236	9.61	ppm	93
42) 2-Chloronaphthalene	7.559	162	5392192	8.59	ppm	98
43) 2-Nitroaniline	7.911	65	1912220	11.38	ppm	99
44) 1,3-Dinitrobenzene	7.766	168	993084	11.23	ppm	99
45) 1,2-dinitrobenzene	7.828	168	736131	11.07	ppm	95
46) Acenaphthylene	7.870	152	8704754m	8.52	ppm	
47) 1,4-dinitrobenzene	7.704	168	803085	12.16	ppm	90
48) Dimethyl phthalate	7.704	163	6029549	8.57	ppm	99
49) 2,6-Dinitrotoluene	7.776	165	1402451m	11.34	ppm	
50) Acenaphthene	7.994	154	5716260m	8.77	ppm	
51) 3-Nitroaniline	7.621	138	2048544	10.81	ppm	100
52) Dibenzofuran	8.118	168	7946745	8.76	ppm	94
53) 2,4-Dinitrotoluene	8.077	165	2039974	10.94	ppm	97
54) 4-Nitrophenol	8.004	139	804993	8.93	ppm	98
55) 2,3,4,6-Tetrachlorophenol	8.170	232	1390050	11.52	ppm	99
56) 2,3,5,6-Tetrachlorophenol	8.201	232	1121112	9.44	ppm	98
57) Fluorene	8.388	166	6193239m	8.50	ppm	
58) 4-Chlorophenyl phenyl ...	8.346	204	2803871	8.93	ppm	99
59) Diethyl phthalate	8.211	149	5820852	8.56	ppm	99
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	8.481	77	7270360	9.86	ppm	97
65) 4-Bromophenyl phenyl e...	8.781	248	1449041	8.24	ppm	98
66) hexachlorobenzene	8.885	284	1396356m	7.28	ppm	
67) Pentachlorophenol	9.061	266	729575	9.15	ppm	97
68) Phenanthrene	9.310	178	8798928	8.42	ppm	100
69) Anthracene	9.362	178	8896411	8.63	ppm	100
70) Carbazole	9.517	167	8048217	9.78	ppm	99
71) Di-n-butyl phthalate	9.807	149	10744176	9.51	ppm	100
72) Fluoranthene	10.927	202	9015014	9.07	ppm	99
74) pyrene	11.331	202	9782826	9.82	ppm	99
76) Butyl benzyl phthalate	12.512	149	4176558	10.88	ppm	97
77) bis(2-ethylhexyl)adipate	12.647	129	3866627	10.65	ppm	99
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	13.973	228	6899650	9.19	ppm	99
80) Chrysene	14.077	228	7472472	9.54	ppm	100
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	15.797	149	9592407	12.90	ppm	100
84) Benzo[b]fluoranthene	16.937	252	5699743m	11.31	ppm	
85) Benzo[k]fluoranthene	17.010	252	5959346	11.17	ppm	98
86) Benzo[a]pyrene	17.849	252	4980084m	11.33	ppm	
87) Indeno[1,2,3-cd]pyrene	20.896	276	3130016	10.32	ppm	94
88) Dibenz[a,h]anthracene	20.948	278	3143559	9.00	ppm	97
89) Benzo[g,h,i]perylene	21.652	276	3219087	10.54	ppm	96

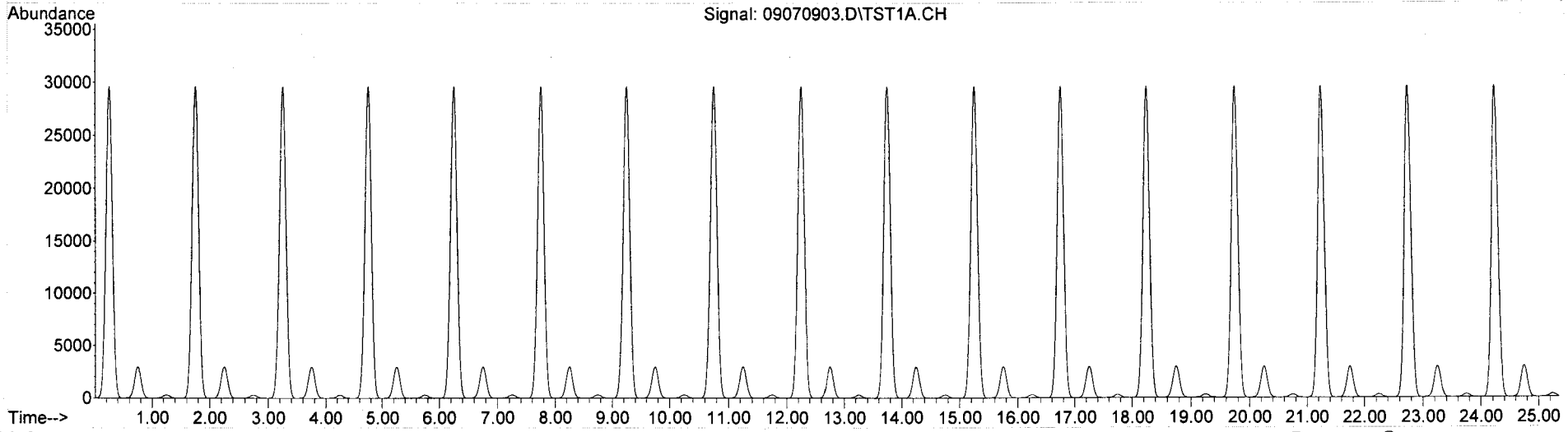
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070903.D
Acq On : 9 Jul 2009 7:07 pm (#1); 09-Jul-09, 19:04:12 (#2)
Operator : TM
Sample : 10 ppm SVOC
Misc : DAL #503 (Sig #1); (Sig #2)
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:33:22 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070904.D
Acq On : 9 Jul 2009 7:50 pm (#1); 09-Jul1-09, 19:46:59 (#2)
Operator : TM
Sample : MB
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:36:20 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2179927	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	8655851	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4643932	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7047263	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6079727	10.00	ppm	-0.02
82) Perylene-d12	18.004	264	3129511	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3173967	8.51	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 85.10%			
6) Phenol-d6 (SS)	5.465	99	3973884	9.61	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 96.10%			
21) Nitrobenzene-d5 (SS)	6.170	82	3873073	10.16	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 101.60%			
41) 2-Fluorobiphenyl (SS)	7.445	172	7232626	11.43	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 114.30%			
64) 2,4,6-tribromophenol (SS)	8.595	328	195537m	7.19	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 71.90%			
75) Terphenyl-d14 (SS)	11.538	244	6449688	9.52	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 95.20%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	0.000		0	N.D. d		
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070904.D
Acq On : 9 Jul 2009 7:50 pm (#1); 09-Jul-09, 19:46:59 (#2)
Operator : TM
Sample : MB
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:36:20 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

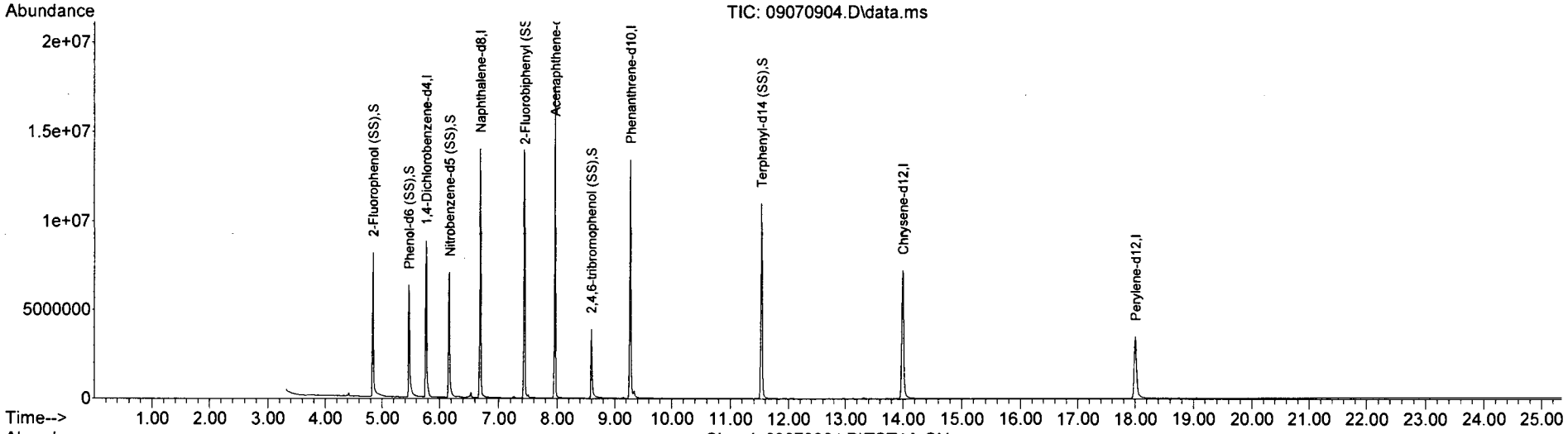
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.		
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	d	
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	0.000		0	N.D.	d	
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

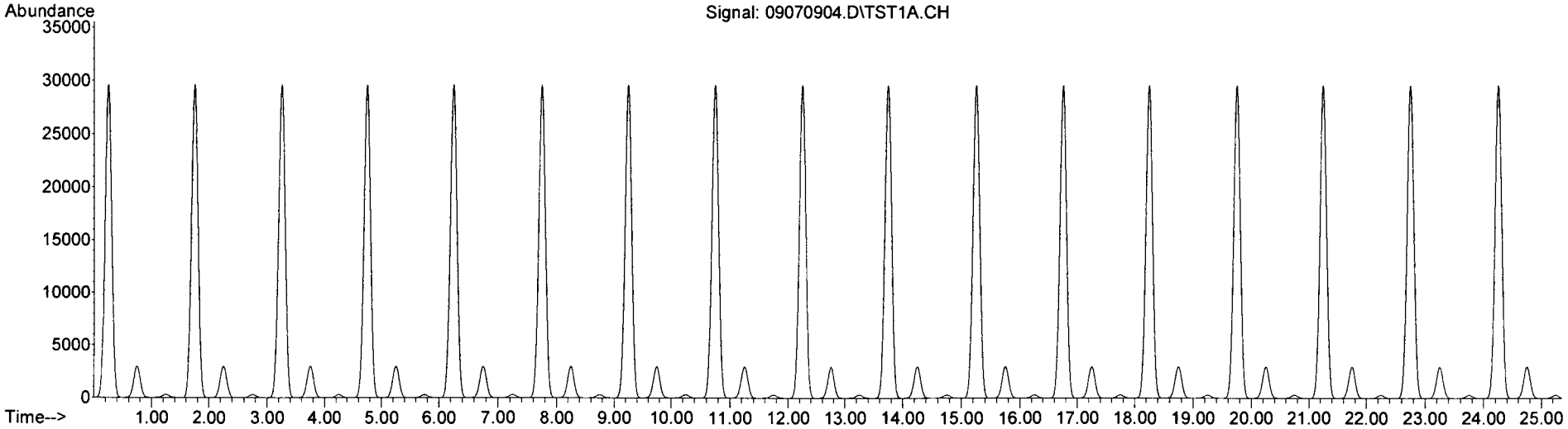
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070904.D
Acq On : 9 Jul 2009 7:50 pm (#1); 09-Jul-09, 19:46:59 (#2)
Operator : TM
Sample : MB
Misc :
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:36:20 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070906.D
Acq On : 9 Jul 2009 9:16 pm (#1); 09-Jul-09, 21:12:58 (#2)
Operator : TM
Sample : 30-08 MW01 CF100
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:41:02 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2244644	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	9018916	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4771199	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7307025	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6310892	10.00	ppm	-0.02
82) Perylene-d12	18.004	264	3485340	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3653061	9.51	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 95.10%			
6) Phenol-d6 (SS)	5.465	99	4595527	10.80	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 108.00%			
21) Nitrobenzene-d5 (SS)	6.160	82	3909269	9.84	ppm	-0.01
Spiked Amount 10.000	Range 34 - 114		Recovery = 98.40%			
41) 2-Fluorobiphenyl (SS)	7.434	172	7212345	11.09	ppm	-0.01
Spiked Amount 10.000	Range 43 - 116		Recovery = 110.90%			
64) 2,4,6-tribromophenol (SS)	8.595	328	232277	8.24	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 82.40%			
75) Terphenyl-d14 (SS)	11.538	244	6483695	9.22	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 92.20%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.	d	
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070906.D
Acq On : 9 Jul 2009 9:16 pm (#1); 09-Jul-09, 21:12:58 (#2)
Operator : TM
Sample : 30-08 MW01 CF100
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:41:02 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

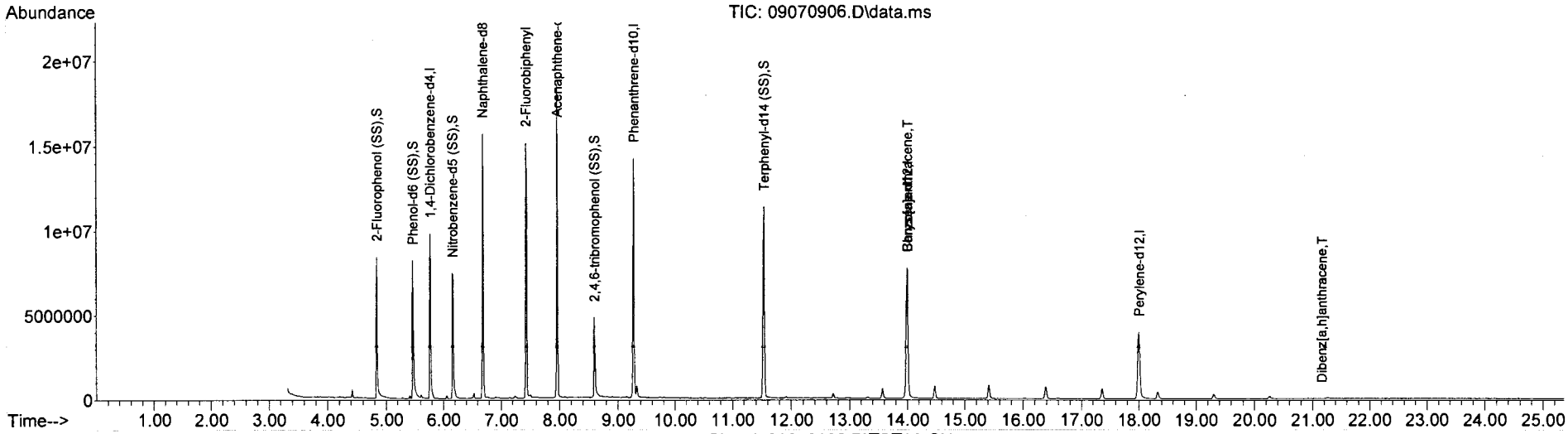
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D. d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D. d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D. d	
42) 2-Chloronaphthalene	0.000		0	N.D. d	
43) 2-Nitroaniline	0.000		0	N.D. d	
44) 1,3-Dinitrobenzene	0.000		0	N.D. d	
45) 1,2-dinitrobenzene	0.000		0	N.D. d	
46) Acenaphthylene	0.000		0	N.D. d	
47) 1,4-dinitrobenzene	0.000		0	N.D. d	
48) Dimethyl phthalate	0.000		0	N.D. d	
49) 2,6-Dinitrotoluene	0.000		0	N.D. d	
50) Acenaphthene	0.000		0	N.D. d	
51) 3-Nitroaniline	0.000		0	N.D. d	
52) Dibenzofuran	0.000		0	N.D. d	
53) 2,4-Dinitrotoluene	0.000		0	N.D. d	
54) 4-Nitrophenol	0.000		0	N.D. d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D. d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D. d	
57) Fluorene	0.000		0	N.D. d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D. d	
59) Diethyl phthalate	0.000		0	N.D. d	
60) 4-Nitroaniline	0.000		0	N.D. d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D. d	
63) azobenzene	0.000		0	N.D. d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
66) hexachlorobenzene	0.000		0	N.D. d	
67) Pentachlorophenol	0.000		0	N.D. d	
68) Phenanthrene	0.000		0	N.D. d	
69) Anthracene	0.000		0	N.D. d	
70) Carbazole	0.000		0	N.D. d	
71) Di-n-butyl phthalate	0.000		0	N.D. d	
72) Fluoranthene	0.000		0	N.D. d	
74) pyrene	0.000		0	N.D. d	
76) Butyl benzyl phthalate	0.000		0	N.D. d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D. d	
78) 4,4'-DDT	0.000		0	N.D. d	
79) Benzo[a]anthracene	13.994	228	16448m	0.02 ppm	
80) Chrysene	0.000		0	N.D. d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D. d	
83) Di-n-octylphthalate	0.000		0	N.D. d	
84) Benzo[b]fluoranthene	0.000		0	N.D. d	
85) Benzo[k]fluoranthene	0.000		0	N.D. d	
86) Benzo[a]pyrene	0.000		0	N.D. d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D. d	
88) Dibenz[a,h]anthracene	21.155	278	356	0.18 ppm	81
89) Benzo[g,h,i]perylene	0.000		0	N.D. d	

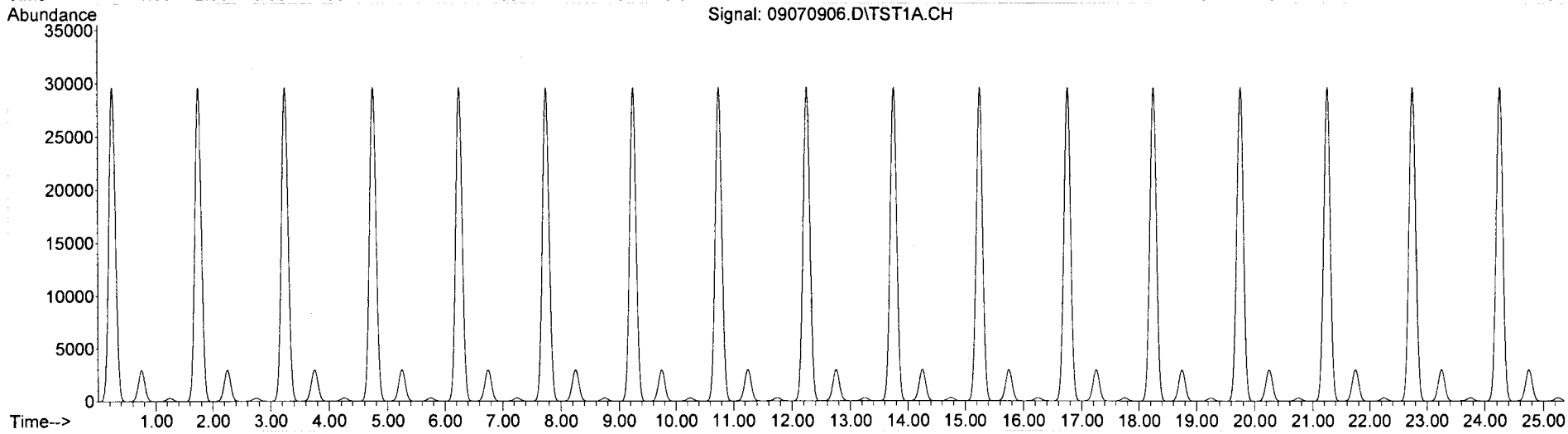
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070906.D
Acq On : 9 Jul 2009 9:16 pm (#1); 09-Jul-09, 21:12:58 (#2)
Operator : TM
Sample : 30-08 MW01 CF100
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:41:02 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070907.D
Acq On : 9 Jul 2009 9:59 pm (#1); 09-Jul-09, 21:55:59 (#2)
Operator : TM
Sample : 30-08 MW01 CF100 Dup
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:47:59 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2236789	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8819118	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4661975	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7054636	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6180708	10.00	ppm	-0.02
82) Perylene-d12	18.005	264	3331369	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3564109	9.31	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 93.10%			
6) Phenol-d6 (SS)	5.465	99	4540943	10.71	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 107.10%			
21) Nitrobenzene-d5 (SS)	6.170	82	3835230	9.87	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 98.70%			
41) 2-Fluorobiphenyl (SS)	7.445	172	7088703	11.16	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 111.60%			
64) 2,4,6-tribromophenol (SS)	8.595	328	235867	8.67	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 86.70%			
75) Terphenyl-d14 (SS)	11.538	244	6334049	9.20	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 92.00%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070907.D
Acq On : 9 Jul 2009 9:59 pm (#1); 09-Jul-09, 21:55:59 (#2)
Operator : TM
Sample : 30-08 MW01 CF100 Dup
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:47:59 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

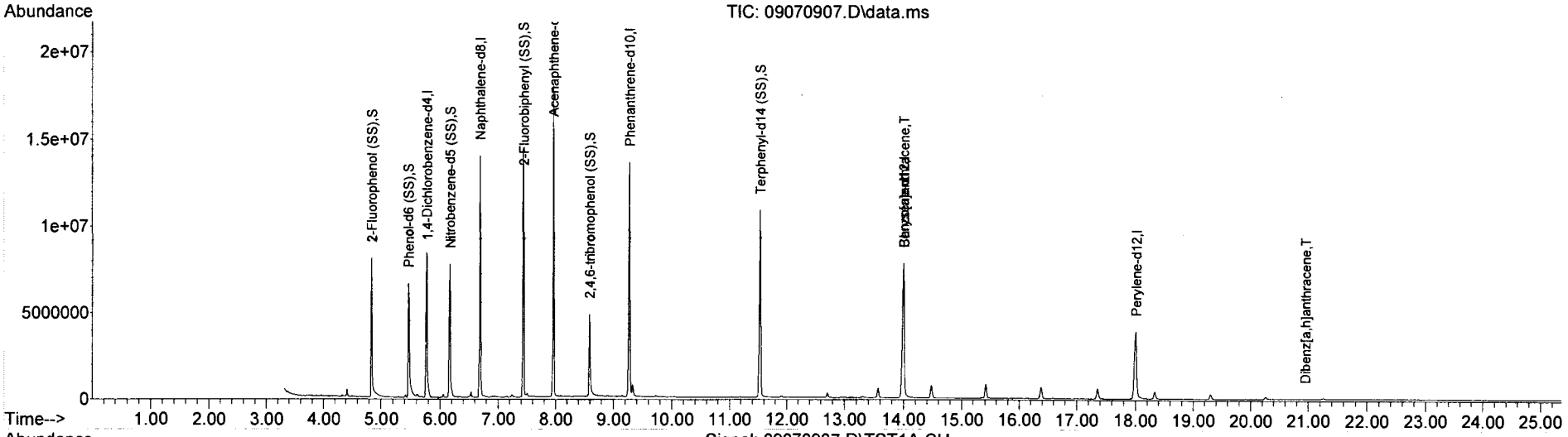
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	13.994	228	17162m	0.02	ppm	
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	20.948	278	261	0.18	ppm	# 75
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

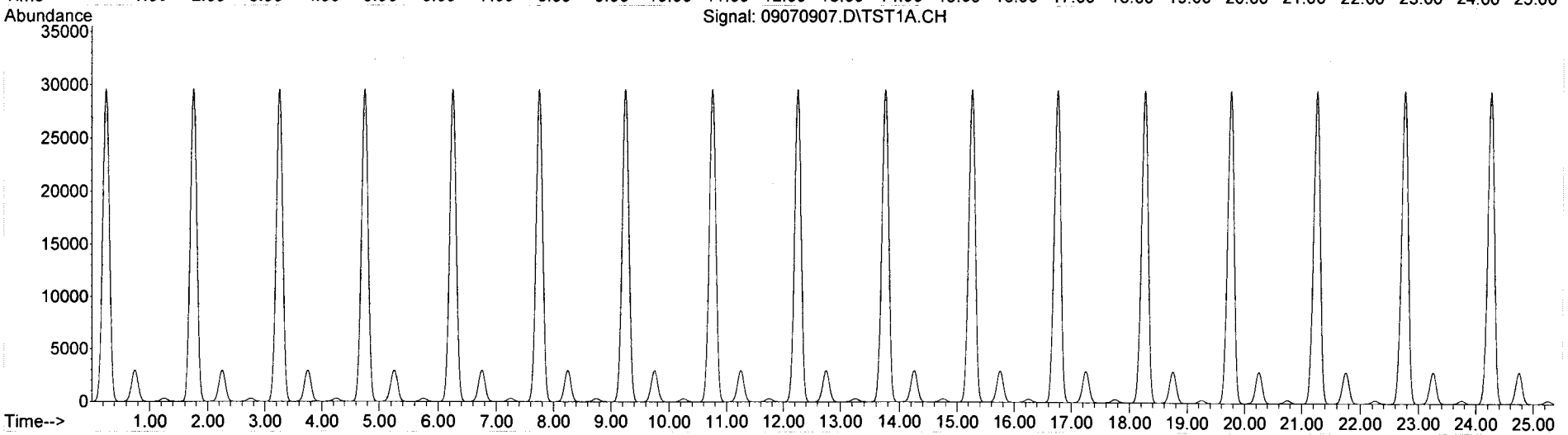
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070907.D
Acq On : 9 Jul 2009 9:59 pm (#1); 09-Jul-09, 21:55:59 (#2)
Operator : TM
Sample : 30-08 MW01 CF100 Dup
Misc :
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:47:59 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070908.D
Acq On : 9 Jul 2009 10:42 pm (#1); 09-Jul-09, 22:38:58 (#2)
Operator : TM
Sample : 30-08 MW02 CF100
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:51:19 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2315300	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	9242512	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4892641	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7395369	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6469080	10.00	ppm	-0.02
82) Perylene-d12	18.005	264	3474093	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3329636	8.40	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 84.00%			
6) Phenol-d6 (SS)	5.465	99	4165532	9.49	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 94.90%			
21) Nitrobenzene-d5 (SS)	6.170	82	4017554	9.87	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 98.70%			
41) 2-Fluorobiphenyl (SS)	7.445	172	7457845	11.19	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 111.90%			
64) 2,4,6-tribromophenol (SS)	8.595	328	206591	7.24	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 72.40%			
75) Terphenyl-d14 (SS)	11.538	244	6680306	9.27	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 92.70%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070908.D
Acq On : 9 Jul 2009 10:42 pm (#1); 09-Jul-09, 22:38:58 (#2)
Operator : TM
Sample : 30-08 MW02 CF100
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:51:19 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

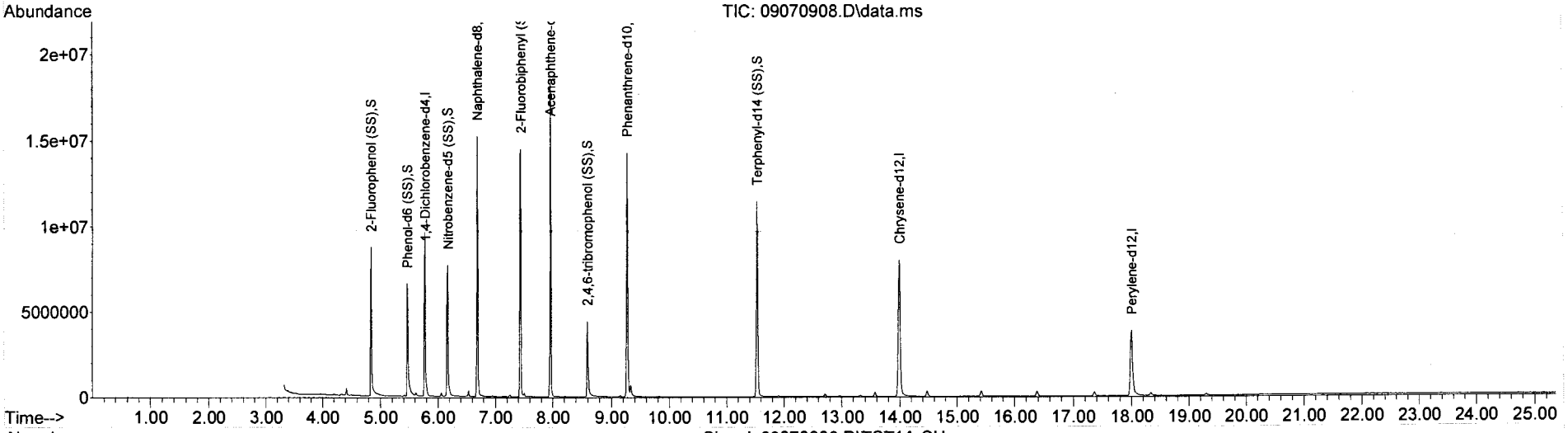
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	0.000		0	N.D.		
80) Chrysene	0.000		0	N.D.		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

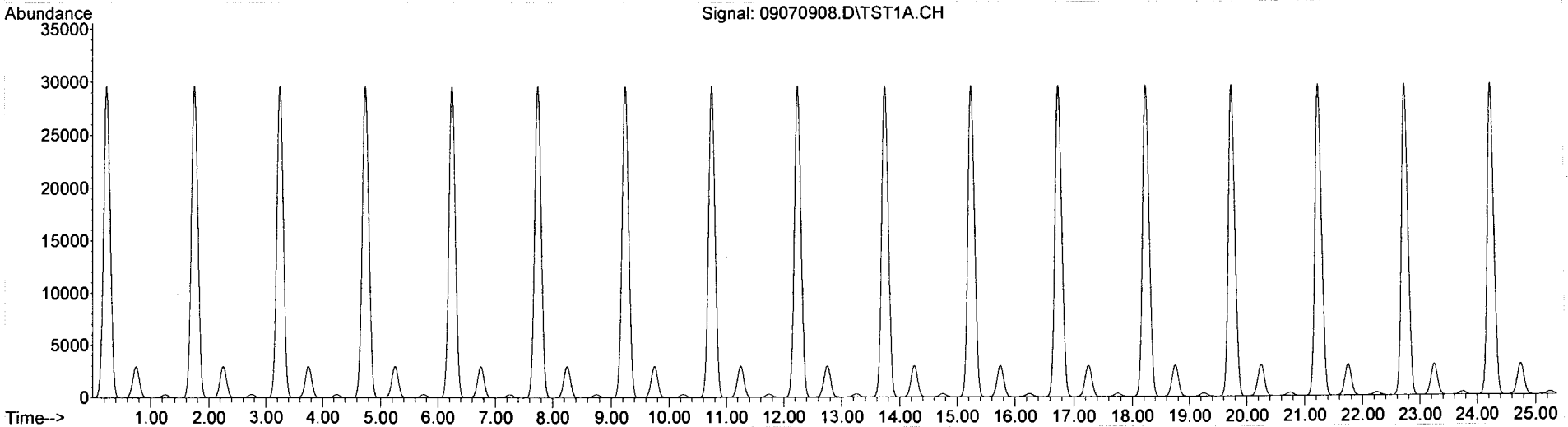
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070908.D
Acq On : 9 Jul 2009 10:42 pm (#1); 09-Jul-09, 22:38:58 (#2)
Operator : TM
Sample : 30-08 MW02 CF100
Misc :
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:51:19 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070909.D
Acq On : 9 Jul 2009 11:25 pm (#1); 09-Jul-09, 23:21:51 (#2)
Operator : TM
Sample : 30-08 MW03 CF100
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:54:14 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2285534	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	9119602	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4817704	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7397821	10.00	ppm	0.00
73) Chrysene-d12	14.004	240	6485568	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	3612909	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3951779	10.10	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 101.00%			
6) Phenol-d6 (SS)	5.465	99	4236065m	9.77	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 97.70%			
21) Nitrobenzene-d5 (SS)	6.170	82	3962103	9.86	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 98.60%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6929509	10.56	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 105.60%			
64) 2,4,6-tribromophenol (SS)	8.595	328	275508	9.65	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 96.50%			
75) Terphenyl-d14 (SS)	11.538	244	6460928	8.94	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 89.40%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D. d		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	6.709	128	8835	0.01	ppm	82
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070909.D
Acq On : 9 Jul 2009 11:25 pm (#1); 09-Jul-09, 23:21:51 (#2)
Operator : TM
Sample : 30-08 MW03 CF100
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:54:14 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

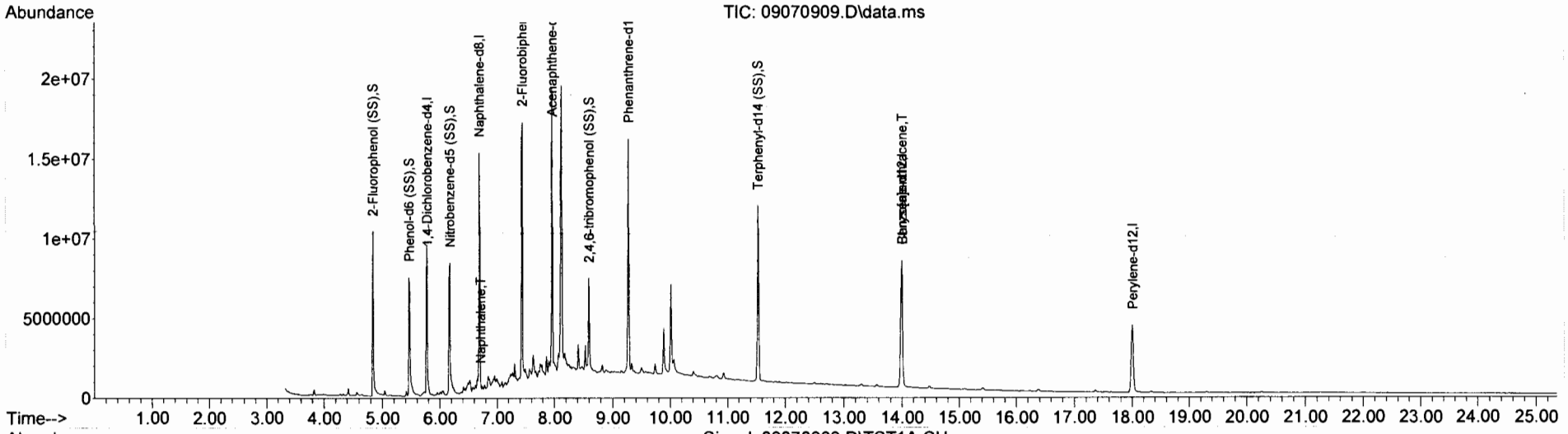
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D. d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D. d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D. d	
42) 2-Chloronaphthalene	0.000		0	N.D. d	
43) 2-Nitroaniline	0.000		0	N.D. d	
44) 1,3-Dinitrobenzene	0.000		0	N.D. d	
45) 1,2-dinitrobenzene	0.000		0	N.D. d	
46) Acenaphthylene	0.000		0	N.D. d	
47) 1,4-dinitrobenzene	0.000		0	N.D. d	
48) Dimethyl phthalate	0.000		0	N.D. d	
49) 2,6-Dinitrotoluene	0.000		0	N.D. d	
50) Acenaphthene	0.000		0	N.D. d	
51) 3-Nitroaniline	0.000		0	N.D. d	
52) Dibenzofuran	0.000		0	N.D. d	
53) 2,4-Dinitrotoluene	0.000		0	N.D. d	
54) 4-Nitrophenol	0.000		0	N.D. d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D. d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D. d	
57) Fluorene	0.000		0	N.D. d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D. d	
59) Diethyl phthalate	0.000		0	N.D. d	
60) 4-Nitroaniline	0.000		0	N.D. d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D. d	
63) azobenzene	0.000		0	N.D. d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
66) hexachlorobenzene	0.000		0	N.D. d	
67) Pentachlorophenol	0.000		0	N.D. d	
68) Phenanthrene	0.000		0	N.D. d	
69) Anthracene	0.000		0	N.D. d	
70) Carbazole	0.000		0	N.D. d	
71) Di-n-butyl phthalate	0.000		0	N.D. d	
72) Fluoranthene	0.000		0	N.D. d	
74) pyrene	0.000		0	N.D. d	
76) Butyl benzyl phthalate	0.000		0	N.D. d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D. d	
78) 4,4'-DDT	0.000		0	N.D. d	
79) Benzo[a]anthracene	14.004	228	19293	0.02 ppm	69
80) Chrysene	0.000		0	N.D. d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D. d	
83) Di-n-octylphthalate	0.000		0	N.D. d	
84) Benzo[b]fluoranthene	0.000		0	N.D. d	
85) Benzo[k]fluoranthene	0.000		0	N.D. d	
86) Benzo[a]pyrene	0.000		0	N.D. d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D. d	
88) Dibenz[a,h]anthracene	0.000		0	N.D. d	
89) Benzo[g,h,i]perylene	0.000		0	N.D. d	

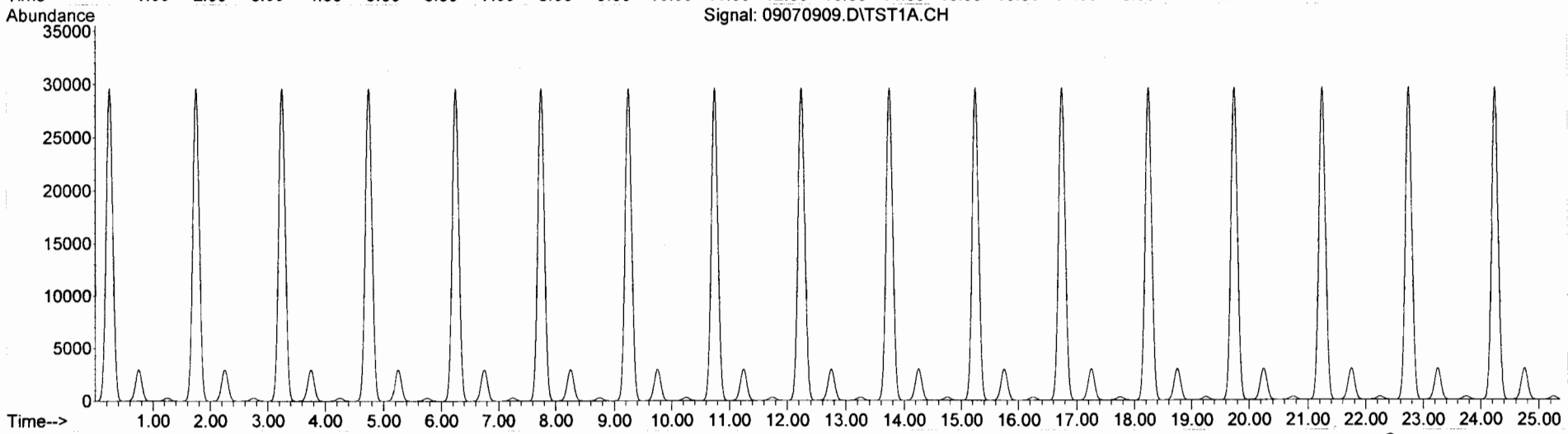
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070909.D
Acq On : 9 Jul 2009 11:25 pm (#1); 09-Jul-09, 23:21:51 (#2)
Operator : TM
Sample : 30-08 MW03 CF100
Misc :
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:54:14 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070910.D
Acq On : 10 Jul 2009 12:07 am (#1); 10-Jul-09, 00:04:34 (#2)
Operator : TM
Sample : 30-08 MW04 CF100
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:56:34 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2279796	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8983741	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4715631	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7159106	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6216219	10.00	ppm	-0.02
82) Perylene-d12	18.004	264	3412071	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3712709	9.52	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 95.20%			
6) Phenol-d6 (SS)	5.476	99	4742382	10.97	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 109.70%			
21) Nitrobenzene-d5 (SS)	6.170	82	4099646	10.36	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 103.60%			
41) 2-Fluorobiphenyl (SS)	7.445	172	7438102	11.58	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 115.80%			
64) 2,4,6-tribromophenol (SS)	8.595	328	250373	9.07	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 90.70%			
75) Terphenyl-d14 (SS)	11.538	244	6748593	9.74	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 97.40%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	0.000		0	N.D. d		
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070910.D
Acq On : 10 Jul 2009 12:07 am (#1); 10-Jul-09, 00:04:34 (#2)
Operator : TM
Sample : 30-08 MW04 CF100
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:56:34 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

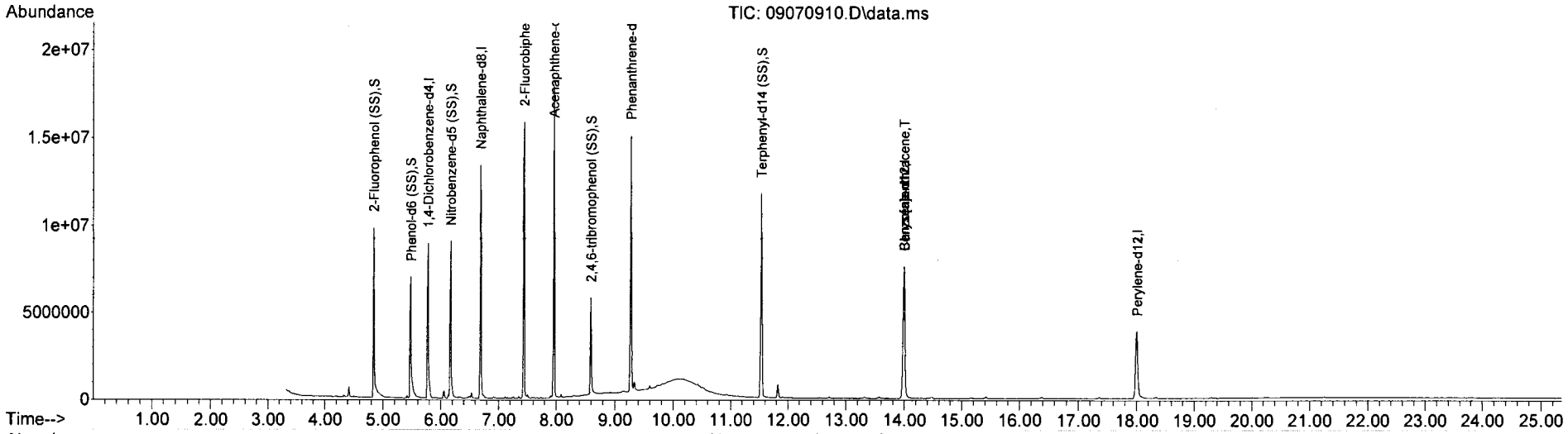
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D. d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D. d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D. d	
42) 2-Chloronaphthalene	0.000		0	N.D. d	
43) 2-Nitroaniline	0.000		0	N.D. d	
44) 1,3-Dinitrobenzene	0.000		0	N.D. d	
45) 1,2-dinitrobenzene	0.000		0	N.D. d	
46) Acenaphthylene	0.000		0	N.D. d	
47) 1,4-dinitrobenzene	0.000		0	N.D. d	
48) Dimethyl phthalate	0.000		0	N.D. d	
49) 2,6-Dinitrotoluene	0.000		0	N.D. d	
50) Acenaphthene	0.000		0	N.D. d	
51) 3-Nitroaniline	0.000		0	N.D. d	
52) Dibenzofuran	0.000		0	N.D. d	
53) 2,4-Dinitrotoluene	0.000		0	N.D. d	
54) 4-Nitrophenol	0.000		0	N.D. d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D. d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D. d	
57) Fluorene	0.000		0	N.D. d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D. d	
59) Diethyl phthalate	0.000		0	N.D. d	
60) 4-Nitroaniline	0.000		0	N.D. d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D. d	
63) azobenzene	0.000		0	N.D. d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
66) hexachlorobenzene	0.000		0	N.D. d	
67) Pentachlorophenol	0.000		0	N.D. d	
68) Phenanthrene	0.000		0	N.D. d	
69) Anthracene	0.000		0	N.D. d	
70) Carbazole	0.000		0	N.D. d	
71) Di-n-butyl phthalate	0.000		0	N.D. d	
72) Fluoranthene	0.000		0	N.D. d	
74) pyrene	0.000		0	N.D. d	
76) Butyl benzyl phthalate	0.000		0	N.D. d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D. d	
78) 4,4'-DDT	0.000		0	N.D. d	
79) Benzo[a]anthracene	13.994	228	18295m	0.02 ppm	
80) Chrysene	0.000		0	N.D. d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D. d	
83) Di-n-octylphthalate	0.000		0	N.D. d	
84) Benzo[b]fluoranthene	0.000		0	N.D. d	
85) Benzo[k]fluoranthene	0.000		0	N.D. d	
86) Benzo[a]pyrene	0.000		0	N.D. d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D. d	
88) Dibenz[a,h]anthracene	0.000		0	N.D. d	
89) Benzo[g,h,i]perylene	0.000		0	N.D. d	

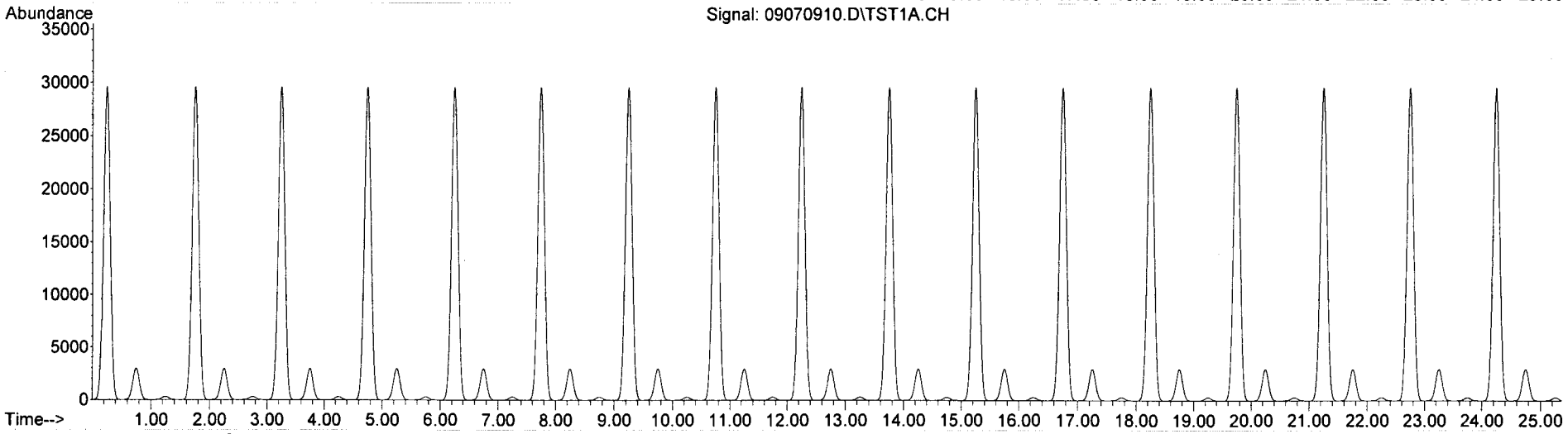
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070910.D
Acq On : 10 Jul 2009 12:07 am (#1); 10-Jul-09, 00:04:34 (#2)
Operator : TM
Sample : 30-08 MW04 CF100
Misc :
ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:56:34 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070911.D
Acq On : 10 Jul 2009 12:50 am (#1); 10-Jul-09, 00:47:08 (#2)
Operator : TM
Sample : 30-08 MW07 CF100
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:59:16 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2562681	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	10281546	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	5449520	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	8313664	10.00	ppm	0.00
73) Chrysene-d12	14.004	240	7523821	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	4289067	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3863997	8.81	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 88.10%			
6) Phenol-d6 (SS)	5.465	99	4996545	10.28	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 102.80%			
21) Nitrobenzene-d5 (SS)	6.170	82	4529836	10.00	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 100.00%			
41) 2-Fluorobiphenyl (SS)	7.445	172	8187750	11.03	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 110.30%			
64) 2,4,6-tribromophenol (SS)	8.595	328	255159	7.96	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 79.60%			
75) Terphenyl-d14 (SS)	11.538	244	7404372	8.83	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 88.30%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070911.D
Acq On : 10 Jul 2009 12:50 am (#1); 10-Jul-09, 00:47:08 (#2)
Operator : TM
Sample : 30-08 MW07 CF100
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:59:16 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

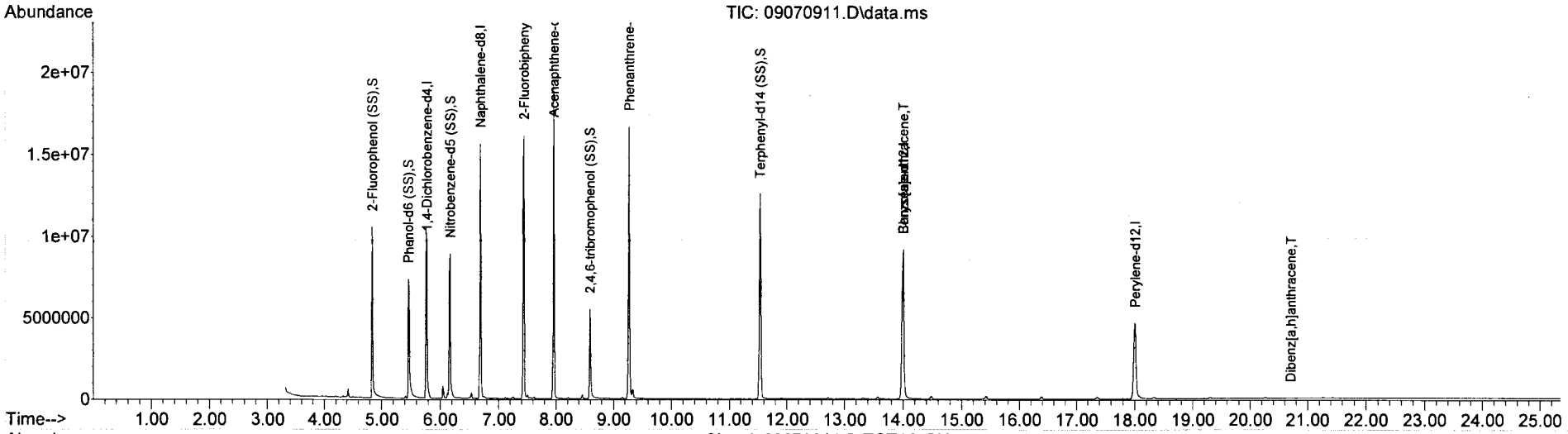
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38)	Hexachlorocyclopentadiene	0.000		0	N.D.	d		
39)	2,4,6-Trichlorophenol	0.000		0	N.D.	d		
40)	2,4,5-Trichlorophenol	0.000		0	N.D.	d		
42)	2-Chloronaphthalene	0.000		0	N.D.	d		
43)	2-Nitroaniline	0.000		0	N.D.	d		
44)	1,3-Dinitrobenzene	0.000		0	N.D.	d		
45)	1,2-dinitrobenzene	0.000		0	N.D.	d		
46)	Acenaphthylene	0.000		0	N.D.	d		
47)	1,4-dinitrobenzene	0.000		0	N.D.	d		
48)	Dimethyl phthalate	0.000		0	N.D.	d		
49)	2,6-Dinitrotoluene	0.000		0	N.D.	d		
50)	Acenaphthene	0.000		0	N.D.	d		
51)	3-Nitroaniline	0.000		0	N.D.			
52)	Dibenzofuran	0.000		0	N.D.	d		
53)	2,4-Dinitrotoluene	0.000		0	N.D.	d		
54)	4-Nitrophenol	0.000		0	N.D.	d		
55)	2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d		
56)	2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d		
57)	Fluorene	0.000		0	N.D.	d		
58)	4-Chlorophenyl phenyl ...	0.000		0	N.D.	d		
59)	Diethyl phthalate	0.000		0	N.D.	d		
60)	4-Nitroaniline	0.000		0	N.D.	d		
62)	4,6-Dinitro-2-methylph...	0.000		0	N.D.	d		
63)	azobenzene	0.000		0	N.D.	d		
65)	4-Bromophenyl phenyl e...	0.000		0	N.D.			
66)	hexachlorobenzene	0.000		0	N.D.	d		
67)	Pentachlorophenol	0.000		0	N.D.	d		
68)	Phenanthrene	0.000		0	N.D.	d		
69)	Anthracene	0.000		0	N.D.	d		
70)	Carbazole	0.000		0	N.D.	d		
71)	Di-n-butyl phthalate	0.000		0	N.D.	d		
72)	Fluoranthene	0.000		0	N.D.	d		
74)	pyrene	0.000		0	N.D.	d		
76)	Butyl benzyl phthalate	0.000		0	N.D.	d		
77)	bis(2-ethylhexyl)adipate	0.000		0	N.D.	d		
78)	4,4'-DDT	0.000		0	N.D.	d		
79)	Benzo[a]anthracene	14.004	228	17089	0.02	ppm	#	52
80)	Chrysene	0.000		0	N.D.			
81)	bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d		
83)	Di-n-octylphthalate	0.000		0	N.D.	d		
84)	Benzo[b]fluoranthene	0.000		0	N.D.	d		
85)	Benzo[k]fluoranthene	0.000		0	N.D.	d		
86)	Benzo[a]pyrene	0.000		0	N.D.	d		
87)	Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d		
88)	Dibenz[a,h]anthracene	20.699	278	325	0.18	ppm		78
89)	Benzo[g,h,i]perylene	0.000		0	N.D.	d		

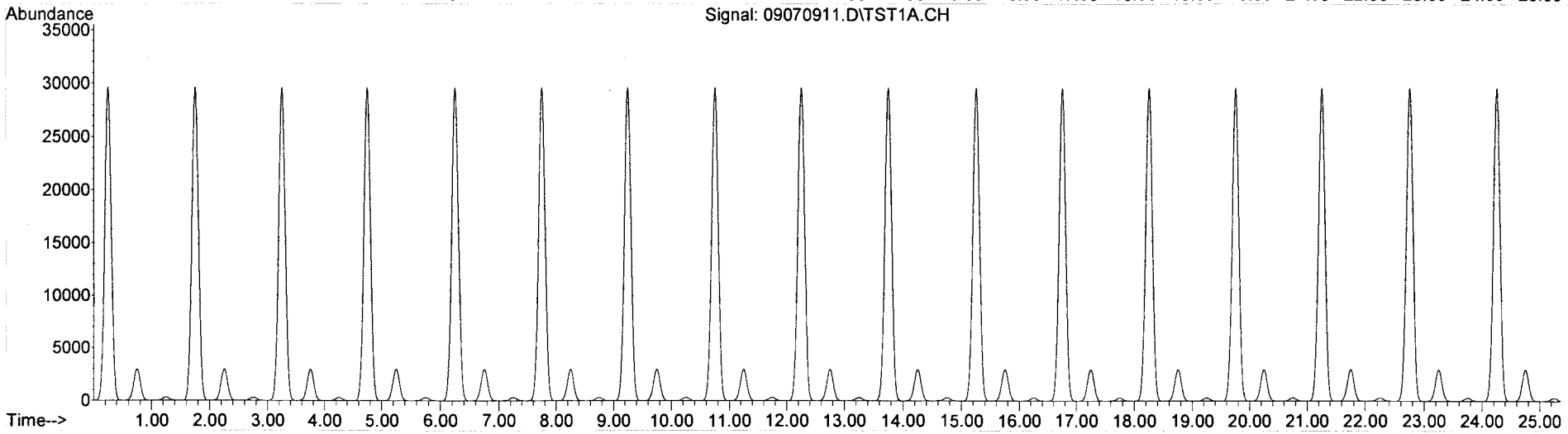
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070911.D
Acq On : 10 Jul 2009 12:50 am (#1); 10-Jul-09, 00:47:08 (#2)
Operator : TM
Sample : 30-08 MW07 CF100
Misc :
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 14:59:16 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070912.D
Acq On : 10 Jul 2009 1:32 am (#1); 10-Jul-09, 01:29:36 (#2)
Operator : TM
Sample : 30-08 MW08 CF100
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:14:48 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2361688	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	9299750	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4864590	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7352324	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6751780	10.00	ppm	-0.02
82) Perylene-d12	18.005	264	3885020	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	2959624	7.32	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 73.20%			
6) Phenol-d6 (SS)	5.476	99	3710636	8.29	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 82.90%			
21) Nitrobenzene-d5 (SS)	6.170	82	3825875	9.34	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 93.40%			
41) 2-Fluorobiphenyl (SS)	7.445	172	7015160	10.58	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 105.80%			
64) 2,4,6-tribromophenol (SS)	8.595	328	200781	7.08	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 70.80%			
75) Terphenyl-d14 (SS)	11.538	244	6398408	8.50	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 85.00%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070912.D
Acq On : 10 Jul 2009 1:32 am (#1); 10-Jul-09, 01:29:36 (#2)
Operator : TM
Sample : 30-08 MW08 CF100
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:14:48 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

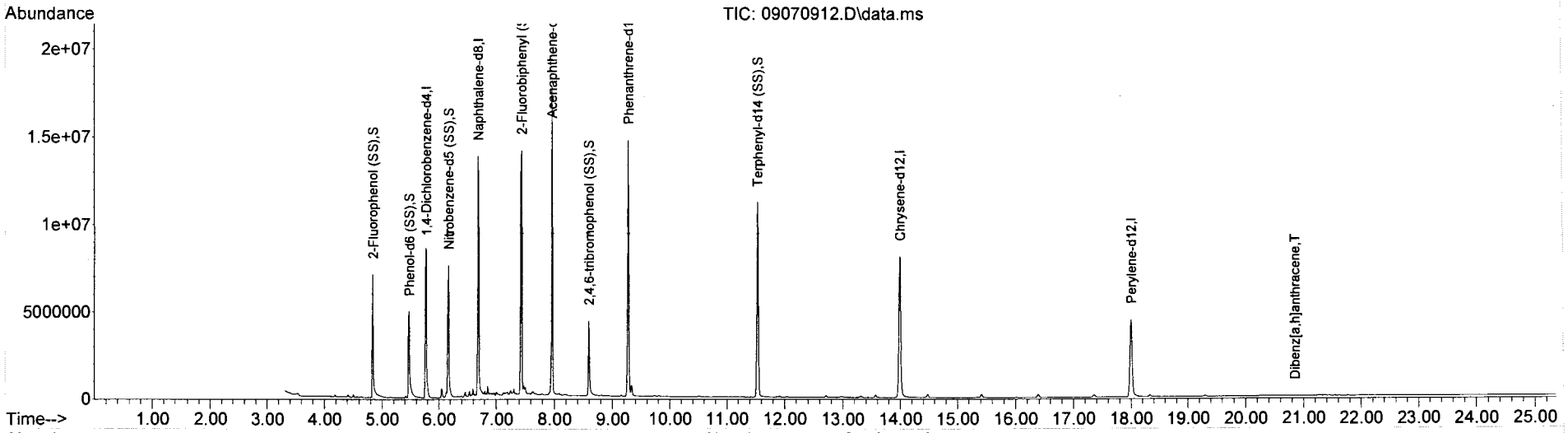
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	0.000		0	N.D.	d	
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	20.844	278	96	0.18	ppm	88
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

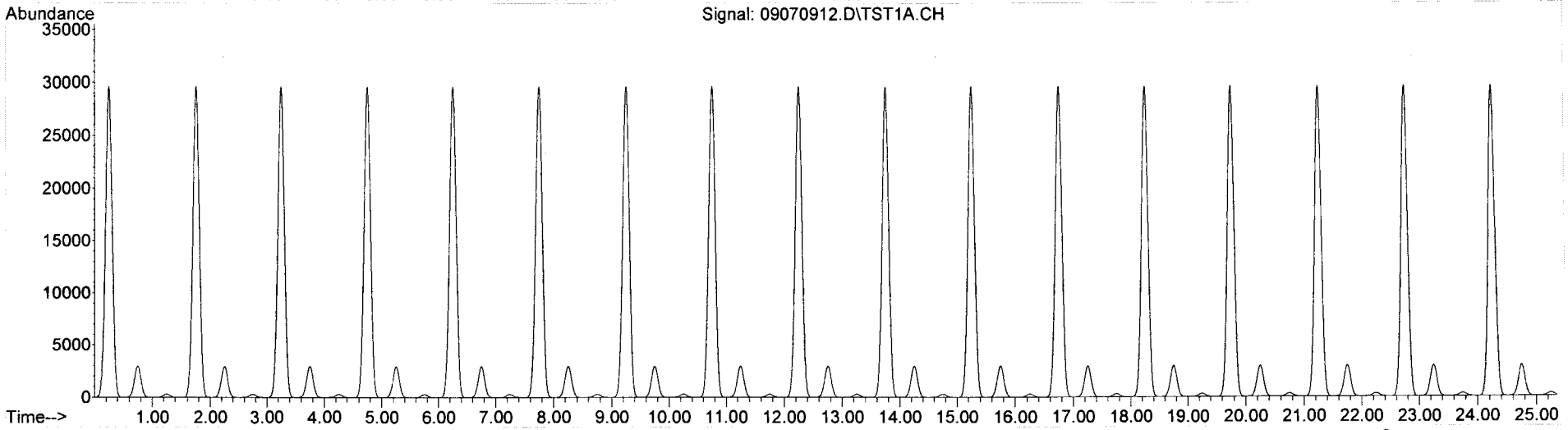
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070912.D
Acq On : 10 Jul 2009 1:32 am (#1); 10-Jul-09, 01:29:36 (#2)
Operator : TM
Sample : 30-08 MW08 CF100
Misc :
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:14:48 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070913.D
Acq On : 10 Jul 2009 2:15 am (#1); 10-Jul-09, 02:11:58 (#2)
Operator : TM
Sample : 30-08 MW09 CF100
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:17:33 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2832945	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	11279077	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	5892660	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	9029488	10.00	ppm	0.00
73) Chrysene-d12	14.004	240	8184586	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	4654317	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3288021	6.78	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery =	67.80%		
6) Phenol-d6 (SS)	5.476	99	4165235	7.75	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery =	77.50%		
21) Nitrobenzene-d5 (SS)	6.170	82	4741130	9.54	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery =	95.40%		
41) 2-Fluorobiphenyl (SS)	7.445	172	8362707	10.42	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery =	104.20%		
64) 2,4,6-tribromophenol (SS)	8.595	328	225810	6.48	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery =	64.80%		
75) Terphenyl-d14 (SS)	11.538	244	7576090	8.31	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery =	83.10%		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.	d	
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070913.D
Acq On : 10 Jul 2009 2:15 am (#1); 10-Jul-09, 02:11:58 (#2)
Operator : TM
Sample : 30-08 MW09 CF100
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:17:33 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

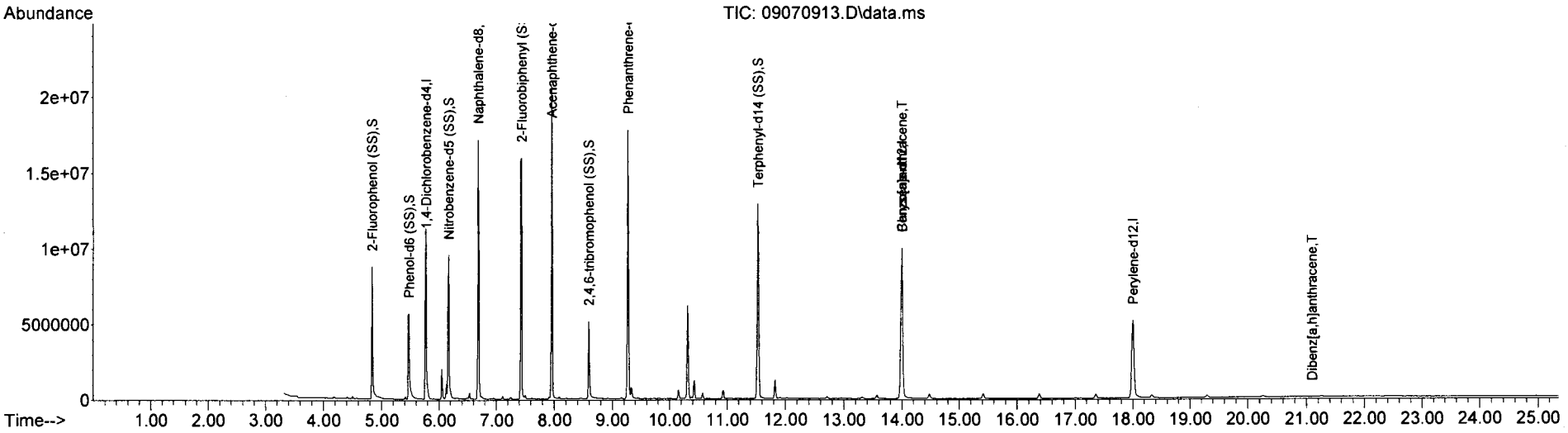
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d		
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d		
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d		
42) 2-Chloronaphthalene	0.000		0	N.D.	d		
43) 2-Nitroaniline	0.000		0	N.D.	d		
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d		
45) 1,2-dinitrobenzene	0.000		0	N.D.	d		
46) Acenaphthylene	0.000		0	N.D.	d		
47) 1,4-dinitrobenzene	0.000		0	N.D.	d		
48) Dimethyl phthalate	0.000		0	N.D.	d		
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d		
50) Acenaphthene	0.000		0	N.D.	d		
51) 3-Nitroaniline	0.000		0	N.D.	d		
52) Dibenzofuran	0.000		0	N.D.	d		
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d		
54) 4-Nitrophenol	0.000		0	N.D.	d		
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d		
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d		
57) Fluorene	0.000		0	N.D.	d		
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d		
59) Diethyl phthalate	0.000		0	N.D.	d		
60) 4-Nitroaniline	0.000		0	N.D.	d		
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d		
63) azobenzene	0.000		0	N.D.	d		
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.			
66) hexachlorobenzene	0.000		0	N.D.	d		
67) Pentachlorophenol	0.000		0	N.D.	d		
68) Phenanthrene	0.000		0	N.D.	d		
69) Anthracene	0.000		0	N.D.	d		
70) Carbazole	0.000		0	N.D.	d		
71) Di-n-butyl phthalate	0.000		0	N.D.	d		
72) Fluoranthene	0.000		0	N.D.	d		
74) pyrene	0.000		0	N.D.	d		
76) Butyl benzyl phthalate	0.000		0	N.D.	d		
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d		
78) 4,4'-DDT	0.000		0	N.D.	d		
79) Benzo[a]anthracene	14.004	228	20166	0.02	ppm	#	60
80) Chrysene	0.000		0	N.D.	d		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d		
83) Di-n-octylphthalate	0.000		0	N.D.	d		
84) Benzo[b]fluoranthene	0.000		0	N.D.	d		
85) Benzo[k]fluoranthene	0.000		0	N.D.	d		
86) Benzo[a]pyrene	0.000		0	N.D.	d		
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d		
88) Dibenz[a,h]anthracene	21.093	278	390	0.18	ppm		73
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d		

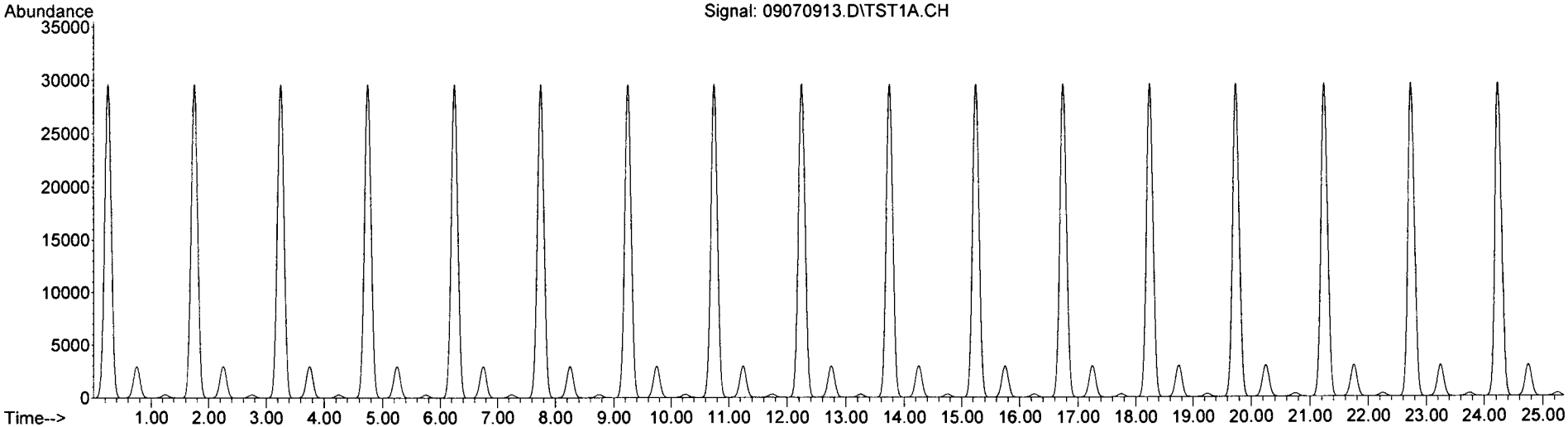
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070913.D
Acq On : 10 Jul 2009 2:15 am (#1); 10-Jul-09, 02:11:58 (#2)
Operator : TM
Sample : 30-08 MW09 CF100
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:17:33 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070914.D
Acq On : 10 Jul 2009 2:57 am (#1); 10-Jul-09, 02:54:07 (#2)
Operator : TM
Sample : 30-08 MW11 CF100
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:21:54 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2404432	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	9529138	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	5033579	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7622359	10.00	ppm	0.00
73) Chrysene-d12	14.004	240	6865855	10.00	ppm	-0.01
82) Perylene-d12	18.004	264	3765267	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3570539	8.68	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 86.80%			
6) Phenol-d6 (SS)	5.476	99	4587131	10.06	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 100.60%			
21) Nitrobenzene-d5 (SS)	6.170	82	3536045	8.42	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 84.20%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6593034	9.61	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 96.10%			
64) 2,4,6-tribromophenol (SS)	8.595	328	241010	8.20	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 82.00%			
75) Terphenyl-d14 (SS)	11.538	244	5982710	7.82	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 78.20%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D. d		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D. d		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	6.709	128	58020	0.05	ppm	94
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	7.279	142	28117	0.04	ppm	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070914.D
Acq On : 10 Jul 2009 2:57 am (#1); 10-Jul-09, 02:54:07 (#2)
Operator : TM
Sample : 30-08 MW11 CF100
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:21:54 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

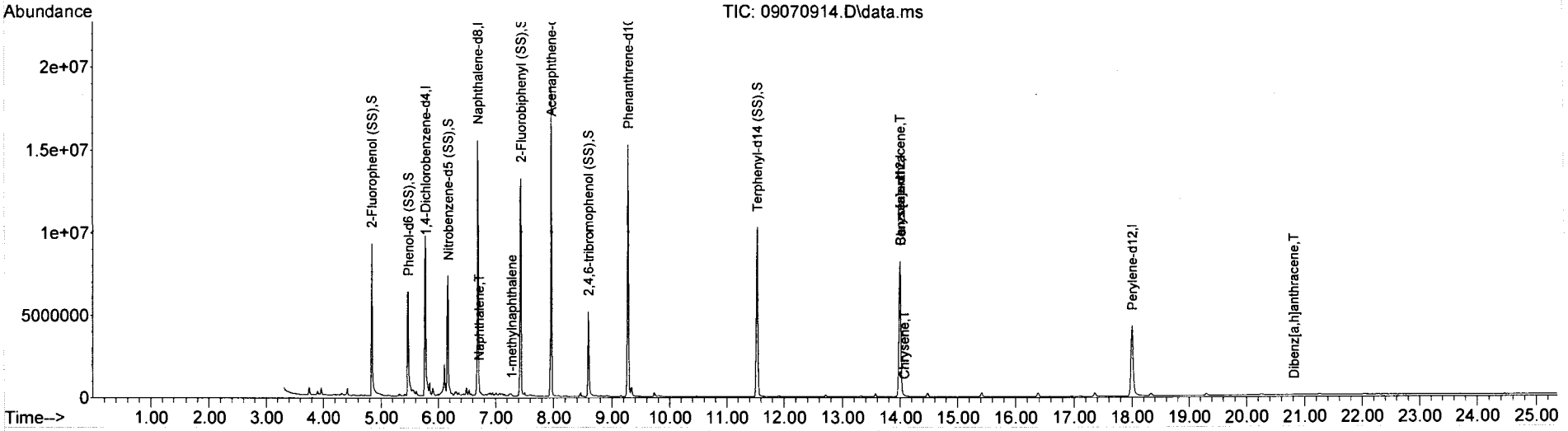
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	14.004	228	17219m	0.02	ppm	
80) Chrysene	14.067	228	1378	0.00	ppm	64
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	20.813	278	66	0.18	ppm	86
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

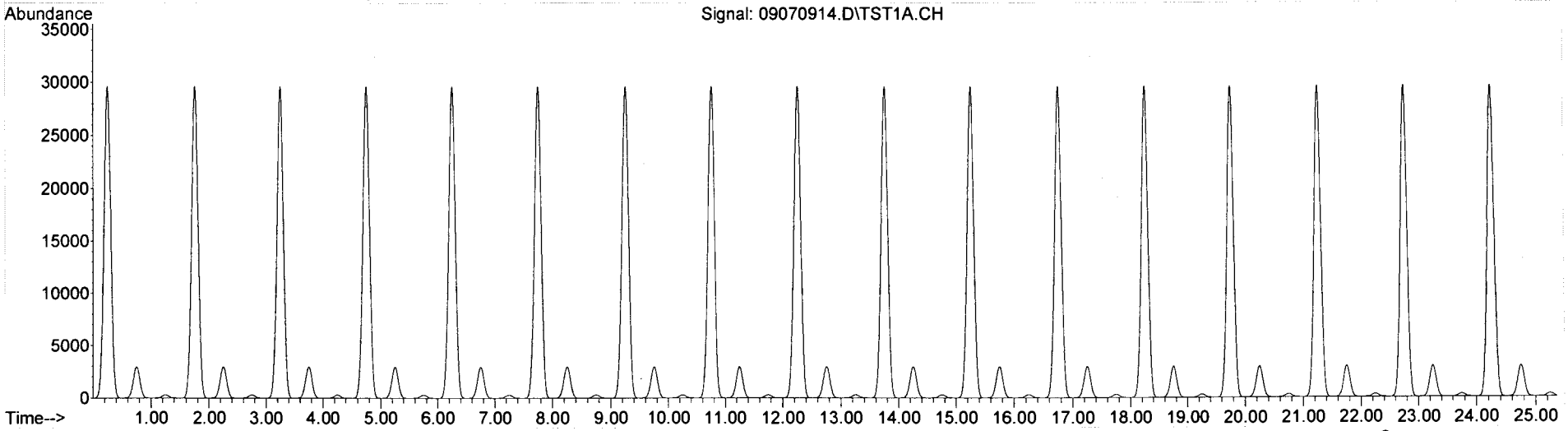
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070914.D
Acq On : 10 Jul 2009 2:57 am (#1); 10-Jul-09, 02:54:07 (#2)
Operator : TM
Sample : 30-08 MW11 CF100
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:21:54 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070915.D
Acq On : 10 Jul 2009 3:39 am (#1); 10-Jul-09, 03:36:00 (#2)
Operator : TM
Sample : 30-08 MW13 CF100
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:28:01 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2336240	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	9213785	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4855474	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7370182	10.00	ppm	0.00
73) Chrysene-d12	14.005	240	6736855	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	3812816	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3570723	8.93	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 89.30%			
6) Phenol-d6 (SS)	5.465	99	4501223	10.16	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 101.60%			
21) Nitrobenzene-d5 (SS)	6.170	82	3780406	9.31	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 93.10%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6969876	10.54	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 105.40%			
64) 2,4,6-tribromophenol (SS)	8.595	328	237335	8.35	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 83.50%			
75) Terphenyl-d14 (SS)	11.538	244	6317576	8.41	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 84.10%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.	d	
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	7.206	142	40865	0.07	ppm	97
36) 1-methylnaphthalene	7.279	142	164667	0.25	ppm	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070915.D
Acq On : 10 Jul 2009 3:39 am (#1); 10-Jul-09, 03:36:00 (#2)
Operator : TM
Sample : 30-08 MW13 CF100
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:28:01 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

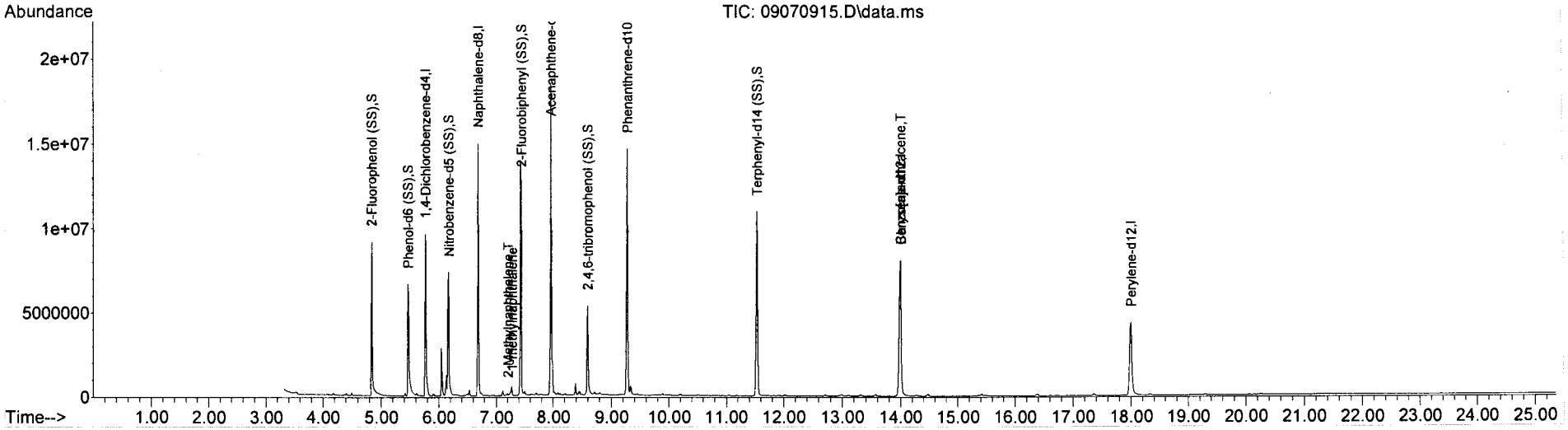
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38)	Hexachlorocyclopentadiene	0.000		0	N.D. d	
39)	2,4,6-Trichlorophenol	0.000		0	N.D. d	
40)	2,4,5-Trichlorophenol	0.000		0	N.D. d	
42)	2-Chloronaphthalene	0.000		0	N.D. d	
43)	2-Nitroaniline	0.000		0	N.D. d	
44)	1,3-Dinitrobenzene	0.000		0	N.D. d	
45)	1,2-dinitrobenzene	0.000		0	N.D. d	
46)	Acenaphthylene	0.000		0	N.D. d	
47)	1,4-dinitrobenzene	0.000		0	N.D. d	
48)	Dimethyl phthalate	0.000		0	N.D. d	
49)	2,6-Dinitrotoluene	0.000		0	N.D. d	
50)	Acenaphthene	0.000		0	N.D. d	
51)	3-Nitroaniline	0.000		0	N.D. d	
52)	Dibenzofuran	0.000		0	N.D. d	
53)	2,4-Dinitrotoluene	0.000		0	N.D. d	
54)	4-Nitrophenol	0.000		0	N.D. d	
55)	2,3,4,6-Tetrachlorophenol	0.000		0	N.D. d	
56)	2,3,5,6-Tetrachlorophenol	0.000		0	N.D. d	
57)	Fluorene	0.000		0	N.D. d	
58)	4-Chlorophenyl phenyl ...	0.000		0	N.D. d	
59)	Diethyl phthalate	0.000		0	N.D. d	
60)	4-Nitroaniline	0.000		0	N.D. d	
62)	4,6-Dinitro-2-methylph...	0.000		0	N.D. d	
63)	azobenzene	0.000		0	N.D. d	
65)	4-Bromophenyl phenyl e...	0.000		0	N.D.	
66)	hexachlorobenzene	0.000		0	N.D. d	
67)	Pentachlorophenol	0.000		0	N.D. d	
68)	Phenanthrene	0.000		0	N.D. d	
69)	Anthracene	0.000		0	N.D. d	
70)	Carbazole	0.000		0	N.D. d	
71)	Di-n-butyl phthalate	0.000		0	N.D. d	
72)	Fluoranthene	0.000		0	N.D. d	
74)	pyrene	0.000		0	N.D. d	
76)	Butyl benzyl phthalate	0.000		0	N.D. d	
77)	bis(2-ethylhexyl)adipate	0.000		0	N.D. d	
78)	4,4'-DDT	0.000		0	N.D. d	
79)	Benzo[a]anthracene	14.005	228	15899	0.02 ppm #	49
80)	Chrysene	0.000		0	N.D. d	
81)	bis(2-Ethylhexyl)phtha...	0.000		0	N.D. d	
83)	Di-n-octylphthalate	0.000		0	N.D. d	
84)	Benzo[b]fluoranthene	0.000		0	N.D. d	
85)	Benzo[k]fluoranthene	0.000		0	N.D. d	
86)	Benzo[a]pyrene	0.000		0	N.D. d	
87)	Indeno[1,2,3-cd]pyrene	0.000		0	N.D. d	
88)	Dibenz[a,h]anthracene	0.000		0	N.D. d	
89)	Benzo[g,h,i]perylene	0.000		0	N.D. d	

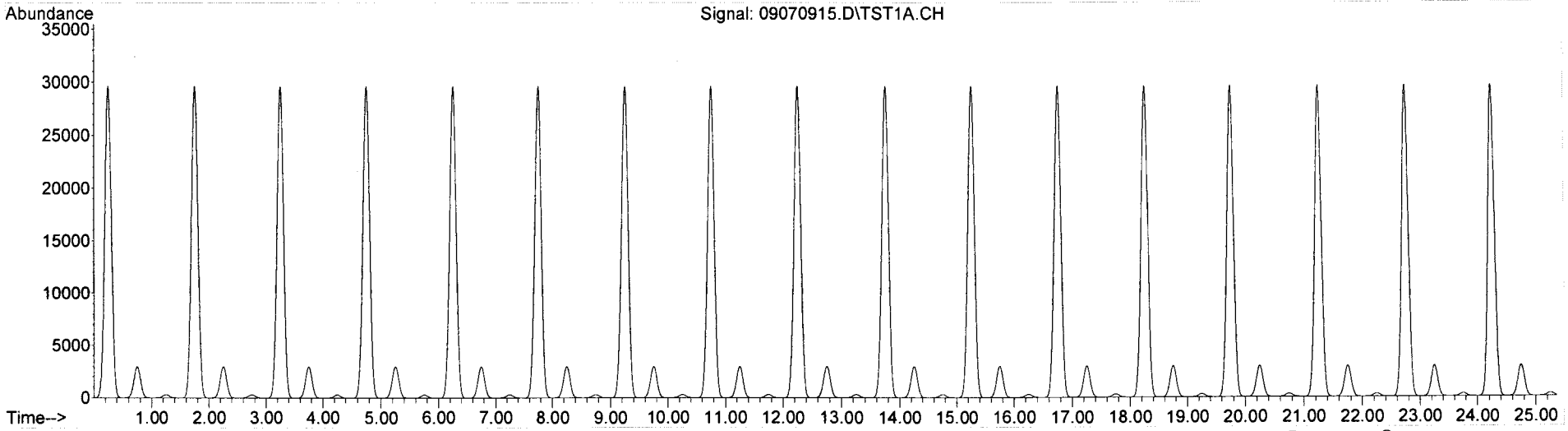
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070915.D
Acq On : 10 Jul 2009 3:39 am (#1); 10-Jul-09, 03:36:00 (#2)
Operator : TM
Sample : 30-08 MW13 CF100
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:28:01 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070916.D
Acq On : 10 Jul 2009 4:20 am (#1); 10-Jul-09, 04:17:35 (#2)
Operator : TM
Sample : 30-08 MW14 CF100
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:46:27 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2148897	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8422690	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4510040	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	6749612	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	5845102	10.00	ppm	-0.02
82) Perylene-d12	18.005	264	3354890	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3138665	8.54	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 85.40%			
6) Phenol-d6 (SS)	5.476	99	3956031	9.71	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 97.10%			
21) Nitrobenzene-d5 (SS)	6.170	82	3592177	9.68	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 96.80%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6531228	10.63	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 106.30%			
64) 2,4,6-tribromophenol (SS)	8.595	328	204048	7.84	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 78.40%			
75) Terphenyl-d14 (SS)	11.538	244	5603442	8.60	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 86.00%			

Target Compounds				Qvalue
2) N-Nitrosodimethylamine	0.000	0	N.D. d	
3) Pyridine	0.000	0	N.D. d	
5) bis(2-Chloroethyl)ether	0.000	0	N.D. d	
7) Phenol	0.000	0	N.D. d	
8) Aniline	0.000	0	N.D. d	
9) 2-Chlorophenol	0.000	0	N.D.	
10) 1,3-Dichlorobenzene	0.000	0	N.D. d	
11) 1,4-Dichlorobenzene	0.000	0	N.D. d	
12) 1,2-Dichlorobenzene	0.000	0	N.D. d	
13) Benzyl alcohol	0.000	0	N.D. d	
14) bis(2-chloroisopropyl)...	0.000	0	N.D. d	
15) 2-Methylphenol	0.000	0	N.D. d	
16) Hexachloroethane	0.000	0	N.D. d	
17) N-Nitroso-di-n-propyla...	0.000	0	N.D.	
18) 3&4-Methylphenol	0.000	0	N.D. d	
19) a-Terpinol	0.000	0	N.D. d	
22) Nitrobenzene	0.000	0	N.D. d	
23) Isophorone	0.000	0	N.D. d	
24) 2-Nitrophenol	0.000	0	N.D. d	
25) 2,4-Dimethylphenol	0.000	0	N.D. d	
26) bis(2-Chloroethoxy)met...	0.000	0	N.D. d	
27) Benzoic Acid	0.000	0	N.D. d	
28) 2,4-Dichlorophenol	0.000	0	N.D. d	
29) 1,2,4-Trichlorobenzene	0.000	0	N.D. d	
30) Naphthalene	0.000	0	N.D. d	
31) 4-Chloroaniline	0.000	0	N.D. d	
32) Hexachlorobutadiene	0.000	0	N.D. d	
33) Diphenylamine	0.000	0	N.D. d	
34) 4-Chloro-3-methylphenol	0.000	0	N.D. d	
35) 2-Methylnaphthalene	0.000	0	N.D. d	
36) 1-methylnaphthalene	0.000	0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070916.D
Acq On : 10 Jul 2009 4:20 am (#1); 10-Jul-09, 04:17:35 (#2)
Operator : TM
Sample : 30-08 MW14 CF100
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:46:27 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

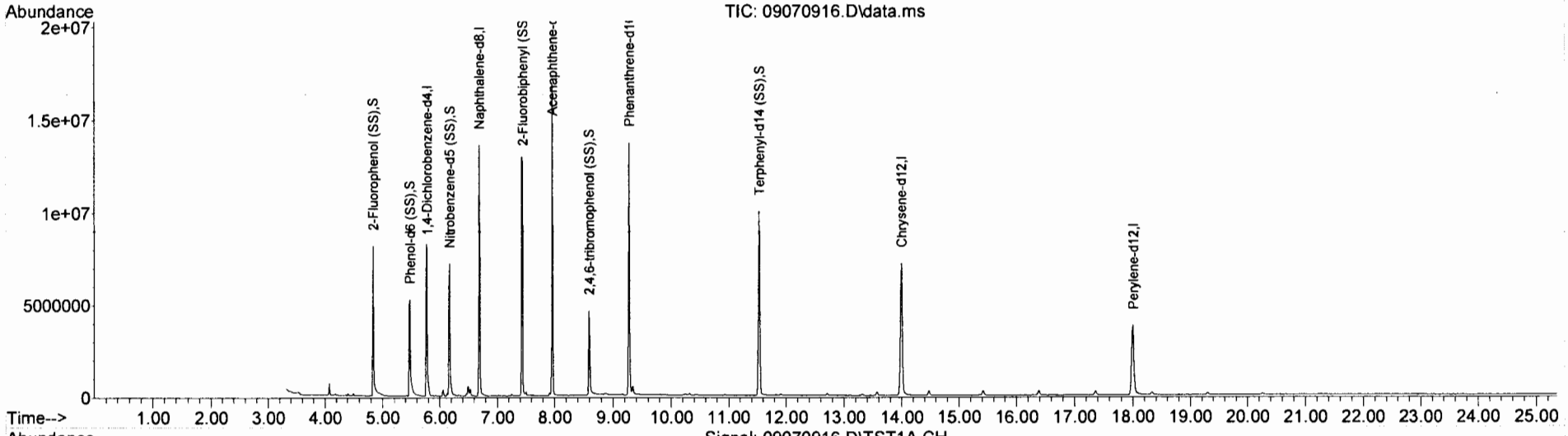
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	0.000		0	N.D.	d	
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

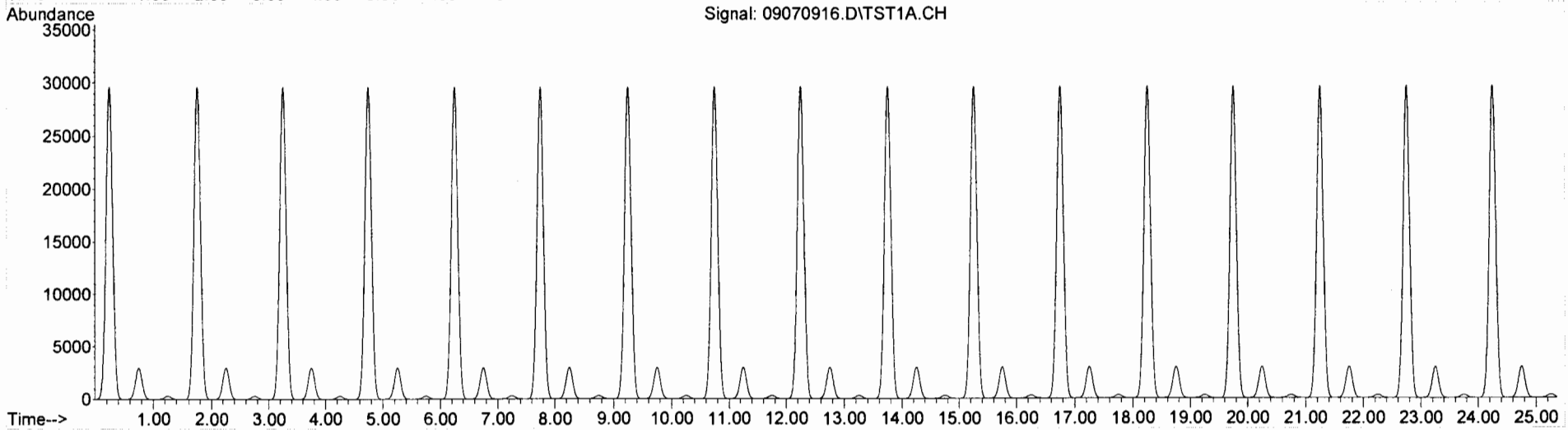
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070916.D
Acq On : 10 Jul 2009 4:20 am (#1); 10-Jul-09, 04:17:35 (#2)
Operator : TM
Sample : 30-08 MW14 CF100
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:46:27 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070917.D
Acq On : 10 Jul 2009 5:02 am (#1); 10-Jul-09, 04:59:07 (#2)
Operator : TM
Sample : 30-08 MW15 CF100
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:50:00 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2654591	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	10523116	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	5505298	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	8492284	10.00	ppm	0.00
73) Chrysene-d12	14.004	240	7604343	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	4313815	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3729642	8.21	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 82.10%			
6) Phenol-d6 (SS)	5.465	99	4666876	9.27	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 92.70%			
21) Nitrobenzene-d5 (SS)	6.170	82	4511829	9.73	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 97.30%			
41) 2-Fluorobiphenyl (SS)	7.445	172	8048328	10.73	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 107.30%			
64) 2,4,6-tribromophenol (SS)	8.595	328	245282	7.49	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 74.90%			
75) Terphenyl-d14 (SS)	11.538	244	7373129	8.70	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 87.00%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070917.D
Acq On : 10 Jul 2009 5:02 am (#1); 10-Jul-09, 04:59:07 (#2)
Operator : TM
Sample : 30-08 MW15 CF100
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:50:00 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

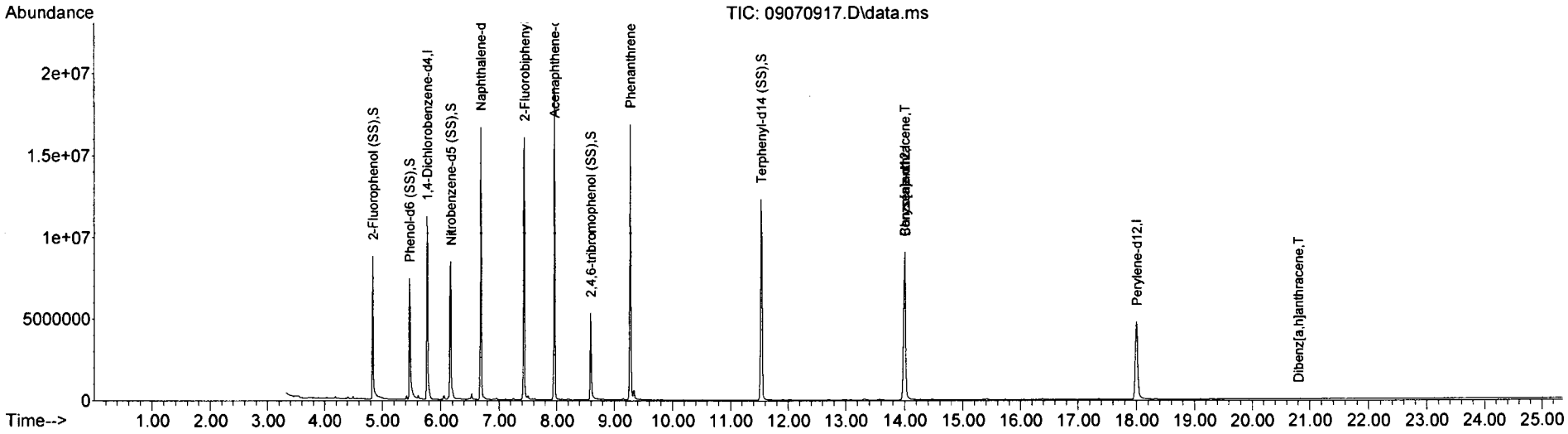
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d		
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d		
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d		
42) 2-Chloronaphthalene	0.000		0	N.D.	d		
43) 2-Nitroaniline	0.000		0	N.D.	d		
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d		
45) 1,2-dinitrobenzene	0.000		0	N.D.	d		
46) Acenaphthylene	0.000		0	N.D.	d		
47) 1,4-dinitrobenzene	0.000		0	N.D.	d		
48) Dimethyl phthalate	0.000		0	N.D.	d		
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d		
50) Acenaphthene	0.000		0	N.D.	d		
51) 3-Nitroaniline	0.000		0	N.D.	d		
52) Dibenzofuran	0.000		0	N.D.	d		
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d		
54) 4-Nitrophenol	0.000		0	N.D.	d		
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d		
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d		
57) Fluorene	0.000		0	N.D.	d		
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d		
59) Diethyl phthalate	0.000		0	N.D.	d		
60) 4-Nitroaniline	0.000		0	N.D.	d		
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d		
63) azobenzene	0.000		0	N.D.	d		
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.			
66) hexachlorobenzene	0.000		0	N.D.	d		
67) Pentachlorophenol	0.000		0	N.D.	d		
68) Phenanthrene	0.000		0	N.D.	d		
69) Anthracene	0.000		0	N.D.	d		
70) Carbazole	0.000		0	N.D.	d		
71) Di-n-butyl phthalate	0.000		0	N.D.	d		
72) Fluoranthene	0.000		0	N.D.	d		
74) pyrene	0.000		0	N.D.	d		
76) Butyl benzyl phthalate	0.000		0	N.D.	d		
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d		
78) 4,4'-DDT	0.000		0	N.D.	d		
79) Benzo[a]anthracene	14.004	228	18217	0.02	ppm	#	64
80) Chrysene	0.000		0	N.D.	d		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d		
83) Di-n-octylphthalate	0.000		0	N.D.	d		
84) Benzo[b]fluoranthene	0.000		0	N.D.	d		
85) Benzo[k]fluoranthene	0.000		0	N.D.	d		
86) Benzo[a]pyrene	0.000		0	N.D.	d		
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d		
88) Dibenz[a,h]anthracene	20.803	278	131	0.18	ppm		85
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d		

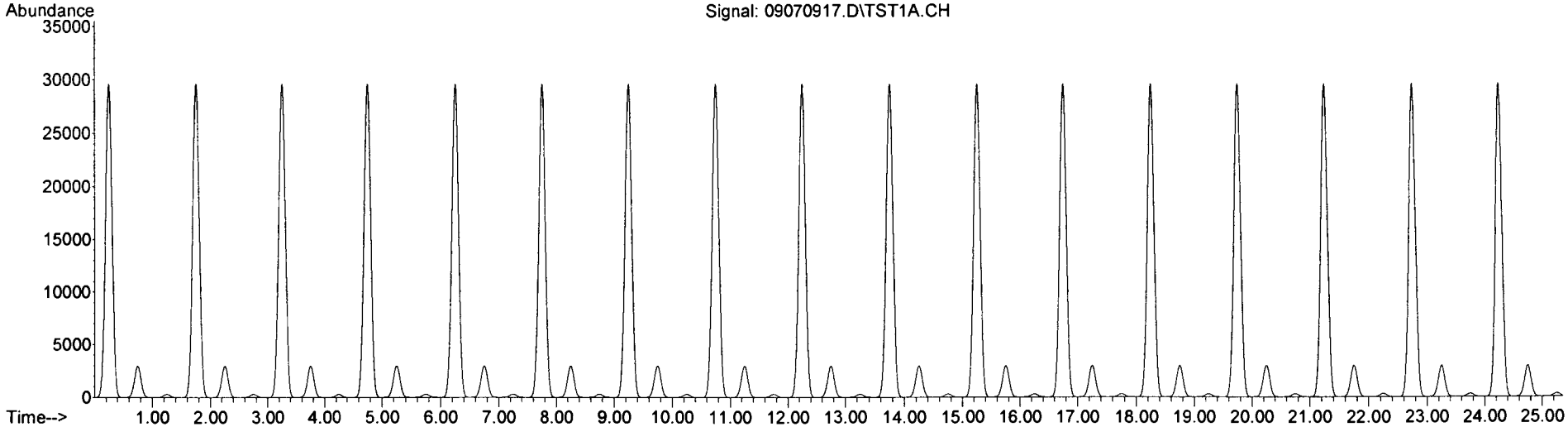
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070917.D
Acq On : 10 Jul 2009 5:02 am (#1); 10-Jul-09, 04:59:07 (#2)
Operator : TM
Sample : 30-08 MW15 CF100
Misc :
ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:50:00 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070918.D
Acq On : 10 Jul 2009 5:43 am (#1); 10-Jul-09, 05:40:25 (#2)
Operator : TM
Sample : 30-08 MW16 CF100
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:54:57 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2263665	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8972350	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4729724	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7178438	10.00	ppm	0.00
73) Chrysene-d12	14.004	240	6266563	10.00	ppm	-0.01
82) Perylene-d12	18.004	264	3333264	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.843	112	3651306	9.43	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 94.30%			
6) Phenol-d6 (SS)	5.465	99	4610188	10.74	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 107.40%			
21) Nitrobenzene-d5 (SS)	6.170	82	3681261	9.31	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 93.10%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6781336	10.52	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 105.20%			
64) 2,4,6-tribromophenol (SS)	8.595	328	239424	8.65	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 86.50%			
75) Terphenyl-d14 (SS)	11.538	244	6113918	8.75	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 87.50%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D. d		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	0.000		0	N.D. d		
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070918.D
Acq On : 10 Jul 2009 5:43 am (#1); 10-Jul-09, 05:40:25 (#2)
Operator : TM
Sample : 30-08 MW16 CF100
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:54:57 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

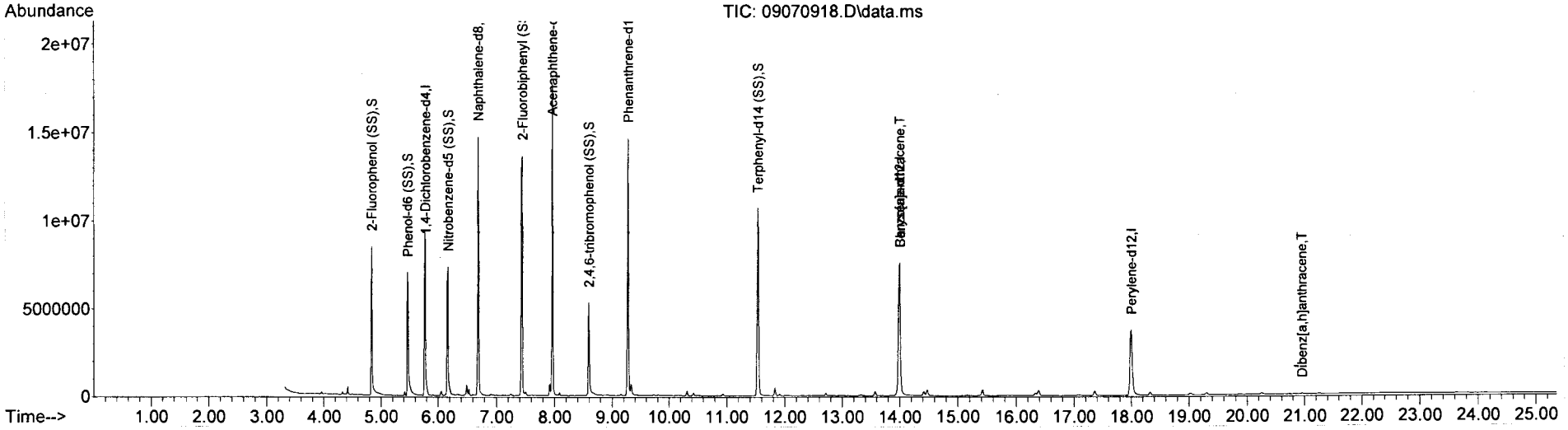
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d		
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d		
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d		
42) 2-Chloronaphthalene	0.000		0	N.D.	d		
43) 2-Nitroaniline	0.000		0	N.D.	d		
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d		
45) 1,2-dinitrobenzene	0.000		0	N.D.	d		
46) Acenaphthylene	0.000		0	N.D.	d		
47) 1,4-dinitrobenzene	0.000		0	N.D.	d		
48) Dimethyl phthalate	0.000		0	N.D.	d		
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d		
50) Acenaphthene	0.000		0	N.D.	d		
51) 3-Nitroaniline	0.000		0	N.D.	d		
52) Dibenzofuran	0.000		0	N.D.	d		
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d		
54) 4-Nitrophenol	0.000		0	N.D.	d		
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d		
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d		
57) Fluorene	0.000		0	N.D.	d		
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d		
59) Diethyl phthalate	0.000		0	N.D.	d		
60) 4-Nitroaniline	0.000		0	N.D.	d		
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d		
63) azobenzene	0.000		0	N.D.	d		
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.			
66) hexachlorobenzene	0.000		0	N.D.	d		
67) Pentachlorophenol	0.000		0	N.D.	d		
68) Phenanthrene	0.000		0	N.D.	d		
69) Anthracene	0.000		0	N.D.	d		
70) Carbazole	0.000		0	N.D.	d		
71) Di-n-butyl phthalate	0.000		0	N.D.	d		
72) Fluoranthene	0.000		0	N.D.	d		
74) pyrene	0.000		0	N.D.	d		
76) Butyl benzyl phthalate	0.000		0	N.D.	d		
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d		
78) 4,4'-DDT	0.000		0	N.D.	d		
79) Benzo[a]anthracene	14.004	228	15976	0.02	ppm	#	59
80) Chrysene	0.000		0	N.D.	d		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d		
83) Di-n-octylphthalate	0.000		0	N.D.	d		
84) Benzo[b]fluoranthene	0.000		0	N.D.	d		
85) Benzo[k]fluoranthene	0.000		0	N.D.	d		
86) Benzo[a]pyrene	0.000		0	N.D.	d		
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d		
88) Dibenz[a,h]anthracene	20.958	278	168	0.18	ppm	#	52
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d		

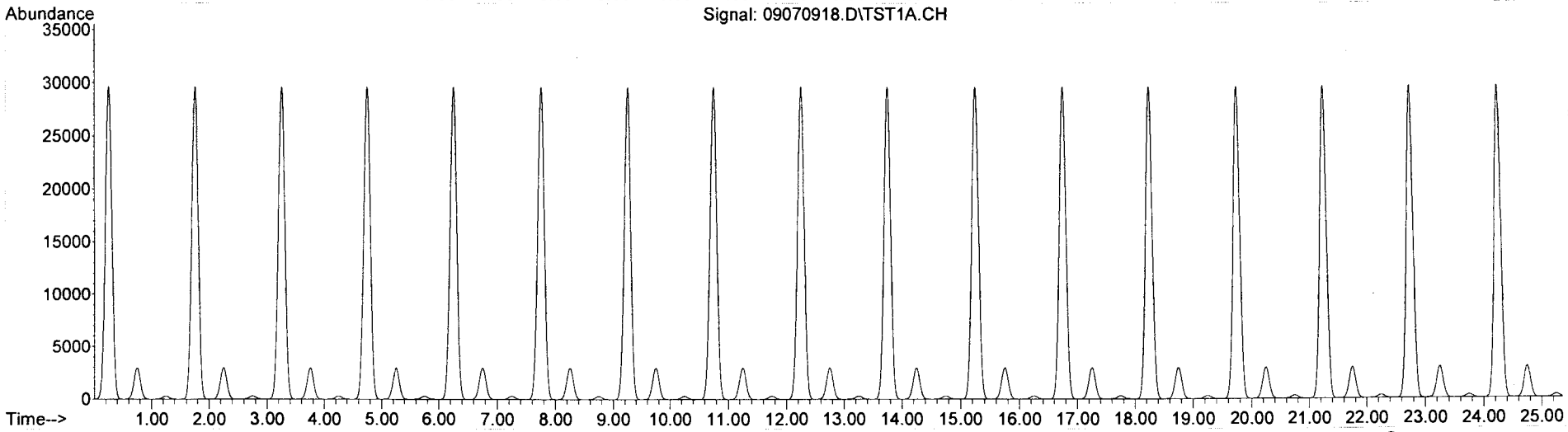
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070918.D
Acq On : 10 Jul 2009 5:43 am (#1); 10-Jul-09, 05:40:25 (#2)
Operator : TM
Sample : 30-08 MW16 CF100
Misc :
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:54:57 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070919.D
Acq On : 10 Jul 2009 6:24 am (#1); 10-Jul-09, 06:21:32 (#2)
Operator : TM
Sample : 30-08 MW18 CF100
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:59:01 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2272504	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8864947	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4710507	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7258196	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6359220	10.00	ppm	-0.02
82) Perylene-d12	18.005	264	3379065	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3191883	8.21	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery =	82.10%		
6) Phenol-d6 (SS)	5.476	99	3994708	9.27	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery =	92.70%		
21) Nitrobenzene-d5 (SS)	6.170	82	3843842	9.84	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery =	98.40%		
41) 2-Fluorobiphenyl (SS)	7.445	172	7015737	10.93	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery =	109.30%		
64) 2,4,6-tribromophenol (SS)	8.595	328	203851	7.28	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery =	72.80%		
75) Terphenyl-d14 (SS)	11.538	244	6481826	9.15	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery =	91.50%		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070919.D
Acq On : 10 Jul 2009 6:24 am (#1); 10-Jul-09, 06:21:32 (#2)
Operator : TM
Sample : 30-08 MW18 CF100
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:59:01 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

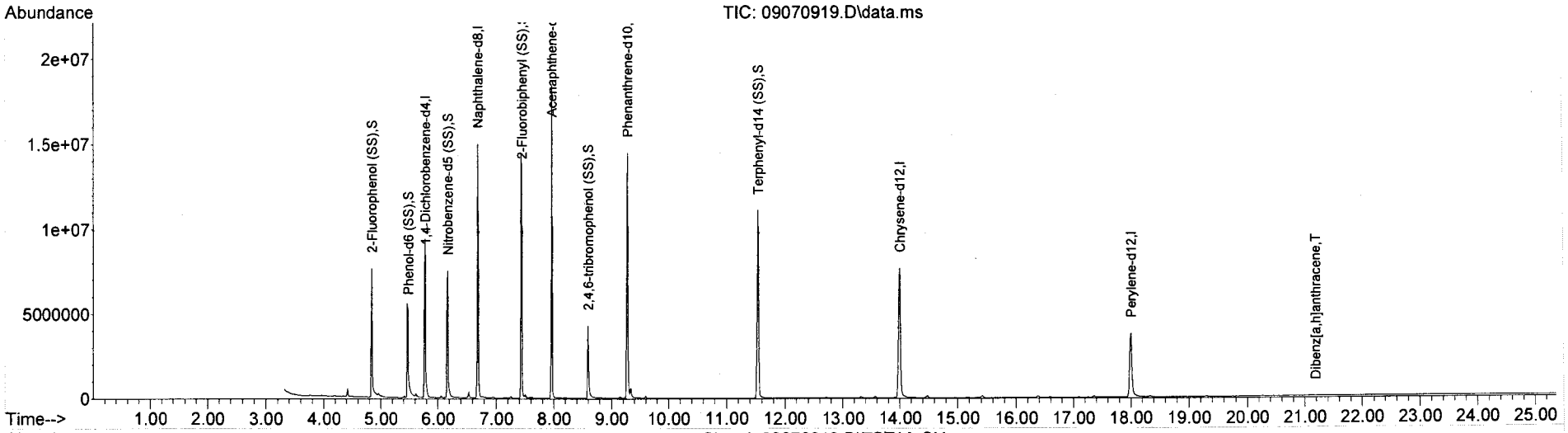
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39)	2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40)	2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42)	2-Chloronaphthalene	0.000		0	N.D.	d	
43)	2-Nitroaniline	0.000		0	N.D.	d	
44)	1,3-Dinitrobenzene	0.000		0	N.D.	d	
45)	1,2-dinitrobenzene	0.000		0	N.D.	d	
46)	Acenaphthylene	0.000		0	N.D.	d	
47)	1,4-dinitrobenzene	0.000		0	N.D.	d	
48)	Dimethyl phthalate	0.000		0	N.D.	d	
49)	2,6-Dinitrotoluene	0.000		0	N.D.	d	
50)	Acenaphthene	0.000		0	N.D.	d	
51)	3-Nitroaniline	0.000		0	N.D.		
52)	Dibenzofuran	0.000		0	N.D.	d	
53)	2,4-Dinitrotoluene	0.000		0	N.D.	d	
54)	4-Nitrophenol	0.000		0	N.D.	d	
55)	2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56)	2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57)	Fluorene	0.000		0	N.D.	d	
58)	4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59)	Diethyl phthalate	0.000		0	N.D.	d	
60)	4-Nitroaniline	0.000		0	N.D.	d	
62)	4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63)	azobenzene	0.000		0	N.D.	d	
65)	4-Bromophenyl phenyl e...	0.000		0	N.D.	d	
66)	hexachlorobenzene	0.000		0	N.D.	d	
67)	Pentachlorophenol	0.000		0	N.D.	d	
68)	Phenanthrene	0.000		0	N.D.	d	
69)	Anthracene	0.000		0	N.D.	d	
70)	Carbazole	0.000		0	N.D.	d	
71)	Di-n-butyl phthalate	0.000		0	N.D.	d	
72)	Fluoranthene	0.000		0	N.D.	d	
74)	pyrene	0.000		0	N.D.	d	
76)	Butyl benzyl phthalate	0.000		0	N.D.	d	
77)	bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78)	4,4'-DDT	0.000		0	N.D.	d	
79)	Benzo[a]anthracene	0.000		0	N.D.		
80)	Chrysene	0.000		0	N.D.		
81)	bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83)	Di-n-octylphthalate	0.000		0	N.D.	d	
84)	Benzo[b]fluoranthene	0.000		0	N.D.	d	
85)	Benzo[k]fluoranthene	0.000		0	N.D.	d	
86)	Benzo[a]pyrene	0.000		0	N.D.	d	
87)	Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88)	Dibenz[a,h]anthracene	21.186	278	139	0.18	ppm	72
89)	Benzo[g,h,i]perylene	0.000		0	N.D.	d	

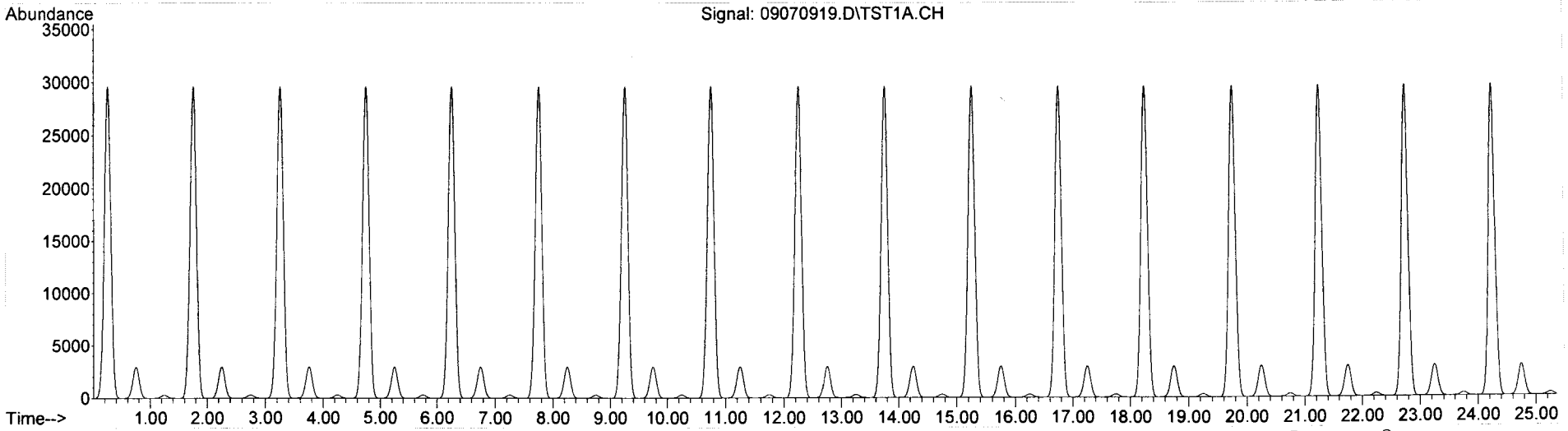
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070919.D
Acq On : 10 Jul 2009 6:24 am (#1); 10-Jul-09, 06:21:32 (#2)
Operator : TM
Sample : 30-08 MW18 CF100
Misc :
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 15:59:01 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070920.D
Acq On : 10 Jul 2009 7:05 am (#1); 10-Jul-09, 07:02:33 (#2)
Operator : TM
Sample : 30-08 MW20 CF100
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:04:53 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2439266	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	9641212	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	5034622	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7719770	10.00	ppm	0.00
73) Chrysene-d12	14.005	240	7068973	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	4024708	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3478074	8.33	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 83.30%			
6) Phenol-d6 (SS)	5.465	99	4394733	9.50	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 95.00%			
21) Nitrobenzene-d5 (SS)	6.160	82	3908971	9.20	ppm	-0.01
Spiked Amount 10.000	Range 34 - 114		Recovery = 92.00%			
41) 2-Fluorobiphenyl (SS)	7.445	172	7144251	10.41	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 104.10%			
64) 2,4,6-tribromophenol (SS)	8.595	328	228519	7.67	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 76.70%			
75) Terphenyl-d14 (SS)	11.538	244	6469164	8.21	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 82.10%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	0.000		0	N.D. d		
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070920.D
Acq On : 10 Jul 2009 7:05 am (#1); 10-Jul-09, 07:02:33 (#2)
Operator : TM
Sample : 30-08 MW20 CF100
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:04:53 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

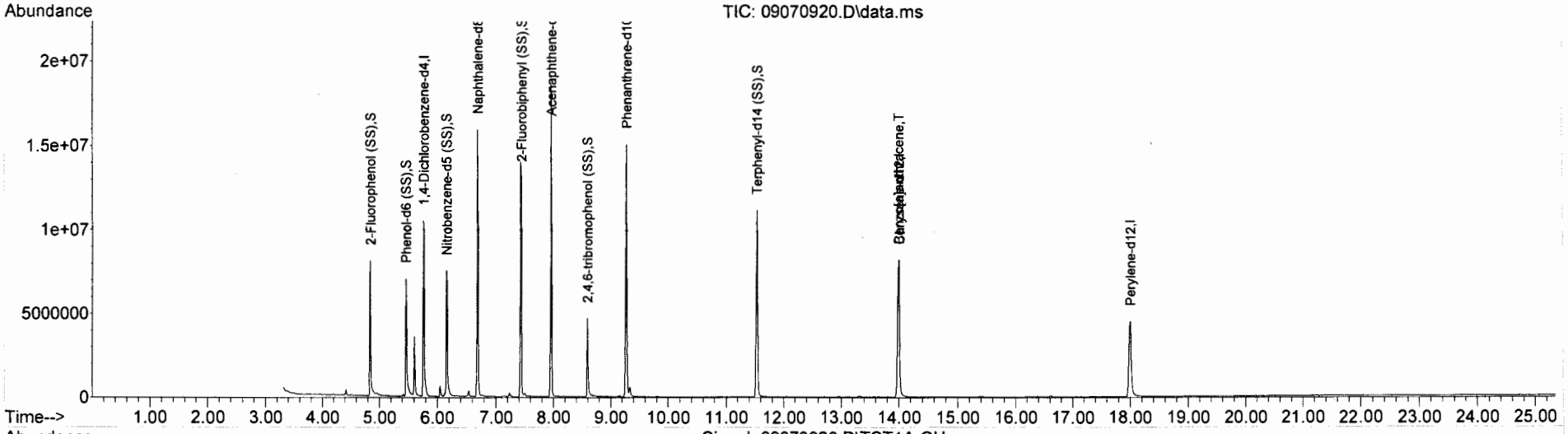
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	d	
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	13.994	228	16207	0.02	ppm	66
80) Chrysene	0.000		0	N.D.		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

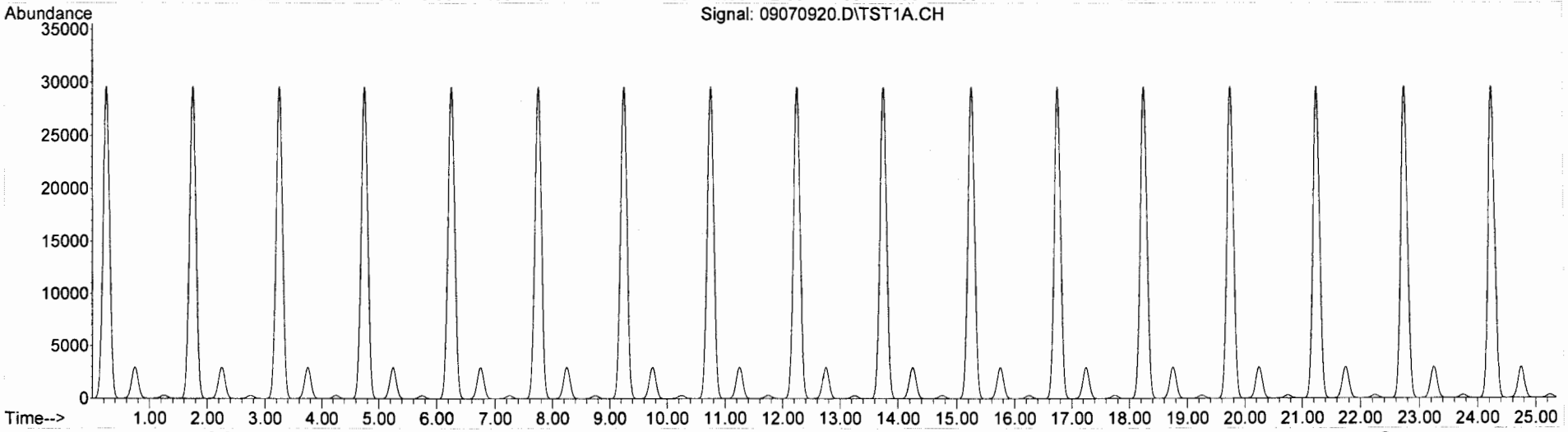
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070920.D
Acq On : 10 Jul 2009 7:05 am (#1); 10-Jul-09, 07:02:33 (#2)
Operator : TM
Sample : 30-08 MW20 CF100
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:04:53 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070921.D
Acq On : 10 Jul 2009 7:47 am (#1); 10-Jul-09, 07:43:43 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 Dup.
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:09:39 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2381398	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	9557478	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4997950	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7601355	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6770095	10.00	ppm	-0.02
82) Perylene-d12	18.005	264	3798878	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3436217	8.43	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 84.30%			
6) Phenol-d6 (SS)	5.465	99	4263864	9.44	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 94.40%			
21) Nitrobenzene-d5 (SS)	6.160	82	3850587	9.15	ppm	-0.01
Spiked Amount 10.000	Range 34 - 114		Recovery = 91.50%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6965147	10.23	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 102.30%			
64) 2,4,6-tribromophenol (SS)	8.595	328	218715	7.46	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 74.60%			
75) Terphenyl-d14 (SS)	11.538	244	6313357	8.37	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 83.70%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	0.000		0	N.D. d		
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	0.000		0	N.D. d		
36) 1-methylnaphthalene	0.000		0	N.D. d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070921.D
Acq On : 10 Jul 2009 7:47 am (#1); 10-Jul-09, 07:43:43 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 Dup.
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:09:39 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

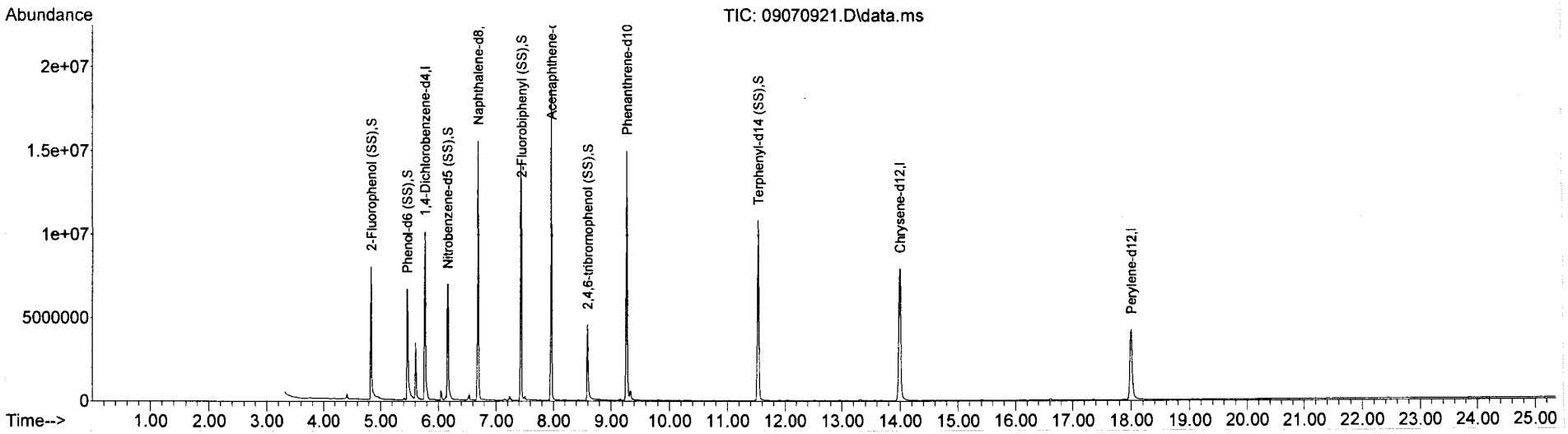
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	d	
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	0.000		0	N.D.		
80) Chrysene	0.000		0	N.D.		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

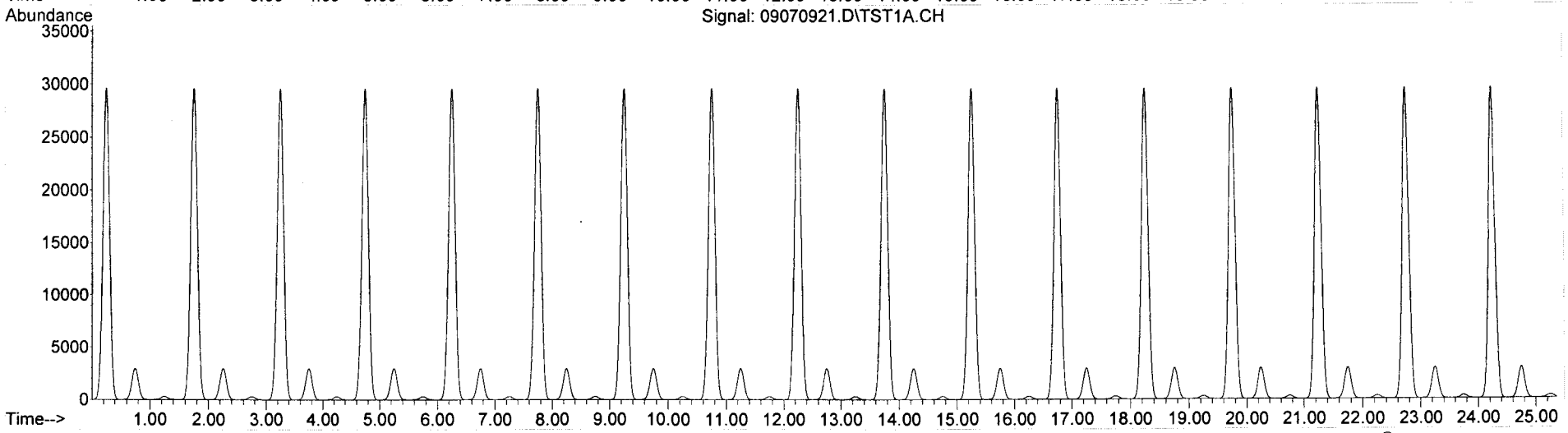
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070921.D
Acq On : 10 Jul 2009 7:47 am (#1); 10-Jul-09, 07:43:43 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 Dup.
Misc :
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:09:39 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070922.D
Acq On : 10 Jul 2009 8:28 am (#1); 10-Jul-09, 08:25:09 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 MS C 0.1ppm
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 10:30:56 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.776	152	2280946	10.00	ppm		0.00
20) Naphthalene-d8	6.688	136	8757180	10.00	ppm		0.00
37) Acenaphthene-d10	7.963	164	4576181	10.00	ppm		0.00
61) Phenanthrene-d10	9.279	188	7005874	10.00	ppm		0.00
73) Chrysene-d12	13.994	240	6254543	10.00	ppm		-0.01
82) Perylene-d12	18.005	264	3486455	10.00	ppm		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol (SS)	4.844	112	2474086m	9.21	ppm		0.01
Spiked Amount 10.000	Range 21 - 110		Recovery = 92.10%				
6) Phenol-d6 (SS)	5.476	99	3139454m	10.68	ppm		0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 106.80%				
21) Nitrobenzene-d5 (SS)	6.170	82	3555626	10.93	ppm		0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 109.30%				
41) 2-Fluorobiphenyl (SS)	7.445	172	6412439	10.70	ppm		0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 107.00%				
64) 2,4,6-tribromophenol (SS)	8.595	328	214161	10.46	ppm		0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 104.60%				
75) Terphenyl-d14 (SS)	11.538	244	5939063	10.49	ppm		0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 104.90%				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	3.859	74	22748	0.13	ppm	#	70
3) Pyridine	3.952	79	2138	0.01	ppm	#	18
5) bis(2-Chloroethyl)ether	6.471	93	42328	0.12	ppm		90
7) Phenol	5.486	94	40225	0.10	ppm	#	1
8) Aniline	5.548	93	73739	0.20	ppm	#	85
9) 2-Chlorophenol	5.631	128	39150m	0.12	ppm		
10) 1,3-Dichlorobenzene	5.735	146	38549	0.12	ppm		98
11) 1,4-Dichlorobenzene	5.735	146	38059	0.12	ppm		98
12) 1,2-Dichlorobenzene	5.901	146	36893	0.12	ppm		96
13) Benzyl alcohol	5.921	108	25017	0.15	ppm	#	41
14) bis(2-chloroisopropyl)...	5.932	45	60874	0.11	ppm		87
15) 2-Methylphenol	5.921	107	19256	0.08	ppm		89
16) Hexachloroethane	6.149	117	19243	0.14	ppm		98
17) N-Nitroso-di-n-propyla...	6.025	70	22397	0.13	ppm		95
18) 3&4-Methylphenol	6.056	108	21816	0.08	ppm		84
19) a-Terpinol	7.807	59	639	0.00	ppm	#	32
22) Nitrobenzene	6.180	77	47657	0.12	ppm		95
23) Isophorone	6.346	82	60685	0.10	ppm		84
24) 2-Nitrophenol	6.429	139	14921	0.10	ppm		91
25) 2,4-Dimethylphenol	6.439	122	18357	0.07	ppm	#	65
26) bis(2-Chloroethoxy)met...	6.471	93	43050	0.11	ppm		93
27) Benzoic Acid	7.579	122	3423	0.03	ppm	#	28
28) 2,4-Dichlorophenol	6.636	162	22842	0.10	ppm		93
29) 1,2,4-Trichlorobenzene	6.647	180	29307	0.11	ppm		96
30) Naphthalene	6.709	128	108467	0.10	ppm		90
31) 4-Chloroaniline	6.709	127	14867	0.05	ppm	#	44
32) Hexachlorobutadiene	6.771	225	16236	0.11	ppm		90
33) Diphenylamine	8.450	169	52521	0.10	ppm		99
34) 4-Chloro-3-methylphenol	7.113	107	29645m	0.11	ppm		
35) 2-Methylnaphthalene	7.206	142	68350	0.11	ppm		99
36) 1-methylnaphthalene	7.279	142	72012	0.11	ppm		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070922.D
Acq On : 10 Jul 2009 8:28 am (#1); 10-Jul-09, 08:25:09 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 MS
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 10:30:56 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration

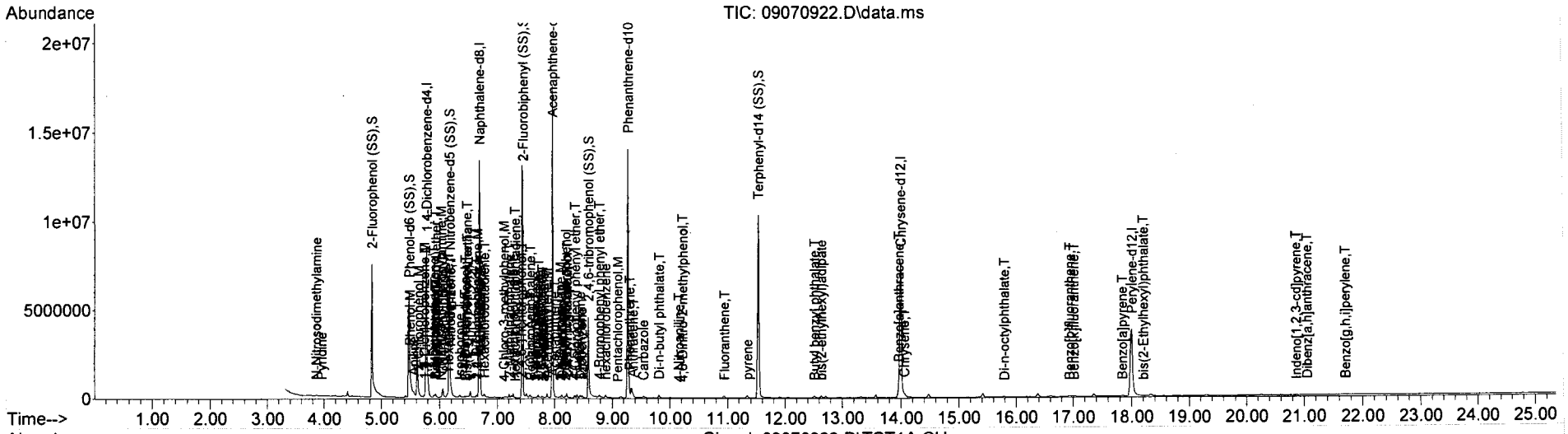
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) Hexachlorocyclopentadiene	7.310	237	1087	0.15	ppm		99
39) 2,4,6-Trichlorophenol	7.414	196	10691	0.07	ppm		97
40) 2,4,5-Trichlorophenol	8.212	196	1830	0.01	ppm		96
42) 2-Chloronaphthalene	7.569	162	63807	0.11	ppm		94
43) 2-Nitroaniline	7.963	65	22274	Below Cal		#	46
44) 1,3-Dinitrobenzene	7.756	168	3192	0.04	ppm	#	12
45) 1,2-dinitrobenzene	7.807	168	2901	0.03	ppm	#	4
46) Acenaphthylene	7.870	152	96448	0.09	ppm		93
47) 1,4-dinitrobenzene	7.662	168	571	0.01	ppm	#	1
48) Dimethyl phthalate	7.714	163	72100	0.11	ppm		97
49) 2,6-Dinitrotoluene	7.776	165	11151	0.08	ppm	#	45
50) Acenaphthene	7.994	154	72368	0.11	ppm		95
51) 3-Nitroaniline	7.662	138	12463	0.09	ppm		80
52) Dibenzofuran	8.129	168	92877	0.10	ppm		93
53) 2,4-Dinitrotoluene	8.098	165	1056m	0.16	ppm		
54) 4-Nitrophenol	8.129	139	23779m	0.12	ppm		
55) 2,3,4,6-Tetrachlorophenol	8.191	232	7490	0.15	ppm	#	20
56) 2,3,5,6-Tetrachlorophenol	8.191	232	7490	Below Cal		#	35
57) Fluorene	8.388	166	73742	0.10	ppm		98
58) 4-Chlorophenyl phenyl ...	8.357	204	33699	0.10	ppm		83
59) Diethyl phthalate	8.212	149	70025	0.10	ppm		96
60) 4-Nitroaniline	10.149	138	80	0.29	ppm	#	1
62) 4,6-Dinitro-2-methylph...	10.212	198	565	0.50	ppm	#	42
63) azobenzene	8.481	77	70022	0.11	ppm		93
65) 4-Bromophenyl phenyl e...	8.782	248	15428	0.10	ppm		95
66) hexachlorobenzene	8.885	284	17488	0.10	ppm		96
67) Pentachlorophenol	9.092	266	11182m	0.11	ppm		
68) Phenanthrene	9.300	178	105333	0.11	ppm		96
69) Anthracene	9.362	178	102919	0.11	ppm		95
70) Carbazole	9.538	167	79071	0.14	ppm		97
71) Di-n-butyl phthalate	9.807	149	121284	0.18	ppm		98
72) Fluoranthene	10.937	202	96386	0.11	ppm		96
74) pyrene	11.341	202	104799	0.11	ppm		97
76) Butyl benzyl phthalate	12.512	149	37260	0.22	ppm		97
77) bis(2-ethylhexyl)adipate	12.637	129	34380	0.28	ppm		97
78) 4,4'-DDT	17.248	235	292	No Calib		#	
79) Benzo[a]anthracene	13.963	228	87453	0.10	ppm		99
80) Chrysene	14.056	228	81862	0.10	ppm		95
81) bis(2-Ethylhexyl)phtha...	18.202	149	367	0.22	ppm		89
83) Di-n-octylphthalate	15.787	149	60780	0.28	ppm		99
84) Benzo[b]fluoranthene	16.937	252	46842	0.02	ppm		98
85) Benzo[k]fluoranthene	17.010	252	53845	0.10	ppm		94
86) Benzo[a]pyrene	17.839	252	40200	0.17	ppm		95
87) Indeno[1,2,3-cd]pyrene	20.865	276	81	0.22	ppm	#	47
88) Dibenz[a,h]anthracene	21.051	278	18802	0.12	ppm		83
89) Benzo[g,h,i]perylene	21.704	276	24139	0.09	ppm		94

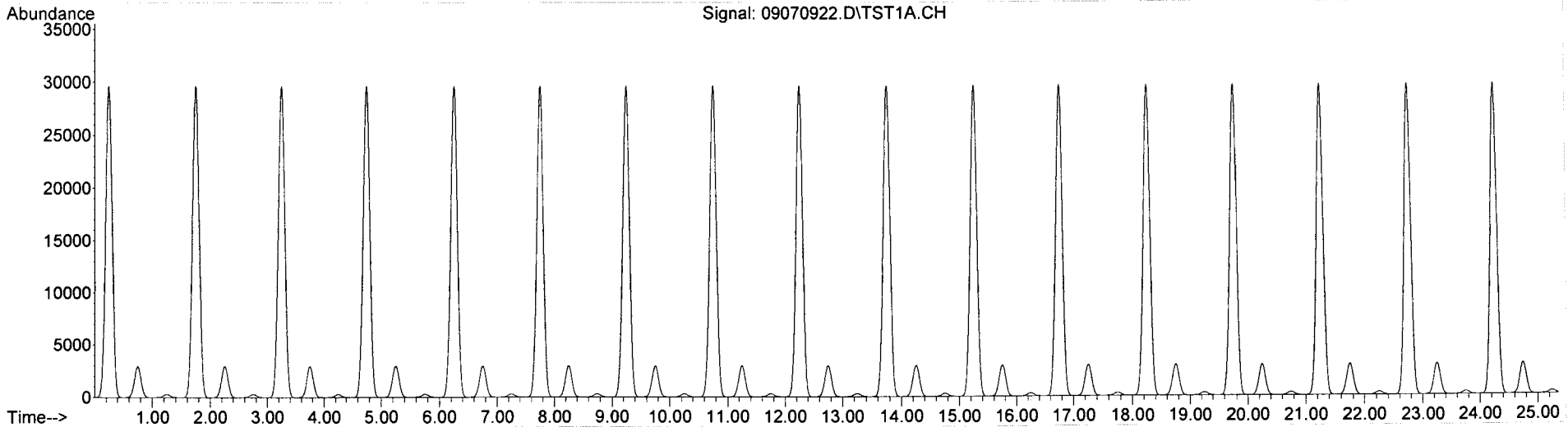
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070922.D
Acq On : 10 Jul 2009 8:28 am (#1); 10-Jul-09, 08:25:09 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 MS
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 10:30:56 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070923.D
Acq On : 10 Jul 2009 9:10 am (#1); 10-Jul-09, 09:07:02 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 MSD @ 0.1 mm
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 10:35:40 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2346632	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	9055176	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4748035	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7368665	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6484926	10.00	ppm	-0.01
82) Perylene-d12	17.994	264	3504259	10.00	ppm	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	2974173m	10.76	ppm	0.01
Spiked Amount 10.000	Range 21 - 110		Recovery = 107.60%			
6) Phenol-d6 (SS)	5.465	99	3312479m	10.95	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 109.50%			
21) Nitrobenzene-d5 (SS)	6.170	82	3674743	10.92	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 109.20%			
41) 2-Fluorobiphenyl (SS)	7.434	172	6758149	10.87	ppm	-0.01
Spiked Amount 10.000	Range 43 - 116		Recovery = 108.70%			
64) 2,4,6-tribromophenol (SS)	8.595	328	219381	10.19	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 101.90%			
75) Terphenyl-d14 (SS)	11.538	244	6213607	10.58	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 105.80%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	3.849	74	21860	0.12	ppm	# 1
3) Pyridine	3.963	79	11302	0.03	ppm	# 5
5) bis(2-Chloroethyl)ether	6.471	93	46014	0.13	ppm	90
7) Phenol	5.486	94	42935	0.11	ppm	# 1
8) Aniline	5.548	93	79088	0.21	ppm	# 86
9) 2-Chlorophenol	5.631	128	30504m	0.09	ppm	
10) 1,3-Dichlorobenzene	5.735	146	39260	0.12	ppm	99
11) 1,4-Dichlorobenzene	5.735	146	38657	0.12	ppm	98
12) 1,2-Dichlorobenzene	5.901	146	38274	0.12	ppm	94
13) Benzyl alcohol	5.921	108	24605	0.14	ppm	# 50
14) bis(2-chloroisopropyl)...	5.932	45	65550	0.11	ppm	87
15) 2-Methylphenol	5.921	107	22614	0.09	ppm	100
16) Hexachloroethane	6.149	117	19223	0.14	ppm	89
17) N-Nitroso-di-n-propyla...	6.025	70	20465m	0.12	ppm	
18) 3&4-Methylphenol	6.066	108	22857	0.08	ppm	99
19) a-Terpinol	7.704	59	1772	0.01	ppm	87
22) Nitrobenzene	6.180	77	68864	0.17	ppm	97
23) Isophorone	6.346	82	75036	0.12	ppm	88
24) 2-Nitrophenol	6.419	139	18213	0.12	ppm	94
25) 2,4-Dimethylphenol	6.450	122	15249	0.06	ppm	88
26) bis(2-Chloroethoxy)met...	6.471	93	46014	0.11	ppm	98
27) Benzoic Acid	7.579	122	3696	0.04	ppm	# 16
28) 2,4-Dichlorophenol	6.636	162	23353	0.10	ppm	83
29) 1,2,4-Trichlorobenzene	6.636	180	29239	0.10	ppm	96
30) Naphthalene	6.709	128	109965	0.10	ppm	93
31) 4-Chloroaniline	6.989	127	1255	0.00	ppm	87
32) Hexachlorobutadiene	6.771	225	16458	0.11	ppm	94
33) Diphenylamine	8.450	169	53272	0.10	ppm	95
34) 4-Chloro-3-methylphenol	7.155	107	25483	0.09	ppm	87
35) 2-Methylnaphthalene	7.206	142	71446	0.11	ppm	98
36) 1-methylnaphthalene	7.279	142	73077	0.11	ppm	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070923.D
Acq On : 10 Jul 2009 9:10 am (#1); 10-Jul-09, 09:07:02 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 MSD
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 10:35:40 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration

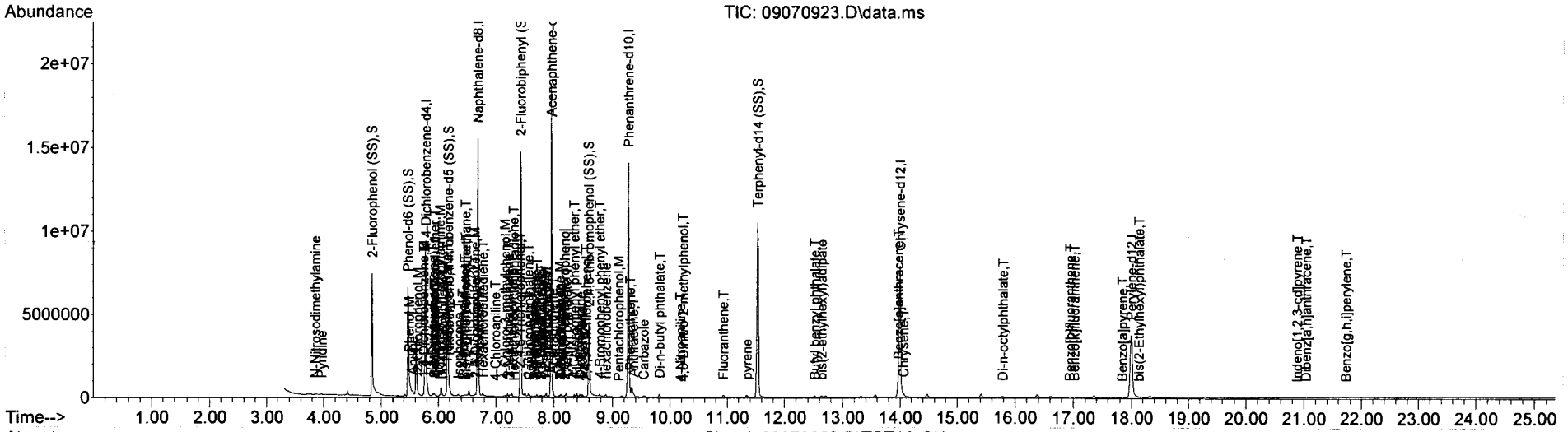
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
38) Hexachlorocyclopentadiene	7.310	237	1726	0.16 ppm		92
39) 2,4,6-Trichlorophenol	7.414	196	10244	0.07 ppm		84
40) 2,4,5-Trichlorophenol	8.543	196	313	0.00 ppm		78
42) 2-Chloronaphthalene	7.559	162	68959	0.11 ppm		97
43) 2-Nitroaniline	7.963	65	23271	Below Cal	#	45
44) 1,3-Dinitrobenzene	7.797	168	6640	0.07 ppm	#	12
45) 1,2-dinitrobenzene	7.849	168	7849	0.07 ppm	#	1
46) Acenaphthylene	7.870	152	103041	0.10 ppm		94
47) 1,4-dinitrobenzene	7.662	168	489	0.01 ppm	#	15
48) Dimethyl phthalate	7.704	163	75099	0.11 ppm		95
49) 2,6-Dinitrotoluene	7.776	165	12532	0.09 ppm	#	51
50) Acenaphthene	7.984	154	76587	0.11 ppm		97
51) 3-Nitroaniline	7.652	138	13382	0.09 ppm		98
52) Dibenzofuran	8.118	168	94662	0.10 ppm		97
53) 2,4-Dinitrotoluene	8.098	165	1115m	0.16 ppm		
54) 4-Nitrophenol	8.118	139	22656m	0.11 ppm		
55) 2,3,4,6-Tetrachlorophenol	8.181	232	7716	0.15 ppm	#	87
56) 2,3,5,6-Tetrachlorophenol	8.222	232	11056	Below Cal	#	35
57) Fluorene	8.388	166	79267	0.10 ppm		95
58) 4-Chlorophenyl phenyl ...	8.346	204	34896	0.10 ppm		88
59) Diethyl phthalate	8.212	149	73137	0.10 ppm		93
60) 4-Nitroaniline	10.170	138	305	0.30 ppm	#	46
62) 4,6-Dinitro-2-methylph...	10.222	198	314	0.50 ppm		89
63) azobenzene	8.481	77	73834	0.11 ppm		92
65) 4-Bromophenyl phenyl e...	8.782	248	19955	0.13 ppm		93
66) hexachlorobenzene	8.885	284	18704	0.11 ppm		96
67) Pentachlorophenol	9.103	266	11088m	0.10 ppm		
68) Phenanthrene	9.300	178	111044	0.11 ppm		97
69) Anthracene	9.362	178	104103	0.11 ppm		96
70) Carbazole	9.538	167	82676	0.14 ppm		97
71) Di-n-butyl phthalate	9.808	149	132004	0.19 ppm		97
72) Fluoranthene	10.927	202	97367	0.10 ppm		95
74) pyrene	11.341	202	110133	0.11 ppm		97
76) Butyl benzyl phthalate	12.512	149	39694	0.22 ppm		95
77) bis(2-ethylhexyl)adipate	12.637	129	36681	0.29 ppm		97
78) 4,4'-DDT	17.227	235	106	No Calib	#	
79) Benzo[a]anthracene	13.963	228	91236	0.10 ppm		96
80) Chrysene	14.056	228	85692	0.10 ppm		96
81) bis(2-Ethylhexyl)phtha...	18.129	149	747	0.22 ppm		89
83) Di-n-octylphthalate	15.787	149	64997	0.29 ppm		98
84) Benzo[b]fluoranthene	16.937	252	50113	0.03 ppm		90
85) Benzo[k]fluoranthene	17.010	252	58048	0.11 ppm		92
86) Benzo[a]pyrene	17.839	252	40456	0.17 ppm		97
87) Indeno[1,2,3-cd]pyrene	20.875	276	126	0.22 ppm	#	1
88) Dibenz[a,h]anthracene	21.031	278	14597	0.11 ppm		87
89) Benzo[g,h,i]perylene	21.725	276	22782	0.08 ppm		94

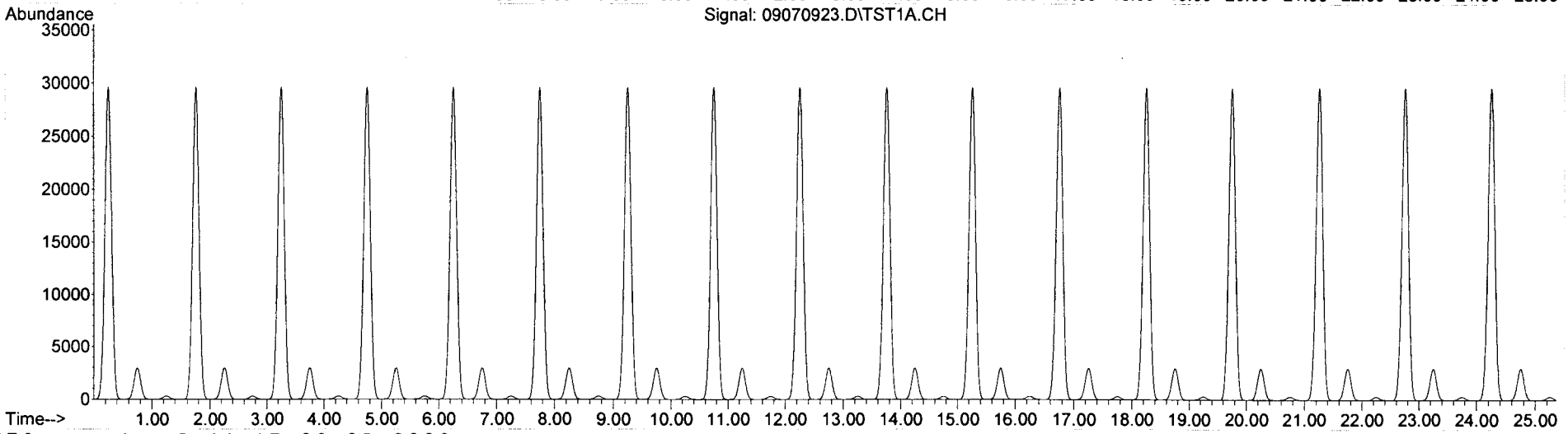
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070923.D
Acq On : 10 Jul 2009 9:10 am (#1); 10-Jul-09, 09:07:02 (#2)
Operator : TM
Sample : 30-08 MW20 CF100 MSD
Misc :
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 10:35:40 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070924.D
Acq On : 10 Jul 2009 9:52 am (#1); 10-Jul-09, 09:49:07 (#2)
Operator : TM
Sample : 30-08 MW21 CF100
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:28:54 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2204327	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8602017	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4520397	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	6938695	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6122491	10.00	ppm	-0.02
82) Perylene-d12	17.994	264	3319326	10.00	ppm	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3425998	9.08	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 90.80%			
6) Phenol-d6 (SS)	5.465	99	4284324	10.25	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 102.50%			
21) Nitrobenzene-d5 (SS)	6.170	82	3642522	9.61	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 96.10%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6621392	10.75	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 107.50%			
64) 2,4,6-tribromophenol (SS)	8.595	328	236005	8.82	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 88.20%			
75) Terphenyl-d14 (SS)	11.538	244	5968747	8.75	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 87.50%			

Target Compounds				Qvalue
2) N-Nitrosodimethylamine	0.000	0	N.D. d	
3) Pyridine	0.000	0	N.D. d	
5) bis(2-Chloroethyl)ether	0.000	0	N.D. d	
7) Phenol	0.000	0	N.D. d	
8) Aniline	0.000	0	N.D. d	
9) 2-Chlorophenol	0.000	0	N.D.	
10) 1,3-Dichlorobenzene	0.000	0	N.D. d	
11) 1,4-Dichlorobenzene	0.000	0	N.D. d	
12) 1,2-Dichlorobenzene	0.000	0	N.D. d	
13) Benzyl alcohol	0.000	0	N.D. d	
14) bis(2-chloroisopropyl)...	0.000	0	N.D. d	
15) 2-Methylphenol	0.000	0	N.D. d	
16) Hexachloroethane	0.000	0	N.D. d	
17) N-Nitroso-di-n-propyla...	0.000	0	N.D.	
18) 3&4-Methylphenol	0.000	0	N.D. d	
19) a-Terpinol	0.000	0	N.D. d	
22) Nitrobenzene	0.000	0	N.D. d	
23) Isophorone	0.000	0	N.D.	
24) 2-Nitrophenol	0.000	0	N.D. d	
25) 2,4-Dimethylphenol	0.000	0	N.D. d	
26) bis(2-Chloroethoxy)met...	0.000	0	N.D. d	
27) Benzoic Acid	0.000	0	N.D. d	
28) 2,4-Dichlorophenol	0.000	0	N.D. d	
29) 1,2,4-Trichlorobenzene	0.000	0	N.D. d	
30) Naphthalene	0.000	0	N.D. d	
31) 4-Chloroaniline	0.000	0	N.D. d	
32) Hexachlorobutadiene	0.000	0	N.D. d	
33) Diphenylamine	0.000	0	N.D. d	
34) 4-Chloro-3-methylphenol	0.000	0	N.D. d	
35) 2-Methylnaphthalene	0.000	0	N.D. d	
36) 1-methylnaphthalene	0.000	0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070924.D
Acq On : 10 Jul 2009 9:52 am (#1); 10-Jul-09, 09:49:07 (#2)
Operator : TM
Sample : 30-08 MW21 CF100
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:28:54 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

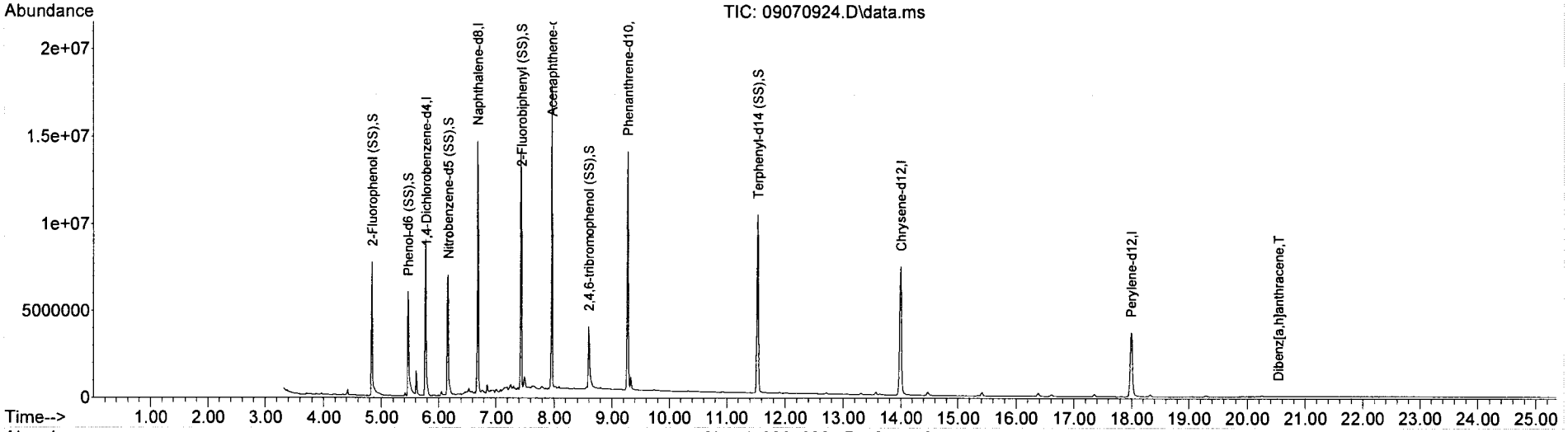
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	0.000		0	N.D.	d	
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	20.533	278	43	0.18	ppm	94
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

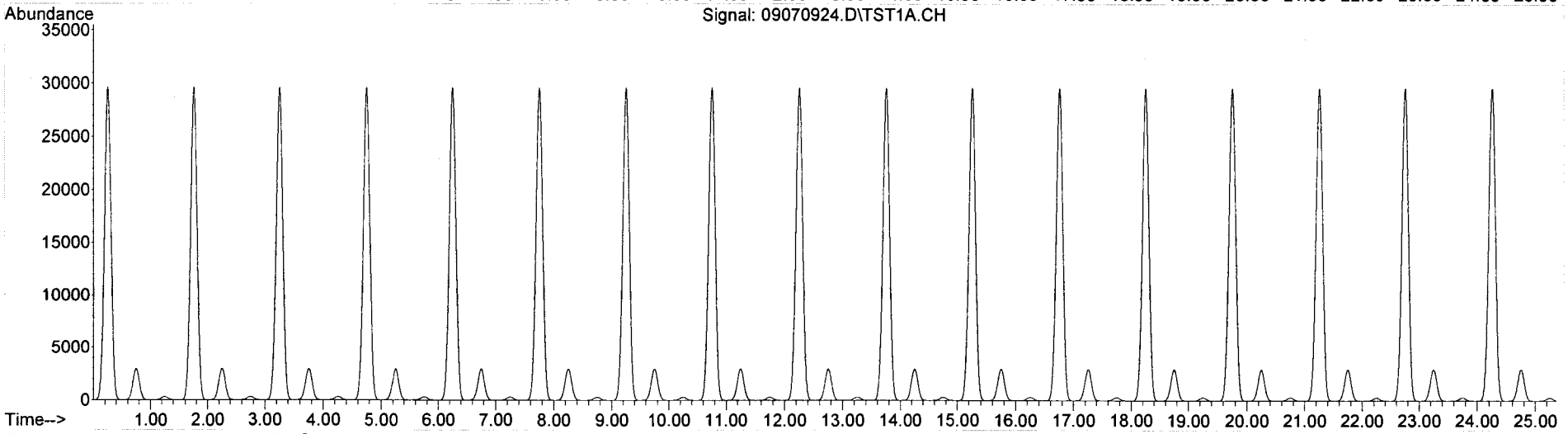
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070924.D
Acq On : 10 Jul 2009 9:52 am (#1); 10-Jul-09, 09:49:07 (#2)
Operator : TM
Sample : 30-08 MW21 CF100
Misc :
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:28:54 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070925.D
Acq On : 10 Jul 2009 10:32 am (#1); 10-Jul-09, 10:29:14 (#2)
Operator : TM
Sample : 30-08 MW22 CF100
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:39:49 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2125036	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	8247847	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4340750	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	6582269	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	5832772	10.00	ppm	-0.02
82) Perylene-d12	17.994	264	3230300	10.00	ppm	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3019908	8.30	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 83.00%			
6) Phenol-d6 (SS)	5.476	99	3750144	9.31	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 93.10%			
21) Nitrobenzene-d5 (SS)	6.170	82	3487503	9.60	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 96.00%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6296641	10.65	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 106.50%			
64) 2,4,6-tribromophenol (SS)	8.595	328	193053	7.60	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 76.00%			
75) Terphenyl-d14 (SS)	11.538	244	5773805	8.88	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 88.80%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.	d	
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.	d	
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070925.D
Acq On : 10 Jul 2009 10:32 am (#1); 10-Jul-09, 10:29:14 (#2)
Operator : TM
Sample : 30-08 MW22 CF100
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:39:49 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

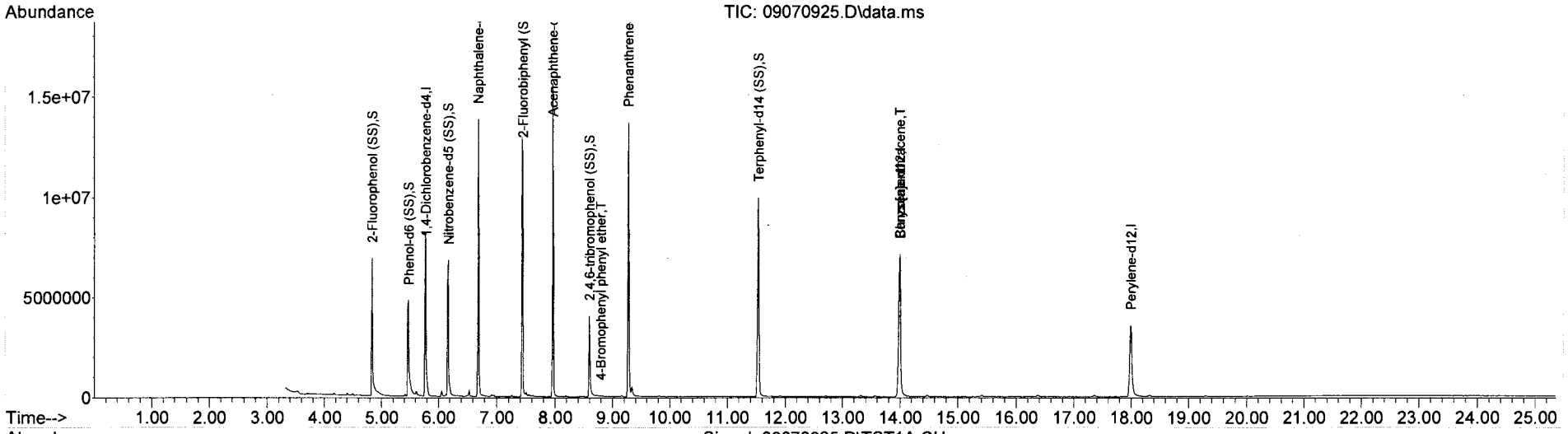
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d		
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d		
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d		
42) 2-Chloronaphthalene	0.000		0	N.D.	d		
43) 2-Nitroaniline	0.000		0	N.D.	d		
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d		
45) 1,2-dinitrobenzene	0.000		0	N.D.	d		
46) Acenaphthylene	0.000		0	N.D.	d		
47) 1,4-dinitrobenzene	0.000		0	N.D.	d		
48) Dimethyl phthalate	0.000		0	N.D.	d		
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d		
50) Acenaphthene	0.000		0	N.D.	d		
51) 3-Nitroaniline	0.000		0	N.D.	d		
52) Dibenzofuran	0.000		0	N.D.	d		
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d		
54) 4-Nitrophenol	0.000		0	N.D.	d		
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d		
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d		
57) Fluorene	0.000		0	N.D.	d		
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d		
59) Diethyl phthalate	0.000		0	N.D.	d		
60) 4-Nitroaniline	0.000		0	N.D.	d		
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d		
63) azobenzene	0.000		0	N.D.	d		
65) 4-Bromophenyl phenyl e...	8.792	248	1180	0.01	ppm	#	61
66) hexachlorobenzene	0.000		0	N.D.	d		
67) Pentachlorophenol	0.000		0	N.D.	d		
68) Phenanthrene	0.000		0	N.D.	d		
69) Anthracene	0.000		0	N.D.	d		
70) Carbazole	0.000		0	N.D.	d		
71) Di-n-butyl phthalate	0.000		0	N.D.	d		
72) Fluoranthene	0.000		0	N.D.	d		
74) pyrene	0.000		0	N.D.	d		
76) Butyl benzyl phthalate	0.000		0	N.D.	d		
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d		
78) 4,4'-DDT	0.000		0	N.D.	d		
79) Benzo[a]anthracene	13.994	228	15581m	0.02	ppm		
80) Chrysene	0.000		0	N.D.	d		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d		
83) Di-n-octylphthalate	0.000		0	N.D.	d		
84) Benzo[b]fluoranthene	0.000		0	N.D.	d		
85) Benzo[k]fluoranthene	0.000		0	N.D.	d		
86) Benzo[a]pyrene	0.000		0	N.D.	d		
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d		
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d		
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d		

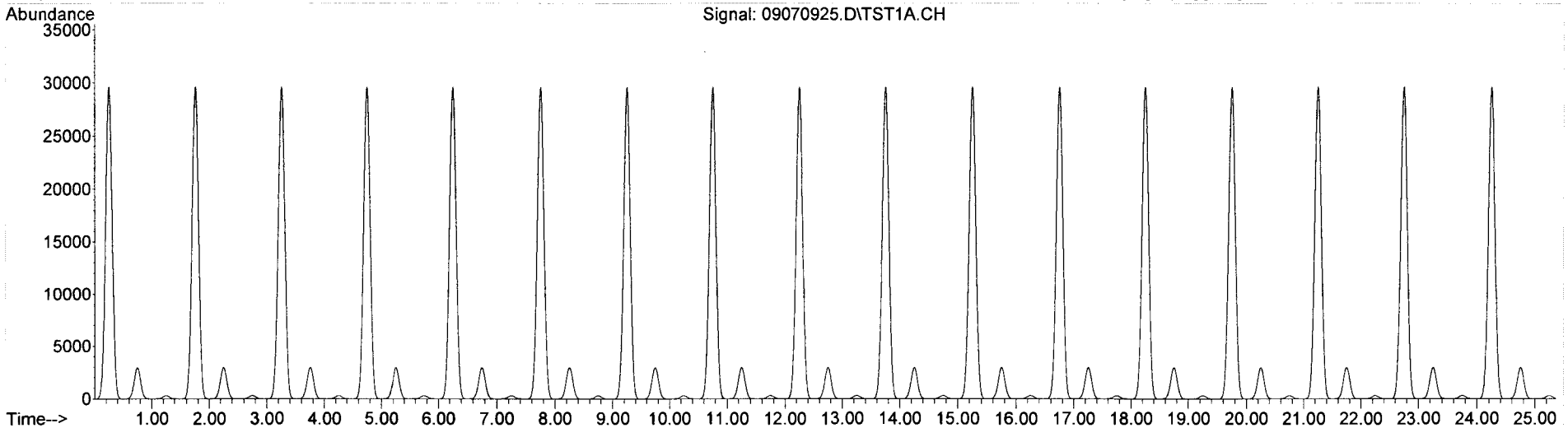
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070925.D
Acq On : 10 Jul 2009 10:32 am (#1); 10-Jul-09, 10:29:14 (#2)
Operator : TM
Sample : 30-08 MW22 CF100
Misc :
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 16:39:49 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070926.D
Acq On : 10 Jul 2009 11:39 am (#1); 10-Jul-09, 11:36:36 (#2)
Operator : TM
Sample : 30-08 MW23 CF100
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:01:10 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.776	152	2007953	10.00	ppm	0.00
20) Naphthalene-d8	6.688	136	7711160	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4044368	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	6133203	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	5245247	10.00	ppm	-0.02
82) Perylene-d12	17.994	264	2832173	10.00	ppm	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	2923440	8.51	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 85.10%			
6) Phenol-d6 (SS)	5.476	99	3687448	9.68	ppm	0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 96.80%			
21) Nitrobenzene-d5 (SS)	6.170	82	3086405	9.09	ppm	0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 90.90%			
41) 2-Fluorobiphenyl (SS)	7.445	172	5683288	10.31	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 103.10%			
64) 2,4,6-tribromophenol (SS)	8.595	328	188095	7.95	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 79.50%			
75) Terphenyl-d14 (SS)	11.538	244	5120866	8.76	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 87.60%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	d	
3) Pyridine	0.000		0	N.D.	d	
5) bis(2-Chloroethyl)ether	0.000		0	N.D.	d	
7) Phenol	0.000		0	N.D.	d	
8) Aniline	0.000		0	N.D.	d	
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
12) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
13) Benzyl alcohol	0.000		0	N.D.	d	
14) bis(2-chloroisopropyl)...	0.000		0	N.D.	d	
15) 2-Methylphenol	0.000		0	N.D.		
16) Hexachloroethane	0.000		0	N.D.	d	
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D.	d	
19) a-Terpinol	0.000		0	N.D.	d	
22) Nitrobenzene	0.000		0	N.D.	d	
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D.	d	
25) 2,4-Dimethylphenol	0.000		0	N.D.		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D.	d	
27) Benzoic Acid	0.000		0	N.D.	d	
28) 2,4-Dichlorophenol	0.000		0	N.D.	d	
29) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d	
30) Naphthalene	0.000		0	N.D.	d	
31) 4-Chloroaniline	0.000		0	N.D.	d	
32) Hexachlorobutadiene	0.000		0	N.D.	d	
33) Diphenylamine	0.000		0	N.D.	d	
34) 4-Chloro-3-methylphenol	0.000		0	N.D.	d	
35) 2-Methylnaphthalene	0.000		0	N.D.	d	
36) 1-methylnaphthalene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070926.D
Acq On : 10 Jul 2009 11:39 am (#1); 10-Jul-09, 11:36:36 (#2)
Operator : TM
Sample : 30-08 MW23 CF100
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:01:10 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

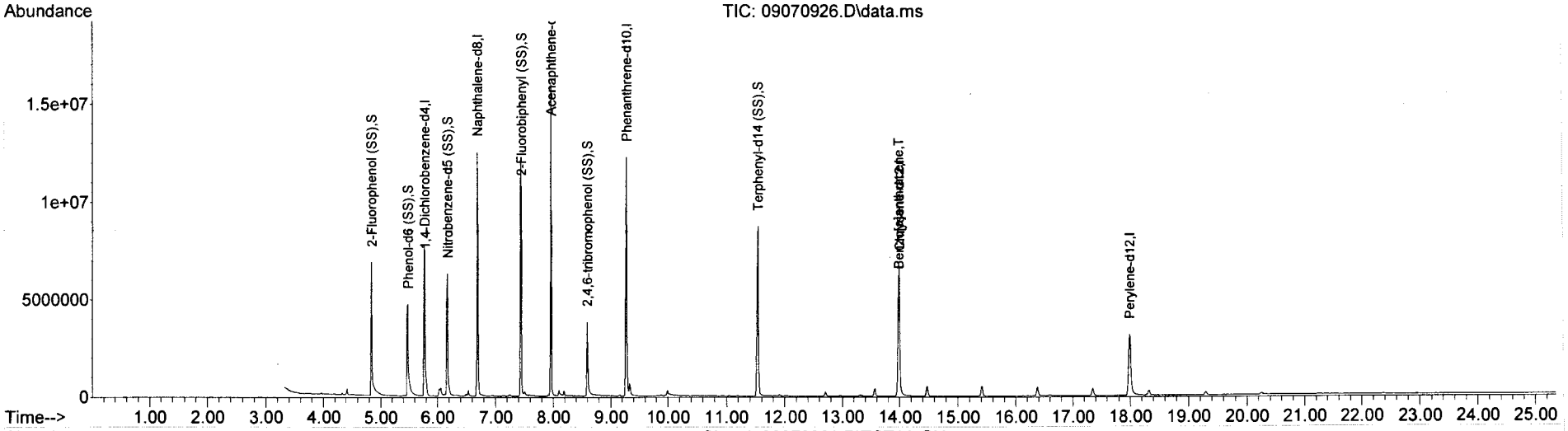
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d		
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d		
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d		
42) 2-Chloronaphthalene	0.000		0	N.D.	d		
43) 2-Nitroaniline	0.000		0	N.D.	d		
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d		
45) 1,2-dinitrobenzene	0.000		0	N.D.	d		
46) Acenaphthylene	0.000		0	N.D.	d		
47) 1,4-dinitrobenzene	0.000		0	N.D.	d		
48) Dimethyl phthalate	0.000		0	N.D.	d		
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d		
50) Acenaphthene	0.000		0	N.D.	d		
51) 3-Nitroaniline	0.000		0	N.D.	d		
52) Dibenzofuran	0.000		0	N.D.	d		
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d		
54) 4-Nitrophenol	0.000		0	N.D.	d		
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d		
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d		
57) Fluorene	0.000		0	N.D.	d		
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d		
59) Diethyl phthalate	0.000		0	N.D.	d		
60) 4-Nitroaniline	0.000		0	N.D.	d		
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d		
63) azobenzene	0.000		0	N.D.	d		
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.	d		
66) hexachlorobenzene	0.000		0	N.D.	d		
67) Pentachlorophenol	0.000		0	N.D.	d		
68) Phenanthrene	0.000		0	N.D.	d		
69) Anthracene	0.000		0	N.D.	d		
70) Carbazole	0.000		0	N.D.	d		
71) Di-n-butyl phthalate	0.000		0	N.D.	d		
72) Fluoranthene	0.000		0	N.D.	d		
74) pyrene	0.000		0	N.D.	d		
76) Butyl benzyl phthalate	0.000		0	N.D.	d		
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d		
78) 4,4'-DDT	0.000		0	N.D.	d		
79) Benzo[a]anthracene	13.984	228	11355	0.02	ppm	#	54
80) Chrysene	0.000		0	N.D.	d		
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d		
83) Di-n-octylphthalate	0.000		0	N.D.	d		
84) Benzo[b]fluoranthene	0.000		0	N.D.	d		
85) Benzo[k]fluoranthene	0.000		0	N.D.	d		
86) Benzo[a]pyrene	0.000		0	N.D.	d		
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d		
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d		
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d		

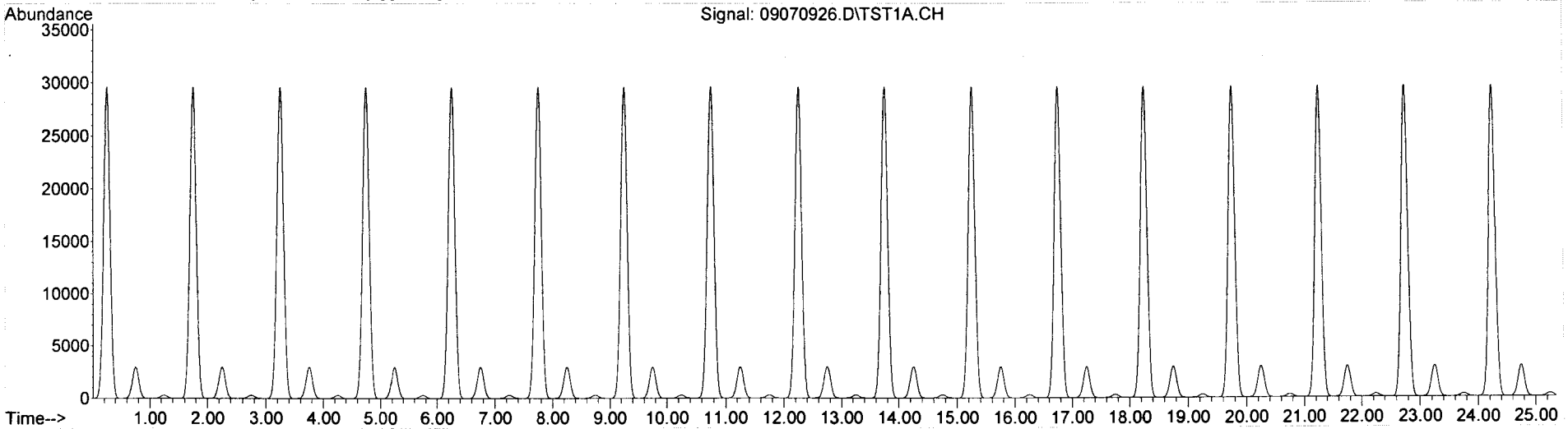
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070926.D
Acq On : 10 Jul 2009 11:39 am (#1); 10-Jul-09, 11:36:36 (#2)
Operator : TM
Sample : 30-08 MW23 CF100
Misc :
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:01:10 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070927.D
Acq On : 10 Jul 2009 12:18 pm (#1); 10-Jul-09, 12:14:57 (#2)
Operator : TM
Sample : 30-08 MW24 CF100
Misc :
ALS Vial : 23 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:04:52 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	2369061	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	9197872	10.00	ppm	0.00
37) Acenaphthene-d10	7.963	164	4835564	10.00	ppm	0.00
61) Phenanthrene-d10	9.279	188	7405075	10.00	ppm	0.00
73) Chrysene-d12	13.994	240	6618064	10.00	ppm	-0.02
82) Perylene-d12	17.994	264	3722614	10.00	ppm	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	3268468	8.06	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 80.60%			
6) Phenol-d6 (SS)	5.465	99	4062965	9.04	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 90.40%			
21) Nitrobenzene-d5 (SS)	6.160	82	3982536	9.83	ppm	-0.01
Spiked Amount 10.000	Range 34 - 114		Recovery = 98.30%			
41) 2-Fluorobiphenyl (SS)	7.434	172	7027341	10.67	ppm	-0.01
Spiked Amount 10.000	Range 43 - 116		Recovery = 106.70%			
64) 2,4,6-tribromophenol (SS)	8.595	328	216222	7.57	ppm	0.00
Spiked Amount 10.000	Range 10 - 123		Recovery = 75.70%			
75) Terphenyl-d14 (SS)	11.538	244	6516436	8.84	ppm	0.00
Spiked Amount 10.000	Range 33 - 141		Recovery = 88.40%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D. d		
3) Pyridine	0.000		0	N.D. d		
5) bis(2-Chloroethyl)ether	0.000		0	N.D. d		
7) Phenol	0.000		0	N.D. d		
8) Aniline	0.000		0	N.D. d		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D. d		
11) 1,4-Dichlorobenzene	0.000		0	N.D. d		
12) 1,2-Dichlorobenzene	0.000		0	N.D. d		
13) Benzyl alcohol	0.000		0	N.D. d		
14) bis(2-chloroisopropyl)...	0.000		0	N.D. d		
15) 2-Methylphenol	0.000		0	N.D. d		
16) Hexachloroethane	0.000		0	N.D. d		
17) N-Nitroso-di-n-propyla...	0.000		0	N.D.		
18) 3&4-Methylphenol	0.000		0	N.D. d		
19) a-Terpinol	0.000		0	N.D. d		
22) Nitrobenzene	0.000		0	N.D. d		
23) Isophorone	0.000		0	N.D.		
24) 2-Nitrophenol	0.000		0	N.D. d		
25) 2,4-Dimethylphenol	0.000		0	N.D. d		
26) bis(2-Chloroethoxy)met...	0.000		0	N.D. d		
27) Benzoic Acid	0.000		0	N.D. d		
28) 2,4-Dichlorophenol	0.000		0	N.D. d		
29) 1,2,4-Trichlorobenzene	0.000		0	N.D. d		
30) Naphthalene	6.709	128	10196	0.01	ppm	92
31) 4-Chloroaniline	0.000		0	N.D. d		
32) Hexachlorobutadiene	0.000		0	N.D. d		
33) Diphenylamine	0.000		0	N.D. d		
34) 4-Chloro-3-methylphenol	0.000		0	N.D. d		
35) 2-Methylnaphthalene	7.206	142	3364	0.01	ppm	95
36) 1-methylnaphthalene	7.279	142	3220m	0.00	ppm	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070927.D
Acq On : 10 Jul 2009 12:18 pm (#1); 10-Jul-09, 12:14:57 (#2)
Operator : TM
Sample : 30-08 MW24 CF100
Misc :
ALS Vial : 23 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:04:52 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

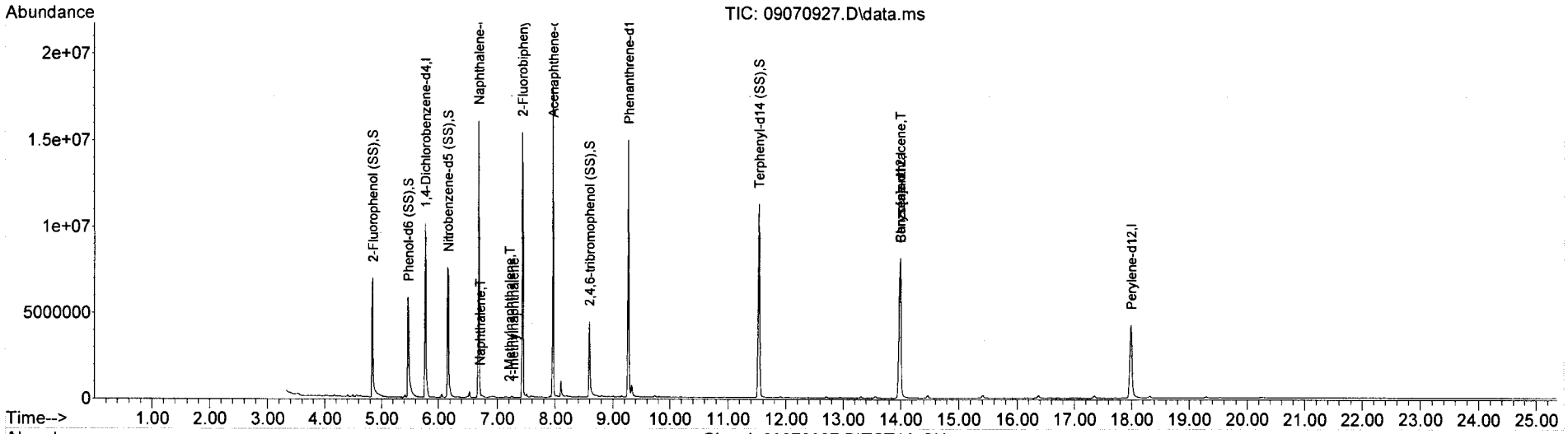
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	13.994	228	15168	0.02	ppm	64
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

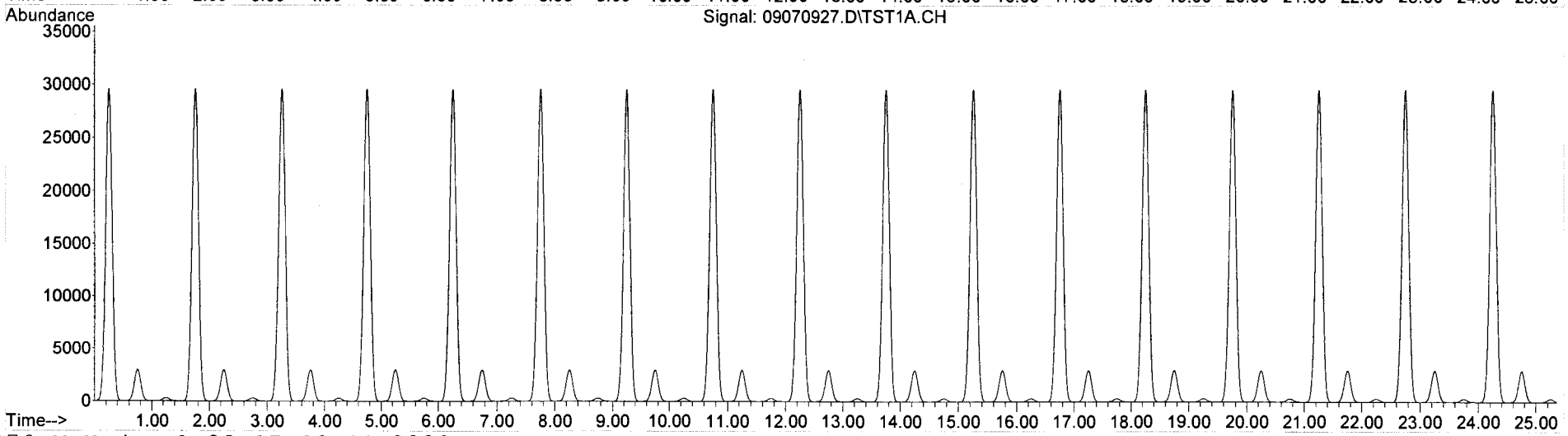
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070927.D
Acq On : 10 Jul 2009 12:18 pm (#1); 10-Jul-09, 12:14:57 (#2)
Operator : TM
Sample : 30-08 MW24 CF100
Misc :
ALS Vial : 23 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:04:52 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070928.D
Acq On : 10 Jul 2009 12:56 pm (#1); 10-Jul-09, 12:53:24 (#2)
Operator : TM
Sample : 30-08 MW25 CF100
Misc :
ALS Vial : 24 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:14:52 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	5.766	152	1950010	10.00	ppm	-0.01
20) Naphthalene-d8	6.688	136	7663106	10.00	ppm	0.00
37) Acenaphthene-d10	7.973	164	4014758	10.00	ppm	0.01
61) Phenanthrene-d10	9.289	188	6173114	10.00	ppm	0.01
73) Chrysene-d12	14.004	240	5403579	10.00	ppm	-0.01
82) Perylene-d12	18.005	264	2882699	10.00	ppm	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (SS)	4.844	112	2646102	7.93	ppm	0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 79.30%			
6) Phenol-d6 (SS)	5.465	99	3305403	8.94	ppm	-0.01
Spiked Amount 10.000	Range 10 - 110		Recovery = 89.40%			
21) Nitrobenzene-d5 (SS)	6.160	82	3280267	9.72	ppm	-0.01
Spiked Amount 10.000	Range 34 - 114		Recovery = 97.20%			
41) 2-Fluorobiphenyl (SS)	7.445	172	5890209	10.77	ppm	0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 107.70%			
64) 2,4,6-tribromophenol (SS)	8.605	328	180254	7.57	ppm	0.01
Spiked Amount 10.000	Range 10 - 123		Recovery = 75.70%			
75) Terphenyl-d14 (SS)	11.548	244	5420186	9.00	ppm	0.01
Spiked Amount 10.000	Range 33 - 141		Recovery = 90.00%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	0.000	0	N.D. d			
3) Pyridine	0.000	0	N.D. d			
5) bis(2-Chloroethyl)ether	0.000	0	N.D. d			
7) Phenol	0.000	0	N.D. d			
8) Aniline	0.000	0	N.D. d			
9) 2-Chlorophenol	0.000	0	N.D.			
10) 1,3-Dichlorobenzene	0.000	0	N.D. d			
11) 1,4-Dichlorobenzene	0.000	0	N.D. d			
12) 1,2-Dichlorobenzene	0.000	0	N.D. d			
13) Benzyl alcohol	0.000	0	N.D. d			
14) bis(2-chloroisopropyl)...	0.000	0	N.D. d			
15) 2-Methylphenol	0.000	0	N.D. d			
16) Hexachloroethane	0.000	0	N.D. d			
17) N-Nitroso-di-n-propyla...	0.000	0	N.D.			
18) 3&4-Methylphenol	0.000	0	N.D. d			
19) a-Terpinol	0.000	0	N.D. d			
22) Nitrobenzene	0.000	0	N.D. d			
23) Isophorone	0.000	0	N.D.			
24) 2-Nitrophenol	0.000	0	N.D. d			
25) 2,4-Dimethylphenol	0.000	0	N.D. d			
26) bis(2-Chloroethoxy)met...	0.000	0	N.D. d			
27) Benzoic Acid	0.000	0	N.D. d			
28) 2,4-Dichlorophenol	0.000	0	N.D. d			
29) 1,2,4-Trichlorobenzene	0.000	0	N.D. d			
30) Naphthalene	0.000	0	N.D. d			
31) 4-Chloroaniline	0.000	0	N.D. d			
32) Hexachlorobutadiene	0.000	0	N.D. d			
33) Diphenylamine	0.000	0	N.D. d			
34) 4-Chloro-3-methylphenol	0.000	0	N.D. d			
35) 2-Methylnaphthalene	0.000	0	N.D. d			
36) 1-methylnaphthalene	0.000	0	N.D. d			

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070928.D
Acq On : 10 Jul 2009 12:56 pm (#1); 10-Jul-09, 12:53:24 (#2)
Operator : TM
Sample : 30-08 MW25 CF100
Misc :
ALS Vial : 24 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:14:52 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

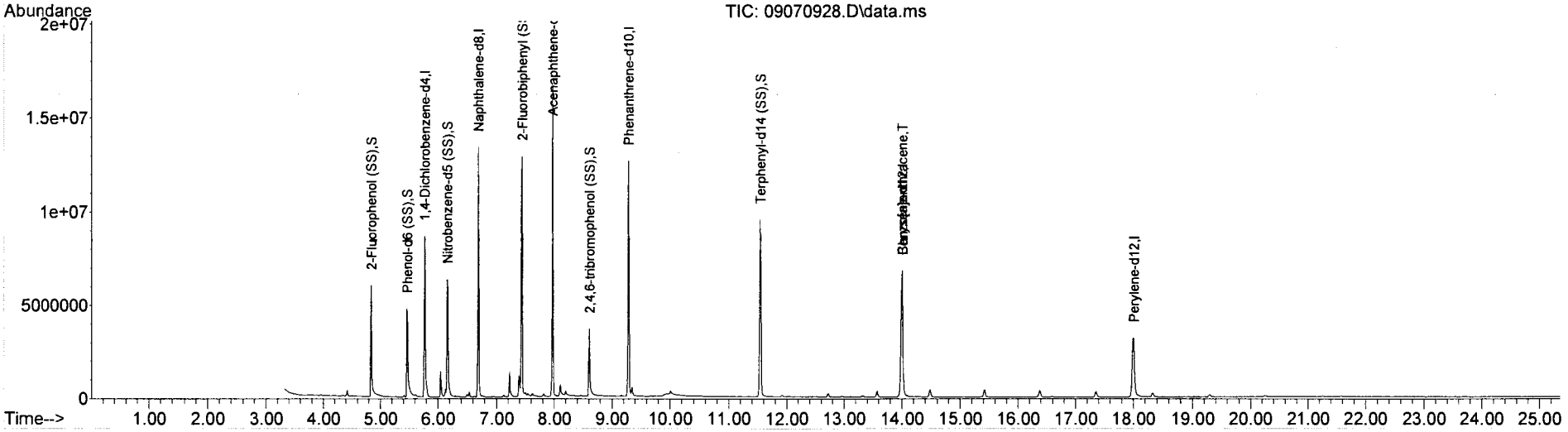
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) Hexachlorocyclopentadiene	0.000		0	N.D.	d	
39) 2,4,6-Trichlorophenol	0.000		0	N.D.	d	
40) 2,4,5-Trichlorophenol	0.000		0	N.D.	d	
42) 2-Chloronaphthalene	0.000		0	N.D.	d	
43) 2-Nitroaniline	0.000		0	N.D.	d	
44) 1,3-Dinitrobenzene	0.000		0	N.D.	d	
45) 1,2-dinitrobenzene	0.000		0	N.D.	d	
46) Acenaphthylene	0.000		0	N.D.	d	
47) 1,4-dinitrobenzene	0.000		0	N.D.	d	
48) Dimethyl phthalate	0.000		0	N.D.	d	
49) 2,6-Dinitrotoluene	0.000		0	N.D.	d	
50) Acenaphthene	0.000		0	N.D.	d	
51) 3-Nitroaniline	0.000		0	N.D.	d	
52) Dibenzofuran	0.000		0	N.D.	d	
53) 2,4-Dinitrotoluene	0.000		0	N.D.	d	
54) 4-Nitrophenol	0.000		0	N.D.	d	
55) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	d	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	d	
57) Fluorene	0.000		0	N.D.	d	
58) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	d	
59) Diethyl phthalate	0.000		0	N.D.	d	
60) 4-Nitroaniline	0.000		0	N.D.	d	
62) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	d	
63) azobenzene	0.000		0	N.D.	d	
65) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
66) hexachlorobenzene	0.000		0	N.D.	d	
67) Pentachlorophenol	0.000		0	N.D.	d	
68) Phenanthrene	0.000		0	N.D.	d	
69) Anthracene	0.000		0	N.D.	d	
70) Carbazole	0.000		0	N.D.	d	
71) Di-n-butyl phthalate	0.000		0	N.D.	d	
72) Fluoranthene	0.000		0	N.D.	d	
74) pyrene	0.000		0	N.D.	d	
76) Butyl benzyl phthalate	0.000		0	N.D.	d	
77) bis(2-ethylhexyl)adipate	0.000		0	N.D.	d	
78) 4,4'-DDT	0.000		0	N.D.	d	
79) Benzo[a]anthracene	14.004	228	14012	0.02	ppm	64
80) Chrysene	0.000		0	N.D.	d	
81) bis(2-Ethylhexyl)phtha...	0.000		0	N.D.	d	
83) Di-n-octylphthalate	0.000		0	N.D.	d	
84) Benzo[b]fluoranthene	0.000		0	N.D.	d	
85) Benzo[k]fluoranthene	0.000		0	N.D.	d	
86) Benzo[a]pyrene	0.000		0	N.D.	d	
87) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.	d	
88) Dibenz[a,h]anthracene	0.000		0	N.D.	d	
89) Benzo[g,h,i]perylene	0.000		0	N.D.	d	

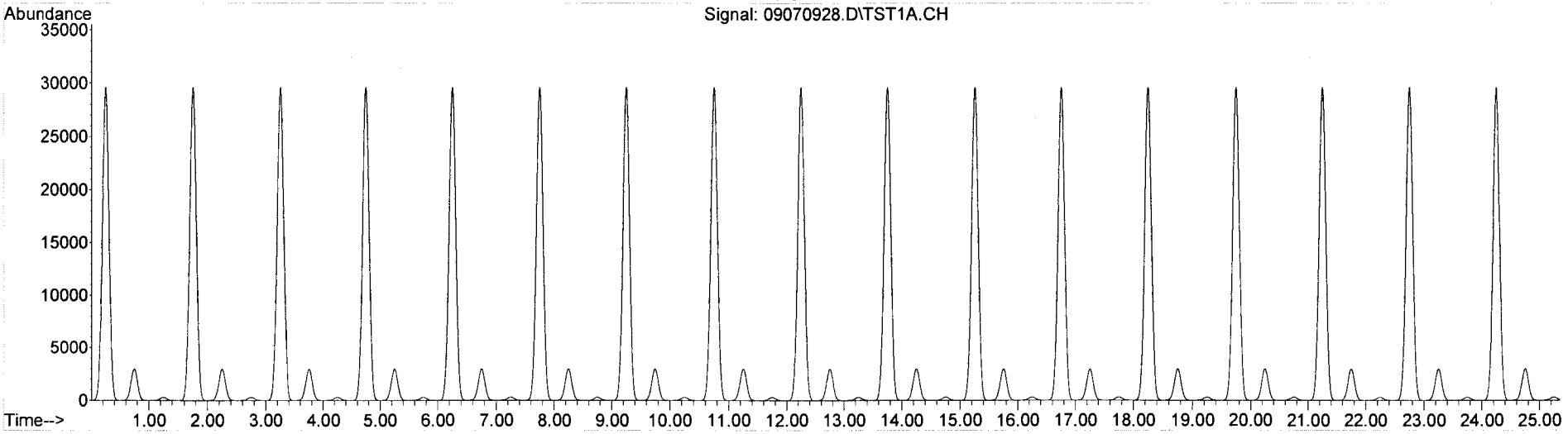
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070901\
Data File : 09070928.D
Acq On : 10 Jul 2009 12:56 pm (#1); 10-Jul-09, 12:53:24 (#2)
Operator : TM
Sample : 30-08 MW25 CF100
Misc :
ALS Vial : 24 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:14:52 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070902\
Data File : 09070929.D
Acq On : 10 Jul 2009 2:11 pm (#1); 10-Jul-09, 14:08:12 (#2)
Operator : TM
Sample : LCS @ 10 ppm
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 15:17:08 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.766	152	2037118	10.00	ppm		-0.01
20) Naphthalene-d8	6.688	136	8225535	10.00	ppm		0.00
37) Acenaphthene-d10	7.973	164	4358249	10.00	ppm		0.01
61) Phenanthrene-d10	9.289	188	6683251	10.00	ppm		0.01
73) Chrysene-d12	14.005	240	5907537	10.00	ppm		0.00
82) Perylene-d12	18.005	264	3470944	10.00	ppm		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol (SS)	4.844	112	2090109m	8.71	ppm		0.01
Spiked Amount 10.000	Range 21 - 110		Recovery =	87.10%			
6) Phenol-d6 (SS)	5.476	99	2378058m	9.06	ppm		0.01
Spiked Amount 10.000	Range 10 - 110		Recovery =	90.60%			
21) Nitrobenzene-d5 (SS)	6.170	82	3359432	10.99	ppm		0.00
Spiked Amount 10.000	Range 34 - 114		Recovery =	109.90%			
41) 2-Fluorobiphenyl (SS)	7.445	172	6018034	10.55	ppm		0.00
Spiked Amount 10.000	Range 43 - 116		Recovery =	105.50%			
64) 2,4,6-tribromophenol (SS)	8.605	328	190395m	9.75	ppm		0.01
Spiked Amount 10.000	Range 10 - 123		Recovery =	97.50%			
75) Terphenyl-d14 (SS)	11.538	244	5632630	10.53	ppm		0.00
Spiked Amount 10.000	Range 33 - 141		Recovery =	105.30%			
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	3.838	74	2020957	12.48	ppm		99
3) Pyridine	3.859	79	3764806	11.55	ppm		99
5) bis(2-Chloroethyl)ether	6.450	93	3885647	12.76	ppm		99
7) Phenol	5.486	94	3765294	10.97	ppm		95
8) Aniline	5.538	93	7635496	23.74	ppm	#	77
9) 2-Chlorophenol	5.631	128	3130157	10.95	ppm		94
10) 1,3-Dichlorobenzene	5.735	146	2979676	10.15	ppm		100
11) 1,4-Dichlorobenzene	5.787	146	3111977	10.89	ppm		98
12) 1,2-Dichlorobenzene	5.901	146	2723993	9.72	ppm		99
13) Benzyl alcohol	5.859	108	1532049	9.99	ppm		85
14) bis(2-chloroisopropyl)...	5.921	45	4967065	9.71	ppm		91
15) 2-Methylphenol	5.911	107	2198450	10.51	ppm		98
16) Hexachloroethane	6.149	117	1181996	9.80	ppm		99
17) N-Nitroso-di-n-propyla...	6.025	70	1642733m	11.05	ppm		
18) 3&4-Methylphenol	6.015	108	2906291	11.99	ppm		100
19) a-Terpinol	7.704	59	41956	0.23	ppm	#	41
22) Nitrobenzene	6.180	77	2851062	7.72	ppm		98
23) Isophorone	6.336	82	5350646	9.46	ppm		99
24) 2-Nitrophenol	6.408	139	1313339	9.38	ppm		97
25) 2,4-Dimethylphenol	6.398	122	2637554	11.08	ppm		97
26) bis(2-Chloroethoxy)met...	6.450	93	3906561	10.45	ppm		99
27) Benzoic Acid	7.559	122	27547	0.30	ppm	#	1
28) 2,4-Dichlorophenol	6.574	162	2300391	11.02	ppm		100
29) 1,2,4-Trichlorobenzene	6.636	180	2299012	8.81	ppm		97
30) Naphthalene	6.709	128	8222274	8.13	ppm		95
31) 4-Chloroaniline	6.719	127	4337300	15.12	ppm		99
32) Hexachlorobutadiene	6.771	225	1206220	8.57	ppm		99
33) Diphenylamine	8.450	169	4547126	9.11	ppm		97
34) 4-Chloro-3-methylphenol	7.041	107	2475299	9.64	ppm		90
35) 2-Methylnaphthalene	7.196	142	4953913	8.66	ppm		100
36) 1-methylnaphthalene	7.279	142	5141469	8.44	ppm		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070902\
Data File : 09070929.D
Acq On : 10 Jul 2009 2:11 pm (#1); 10-Jul-09, 14:08:12 (#2)
Operator : TM
Sample : LCS
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 15:17:08 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration

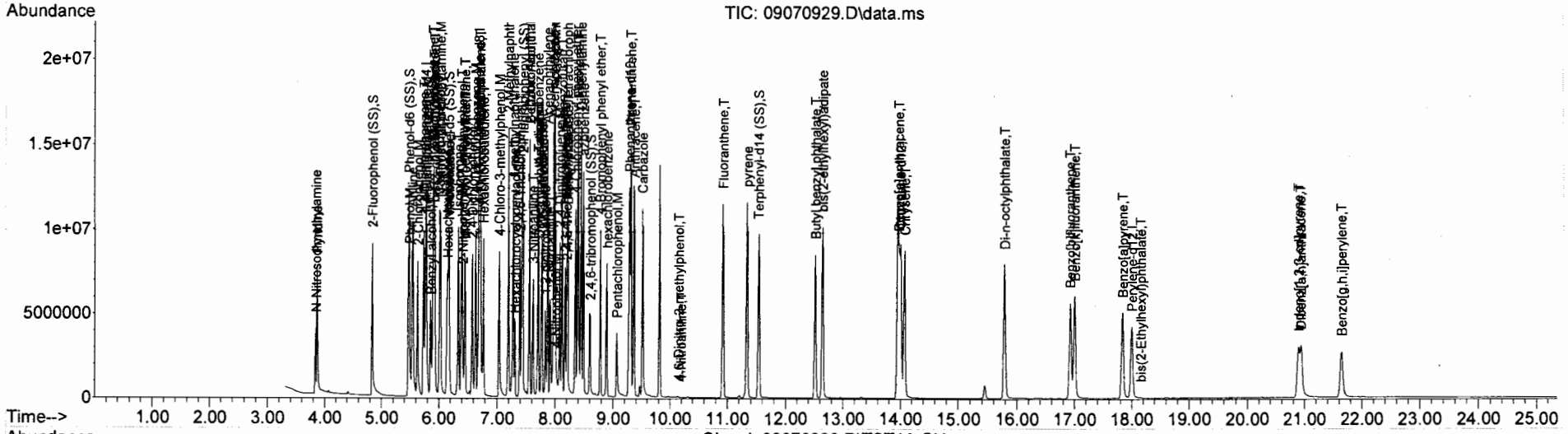
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38)	Hexachlorocyclopentadiene	7.310	237	996913	6.78	ppm		99
39)	2,4,6-Trichlorophenol	7.393	196	1526324	10.91	ppm		99
40)	2,4,5-Trichlorophenol	8.201	196	170781	1.10	ppm	#	76
42)	2-Chloronaphthalene	7.559	162	4722130	8.28	ppm		98
43)	2-Nitroaniline	7.911	65	1638407	9.59	ppm		89
44)	1,3-Dinitrobenzene	7.766	168	744580	8.65	ppm	#	76
45)	1,2-dinitrobenzene	7.828	168	566006	5.49	ppm		94
46)	Acenaphthylene	7.870	152	7895451	8.12	ppm		92
47)	1,4-dinitrobenzene	7.704	168	547609	7.14	ppm		90
48)	Dimethyl phthalate	7.714	163	5525283	9.18	ppm		98
49)	2,6-Dinitrotoluene	7.776	165	1212260	9.67	ppm		79
50)	Acenaphthene	7.994	154	4374778	6.70	ppm		98
51)	3-Nitroaniline	7.621	138	1650589	12.47	ppm		96
52)	Dibenzofuran	8.118	168	6903875	7.87	ppm		99
53)	2,4-Dinitrotoluene	8.077	165	1581091	7.80	ppm		77
54)	4-Nitrophenol	8.015	139	632338m	5.14	ppm		
55)	2,3,4,6-Tetrachlorophenol	8.170	232	1076670	8.06	ppm		99
56)	2,3,5,6-Tetrachlorophenol	8.212	232	1122554	8.41	ppm		97
57)	Fluorene	8.398	166	5306123	7.63	ppm		99
58)	4-Chlorophenyl phenyl ...	8.357	204	2512040	7.91	ppm		89
59)	Diethyl phthalate	8.222	149	5189983	8.08	ppm		95
60)	4-Nitroaniline	10.191	138	639	0.30	ppm	#	79
62)	4,6-Dinitro-2-methylph...	10.150	198	347	0.50	ppm	#	36
63)	azobenzene	8.491	77	6729609	11.42	ppm		95
65)	4-Bromophenyl phenyl e...	8.782	248	1265721	9.01	ppm	#	84
66)	hexachlorobenzene	8.896	284	1219400	7.63	ppm		98
67)	Pentachlorophenol	9.072	266	622851	8.03	ppm		99
68)	Phenanthrene	9.310	178	7717882	8.47	ppm		99
69)	Anthracene	9.372	178	7940393	9.22	ppm		99
70)	Carbazole	9.517	167	7487376	13.63	ppm		98
71)	Di-n-butyl phthalate	9.818	149	9627660	Below Cal			100
72)	Fluoranthene	10.927	202	8210941	9.53	ppm		97
74)	pyrene	11.341	202	8832441	9.90	ppm		98
76)	Butyl benzyl phthalate	12.523	149	3994927	9.48	ppm		98
77)	bis(2-ethylhexyl)adipate	12.647	129	3713755	10.34	ppm		99
78)	4,4'-DDT	17.227	235	305	No Calib		#	
79)	Benzo[a]anthracene	13.973	228	6648123	8.28	ppm		100
80)	Chrysene	14.077	228	7023665	8.84	ppm		100
81)	bis(2-Ethylhexyl)phtha...	18.160	149	1460	0.22	ppm		90
83)	Di-n-octylphthalate	15.797	149	9688182	15.85	ppm		100
84)	Benzo[b]fluoranthene	16.927	252	5798672	10.91	ppm		96
85)	Benzo[k]fluoranthene	17.010	252	5653325	11.07	ppm		98
86)	Benzo[a]pyrene	17.849	252	4993967	9.16	ppm		99
87)	Indeno[1,2,3-cd]pyrene	20.896	276	2839112	5.25	ppm		95
88)	Dibenz[a,h]anthracene	20.937	278	3280250	6.31	ppm		95
89)	Benzo[g,h,i]perylene	21.642	276	3243017	6.05	ppm		95

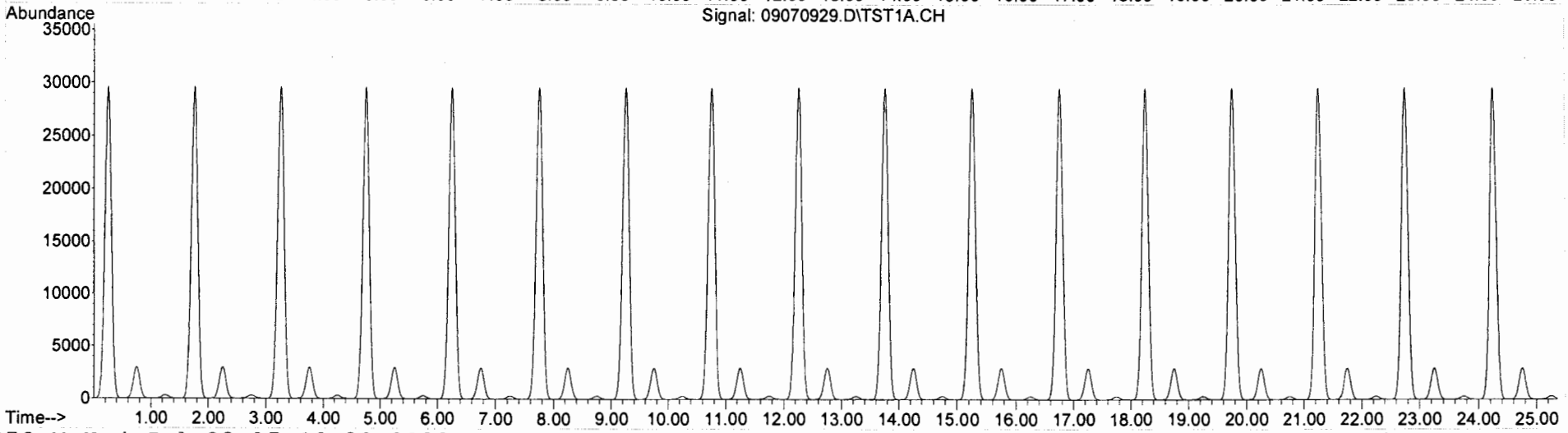
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070902\
Data File : 09070929.D
Acq On : 10 Jul 2009 2:11 pm (#1); 10-Jul-09, 14:08:12 (#2)
Operator : TM
Sample : LCS
Misc :
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 10 15:17:08 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Thu Jul 09 14:33:30 2009
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070902\
Data File : 09070930.D
Acq On : 10 Jul 2009 2:51 pm (#1); 10-Jul-09, 14:48:36 (#2)
Operator : TM
Sample : 10 ppm SVOC
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:17:08 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	5.776	152	2010215	10.00	ppm		0.00
20) Naphthalene-d8	6.688	136	8173129	10.00	ppm		0.00
37) Acenaphthene-d10	7.973	164	4374157	10.00	ppm		0.01
61) Phenanthrene-d10	9.289	188	6801963	10.00	ppm		0.01
73) Chrysene-d12	14.015	240	5891501	10.00	ppm		0.00
82) Perylene-d12	18.005	264	3319292	10.00	ppm		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol (SS)	4.844	112	3171395m	9.22	ppm		0.00
Spiked Amount 10.000	Range 21 - 110		Recovery = 92.20%				
6) Phenol-d6 (SS)	5.476	99	4205752m	11.03	ppm		0.00
Spiked Amount 10.000	Range 10 - 110		Recovery = 110.30%#				
21) Nitrobenzene-d5 (SS)	6.170	82	3450560	9.58	ppm		0.00
Spiked Amount 10.000	Range 34 - 114		Recovery = 95.80%				
41) 2-Fluorobiphenyl (SS)	7.445	172	6012178	10.09	ppm		0.00
Spiked Amount 10.000	Range 43 - 116		Recovery = 100.90%				
64) 2,4,6-tribromophenol (SS)	8.605	328	239541	9.13	ppm		0.01
Spiked Amount 10.000	Range 10 - 123		Recovery = 91.30%				
75) Terphenyl-d14 (SS)	11.548	244	5589042	8.51	ppm		0.01
Spiked Amount 10.000	Range 33 - 141		Recovery = 85.10%				
Target Compounds							Qvalue
2) N-Nitrosodimethylamine	3.838	74	1968146	10.85	ppm		97
3) Pyridine	3.869	79	3463066	11.00	ppm		98
5) bis(2-Chloroethyl)ether	6.450	93	3840404	10.85	ppm		99
7) Phenol	5.486	94	3543487	9.75	ppm		99
8) Aniline	5.538	93	7450959	10.42	ppm		100
9) 2-Chlorophenol	5.631	128	3051488	10.08	ppm		100
10) 1,3-Dichlorobenzene	5.735	146	2931934	9.58	ppm		100
11) 1,4-Dichlorobenzene	5.787	146	2999148	9.75	ppm		99
12) 1,2-Dichlorobenzene	5.901	146	2697653	9.37	ppm		99
13) Benzyl alcohol	5.859	108	1535606	8.74	ppm		86
14) bis(2-chloroisopropyl)...	5.932	45	4904660	9.35	ppm		98
15) 2-Methylphenol	5.911	107	2170070	9.66	ppm		99
16) Hexachloroethane	6.149	117	1159549	10.13	ppm		97
17) N-Nitroso-di-n-propyla...	6.025	70	2000305	9.90	ppm		98
18) 3&4-Methylphenol	6.015	108	2854153	10.82	ppm		99
19) a-Terpinol	7.776	59	1423	0.01	ppm	#	1
22) Nitrobenzene	6.180	77	2879870	9.48	ppm		99
23) Isophorone	6.336	82	5230399	10.03	ppm		100
24) 2-Nitrophenol	6.408	139	1382214	11.31	ppm		99
25) 2,4-Dimethylphenol	6.398	122	2614298	10.42	ppm		97
26) bis(2-Chloroethoxy)met...	6.450	93	3845399	10.85	ppm		100
27) Benzoic Acid	7.559	122	28415	0.28	ppm	#	1
28) 2,4-Dichlorophenol	6.574	162	2301155	10.70	ppm		99
29) 1,2,4-Trichlorobenzene	6.636	180	2274493	9.75	ppm		100
30) Naphthalene	6.709	128	8499327m	8.70	ppm		
31) 4-Chloroaniline	6.719	127	4327106	10.04	ppm		99
32) Hexachlorobutadiene	6.771	225	1198528	9.73	ppm		98
33) Diphenylamine	8.450	169	4523819	9.88	ppm		99
34) 4-Chloro-3-methylphenol	7.040	107	2480534	11.23	ppm		99
35) 2-Methylnaphthalene	7.196	142	4984019	9.38	ppm		100
36) 1-methylnaphthalene	7.279	142	5078261	8.85	ppm		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\SVOC\09070902\
Data File : 09070930.D
Acq On : 10 Jul 2009 2:51 pm (#1); 10-Jul-09, 14:48:36 (#2)
Operator : TM
Sample : 10 ppm SVOC
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:17:08 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration

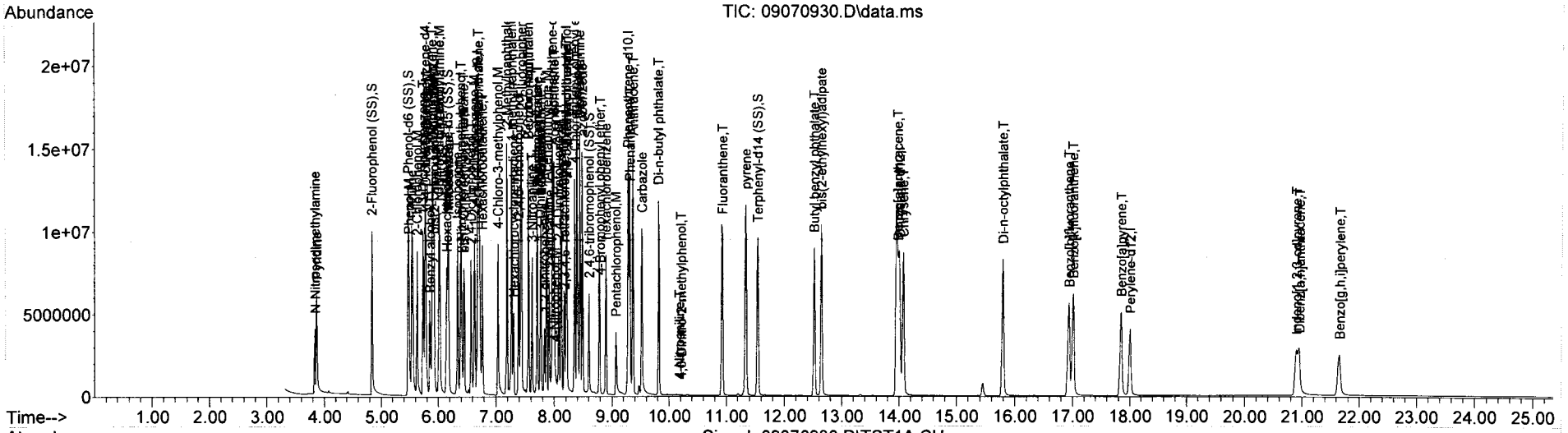
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38)	Hexachlorocyclopentadiene	7.310	237	1007774	10.97	ppm		98
39)	2,4,6-Trichlorophenol	7.393	196	1463302	11.06	ppm		98
40)	2,4,5-Trichlorophenol	8.212	196	193688	11.35	ppm	#	84
42)	2-Chloronaphthalene	7.559	162	4819695	8.81	ppm		97
43)	2-Nitroaniline	7.921	65	1701045	11.62	ppm		91
44)	1,3-Dinitrobenzene	7.766	168	783948	10.17	ppm		95
45)	1,2-dinitrobenzene	7.838	168	609404	10.52	ppm		92
46)	Acenaphthylene	7.880	152	8001134	8.98	ppm		92
47)	1,4-dinitrobenzene	7.704	168	592477	10.29	ppm		96
48)	Dimethyl phthalate	7.714	163	5536062	9.03	ppm		99
49)	2,6-Dinitrotoluene	7.776	165	1219692	11.32	ppm	#	63
50)	Acenaphthene	8.004	154	4466681	7.86	ppm		97
51)	3-Nitroaniline	7.621	138	1727240	10.46	ppm		93
52)	Dibenzofuran	8.129	168	7177381	9.08	ppm		91
53)	2,4-Dinitrotoluene	8.077	165	1626748	9.97	ppm	#	63
54)	4-Nitrophenol	8.015	139	628381	7.94	ppm		97
55)	2,3,4,6-Tetrachlorophenol	8.180	232	1076232	10.17	ppm		99
56)	2,3,5,6-Tetrachlorophenol	8.212	232	1144724	11.18	ppm		93
57)	Fluorene	8.398	166	5283927	8.32	ppm		99
58)	4-Chlorophenyl phenyl ...	8.357	204	2484462	9.08	ppm		94
59)	Diethyl phthalate	8.222	149	5214907	8.80	ppm		97
60)	4-Nitroaniline	10.180	138	727	0.32	ppm	#	26
62)	4,6-Dinitro-2-methylph...	10.212	198	342	0.45	ppm	#	41
63)	azobenzene	8.491	77	6595431	10.08	ppm		97
65)	4-Bromophenyl phenyl e...	8.792	248	1287939	8.25	ppm		97
66)	hexachlorobenzene	8.895	284	1238813	7.27	ppm		92
67)	Pentachlorophenol	9.072	266	610075	8.64	ppm		97
68)	Phenanthrene	9.320	178	7784649	8.40	ppm		99
69)	Anthracene	9.372	178	7963764	8.71	ppm		99
70)	Carbazole	9.528	167	7468000	10.22	ppm		99
71)	Di-n-butyl phthalate	9.818	149	9670945	9.69	ppm		99
72)	Fluoranthene	10.937	202	8183893	9.28	ppm		100
74)	pyrene	11.341	202	8850875	9.41	ppm		99
76)	Butyl benzyl phthalate	12.523	149	3956584	10.91	ppm		95
77)	bis(2-ethylhexyl)adipate	12.647	129	3728619	10.87	ppm		100
78)	4,4'-DDT	17.279	235	343	No Calib		#	
79)	Benzo[a]anthracene	13.984	228	6576980	9.27	ppm		100
80)	Chrysene	14.077	228	6935613	9.37	ppm		99
81)	bis(2-Ethylhexyl)phtha...	18.222	149	270	No Calib			
83)	Di-n-octylphthalate	15.797	149	9587047	13.78	ppm		100
84)	Benzo[b]fluoranthene	16.937	252	5393632m	11.44	ppm		
85)	Benzo[k]fluoranthene	17.010	252	5676614	11.38	ppm		98
86)	Benzo[a]pyrene	17.849	252	4657204m	11.33	ppm		
87)	Indeno[1,2,3-cd]pyrene	20.896	276	2975879	10.49	ppm		93
88)	Dibenz[a,h]anthracene	20.948	278	3040411	9.31	ppm		95
89)	Benzo[g,h,i]perylene	21.652	276	3026786	10.59	ppm		95

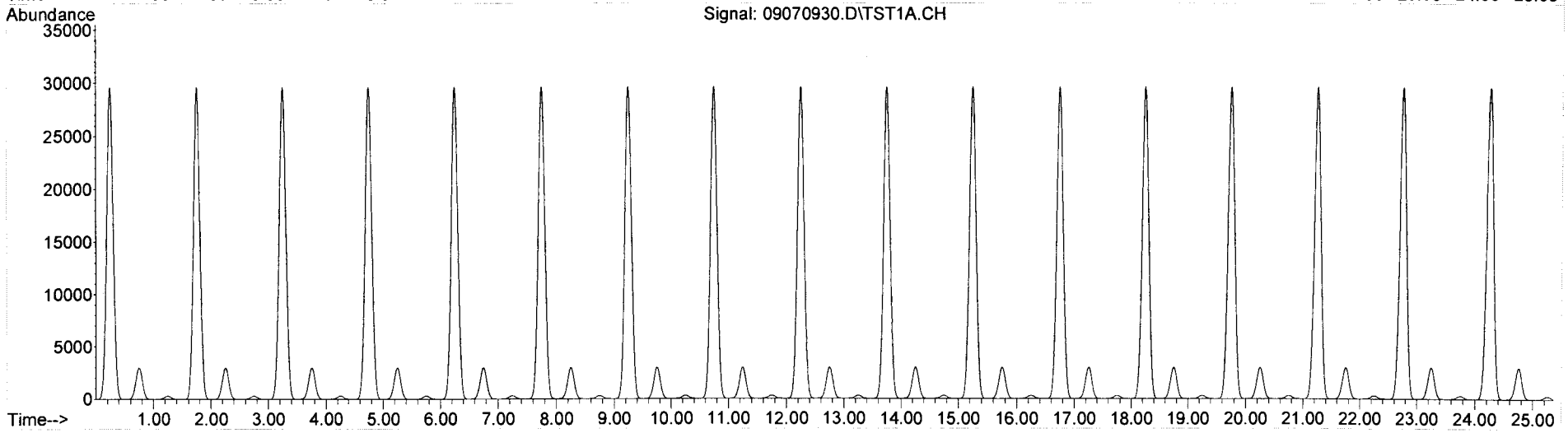
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

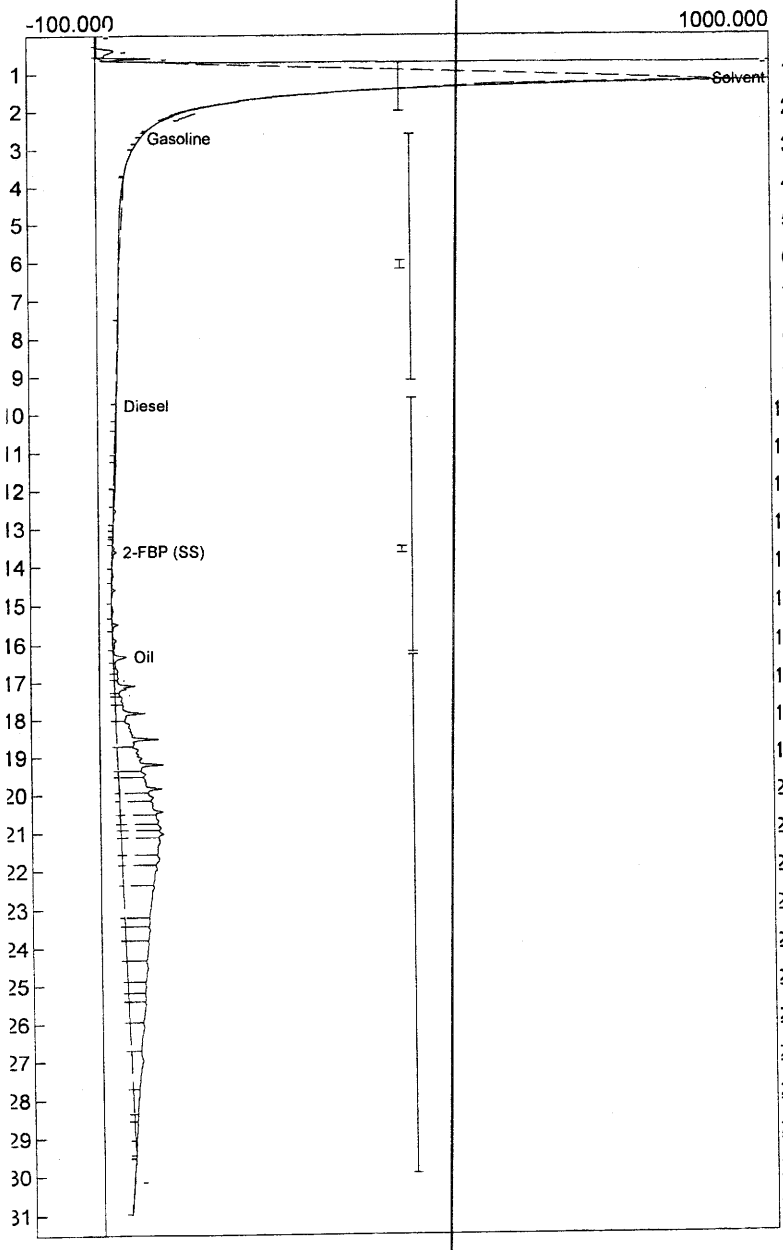
Data Path : C:\msdchem\1\DATA\SVOC\09070902\
Data File : 09070930.D
Acq On : 10 Jul 2009 2:51 pm (#1); 10-Jul-09, 14:48:36 (#2)
Operator : TM
Sample : 10 ppm SVOC
Misc :
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Quant Time: Jul 13 17:17:08 2009
Quant Method : C:\msdchem\1\METHODS\8270.M
Quant Title : EPA Method 8270C Calibration
QLast Update : Mon Jul 13 11:34:16 2009
Response via : Initial Calibration



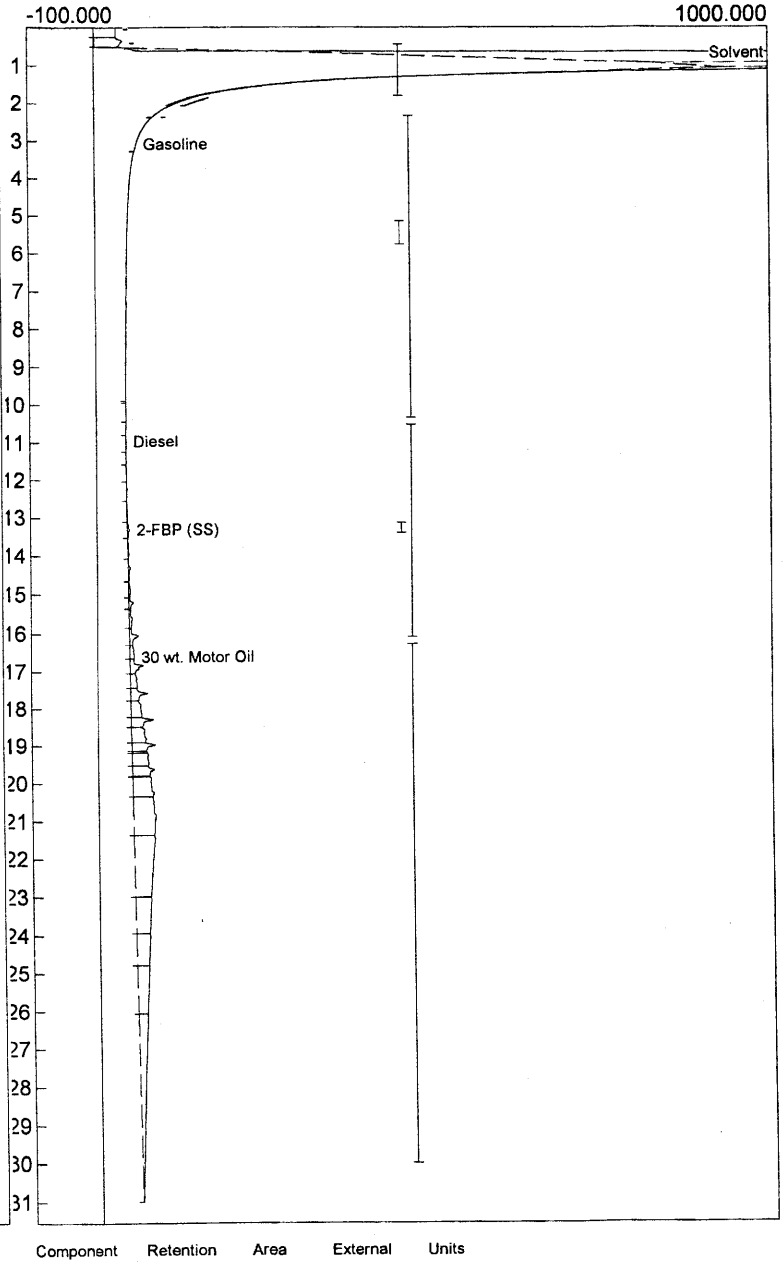


Lab name: Dragon Analytical
Analysis date: 07/08/2009 10:19:35
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1128.CHR ()
Sample: 1000 ppm Oil
Operator: TM



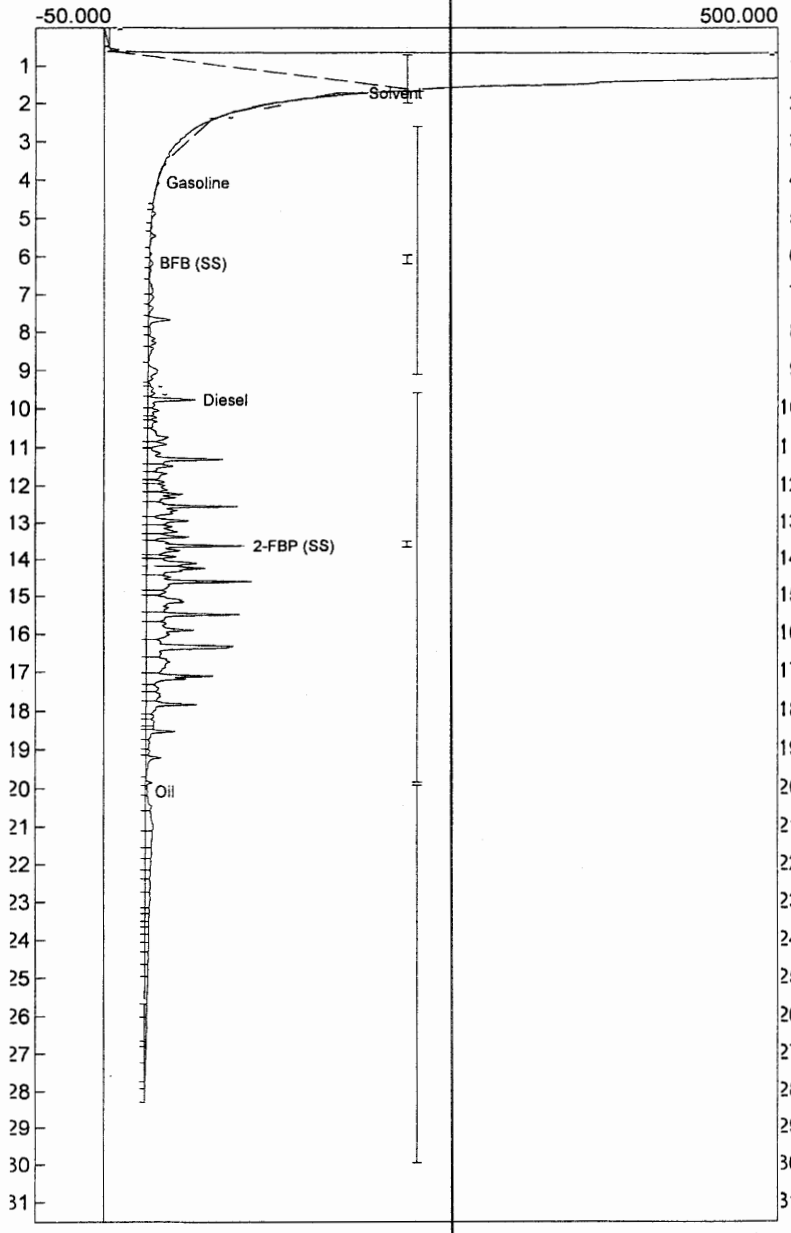
Component	Retention	Area	External	Units
Solvent	1.200	1215.5725	0.0000	
Gasoline	2.700	252.5730	30.1620	ppm
Diesel	9.766	550.4555	32.4036	ppm
2-FBP (SS)	13.616	54.5935	11.3900	%
Oil	16.316	21496.8740	1116.9157	30
		23570.0685	1190.8713	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 10:19:35
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1115.CHR ()
Sample: 1000 ppm Oil
Operator: TM



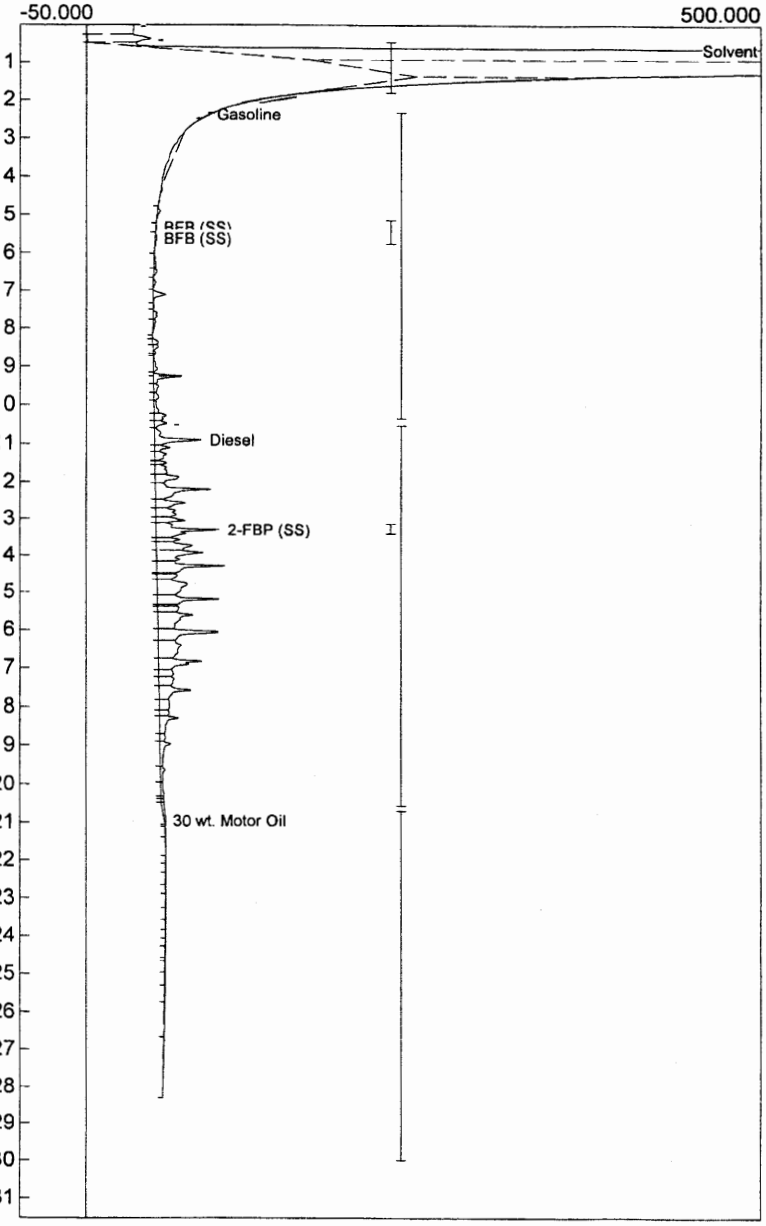
Component	Retention	Area	External	Units
Solvent	0.666	12022.9045	0.0000	
Gasoline	3.066	6.7770	1.3903	ppm
Diesel	10.950	499.1840	32.3356	ppm
2-FBP (SS)	13.300	41.2450	9.7617	%
30 wt. Motor Oil	16.600	14277.5050	1013.5034	ppm
		26847.6155	1056.9910	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 10:56:31
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1130.CHR ()
Sample: 500 ppm Diesel
Operator: TM
QC batch: 457



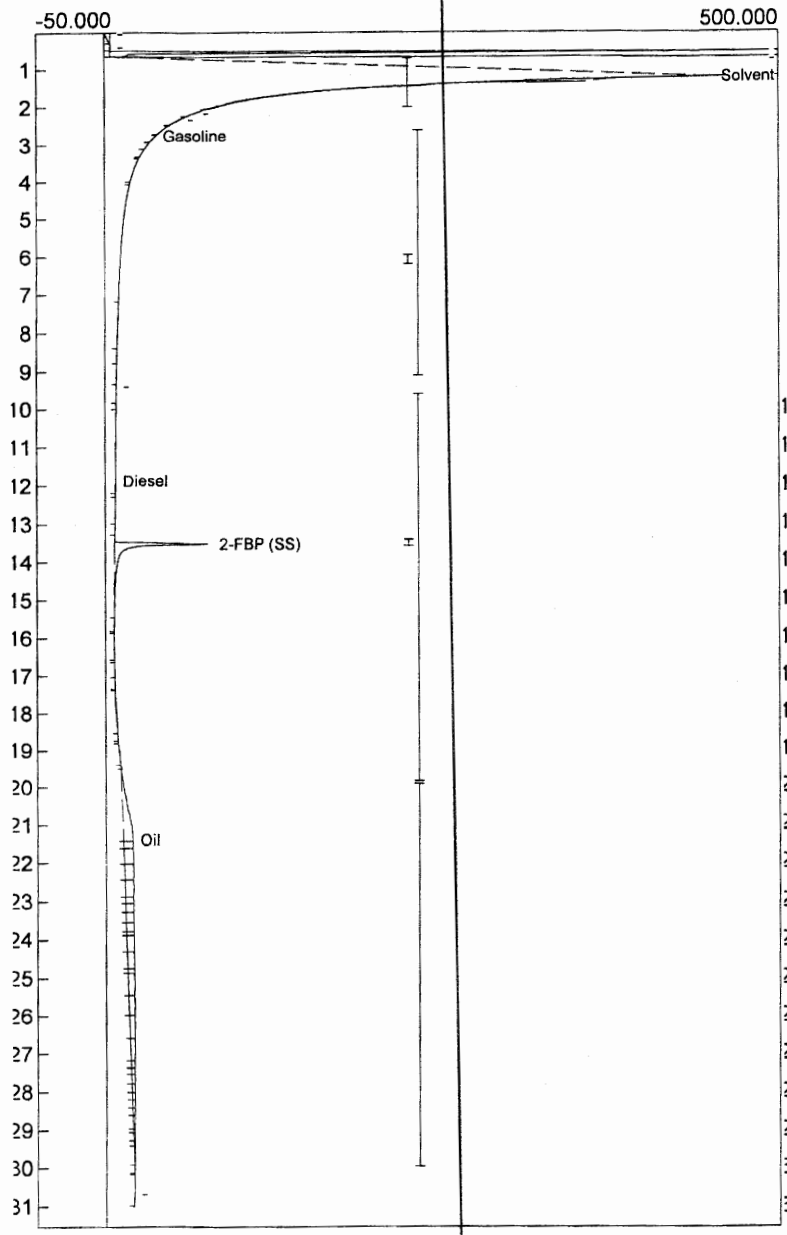
Component	Retention	Area	External	Units
Solvent	1.733	108.9740	0.0000	
Gasoline	4.066	515.2505	61.5307	ppm
BFB (SS)	6.166	20.9190	6.2092	ppm
Diesel	9.766	8044.3740	473.5476	ppm
2-FBP (SS)	13.633	524.7630	109.4825	%
Oil	20.083	1244.6285	64.6673	30
		10458.9090	715.4373	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 10:56:31
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1117.CHR ()
Sample: 500 ppm Diesel
Operator: TM
QC batch: 457



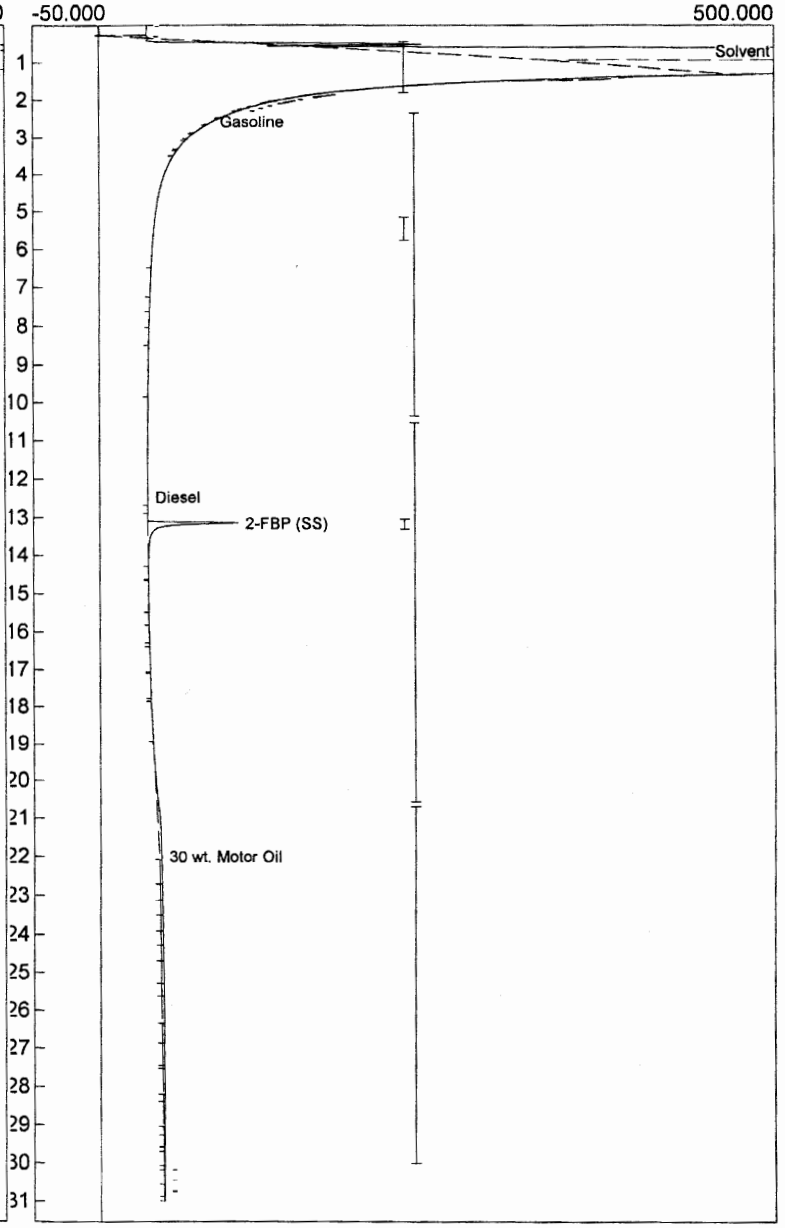
Component	Retention	Area	External	Units
Solvent	0.633	36080.0585	0.0000	
Gasoline	2.383	631.3400	129.5211	ppm
BFB (SS)	5.333	4.5590	1.3717	ppm
BFB (SS)	5.616	18.6960	5.6250	ppm
Diesel	10.900	6959.6040	450.8221	ppm
2-FBP (SS)	13.300	446.4380	105.6610	%
30 wt. Motor Oil	20.950	193.6070	13.7434	ppm
		44334.3025	706.7443	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 11:31:48
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1131.CHR ()
Sample: MB
Operator: TM



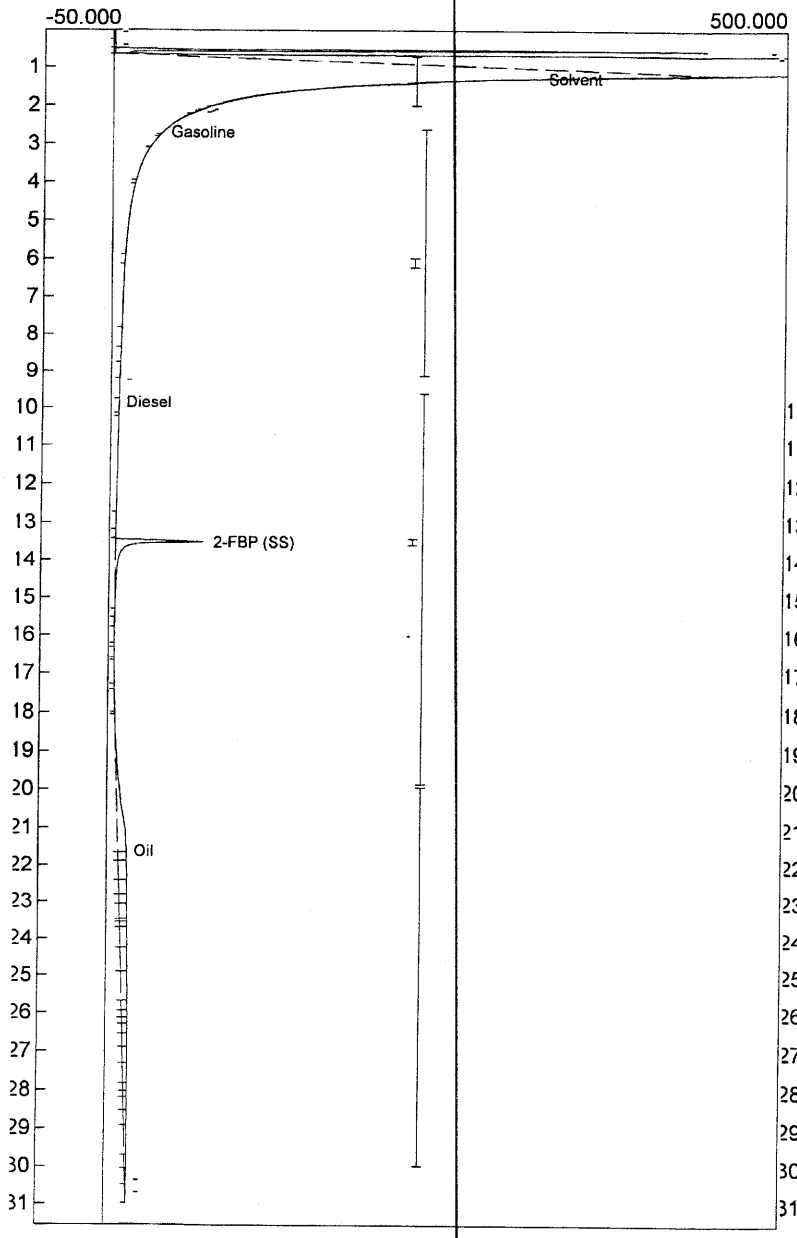
Component	Retention	Area	External	Units
Solvent	1.200	181.7525	0.0000	
Gasoline	2.750	13.8185	1.6502	ppm
Diesel	11.866	467.5990	27.5261	ppm
2-FBP (SS)	13.516	448.5950	93.5914	%
Oil	21.400	2456.1960	127.6169	30
		3567.9610	250.3846	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 11:31:48
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1118.CHR ()
Sample: MB
Operator: TM



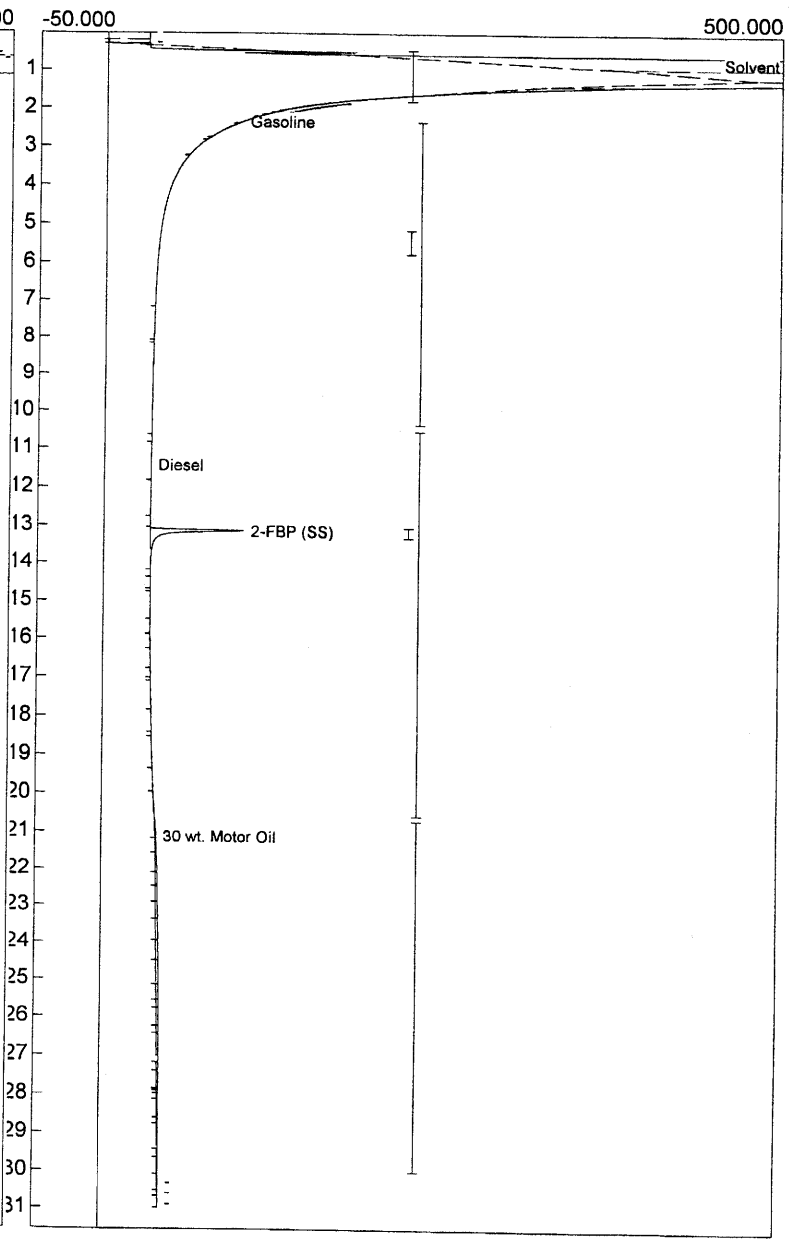
Component	Retention	Area	External	Units
Solvent	0.683	28655.8200	0.0000	
Gasoline	2.566	14.7875	3.0337	ppm
Diesel	12.466	406.7280	26.3466	ppm
2-FBP (SS)	13.150	389.3790	92.1566	%
30 wt. Motor Oil	22.000	862.5180	61.2267	ppm
		30329.2325	182.7636	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 12:13:41
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1132.CHR ()
Sample: 30-08 MW07 32.51:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	1.266	142.3565	0.0000	
Gasoline	2.683	11.4215	1.3639	ppm
Diesel	9.850	448.5970	26.4075	ppm
2-FBP (SS)	13.500	434.9175	90.7379	%
Oil	21.616	2625.3210	136.4041	30
		3662.6135	254.9135	

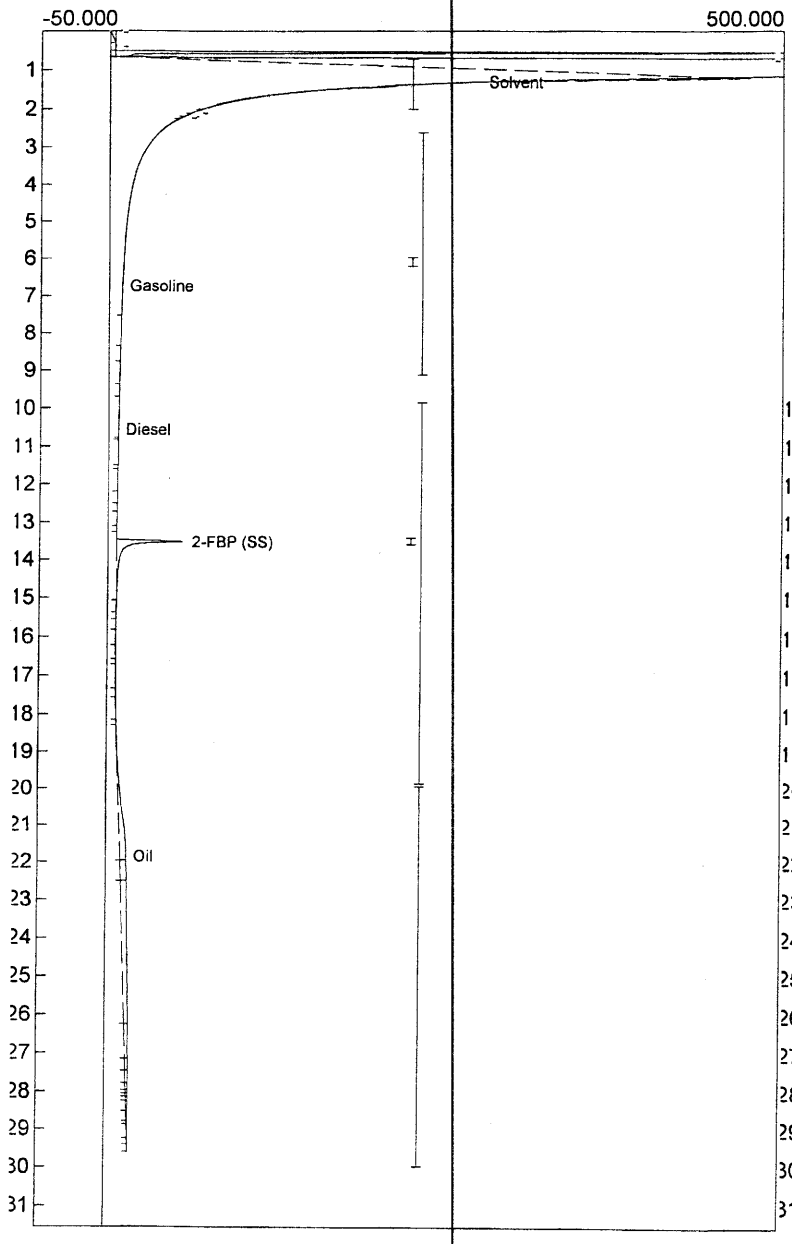
Lab name: Dragon Analytical
Analysis date: 07/08/2009 12:13:41
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1119.CHR ()
Sample: 30-08 MW25S 34.03:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.750	27760.8705	0.0000	
Gasoline	2.350	10.4090	2.1354	ppm
Diesel	11.433	416.8575	27.0028	ppm
2-FBP (SS)	13.133	389.1210	92.0955	%
30 wt. Motor Oil	21.116	681.3600	48.3670	ppm
		29258.6180	169.6007	

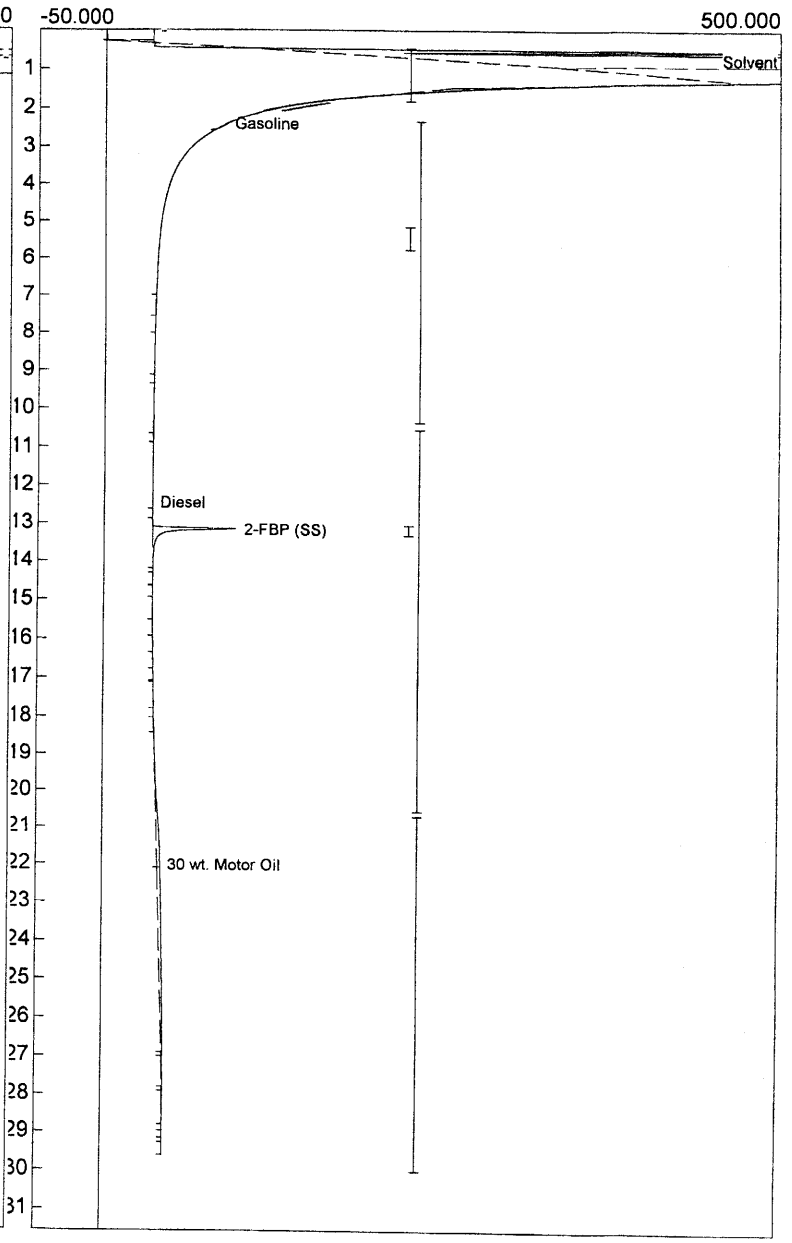
92.1

Lab name: Dragon Analytical
Analysis date: 07/08/2009 13:59:57
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1135.CHR ()
Sample: 30-08 MW08 33.22:1
Operator: TM



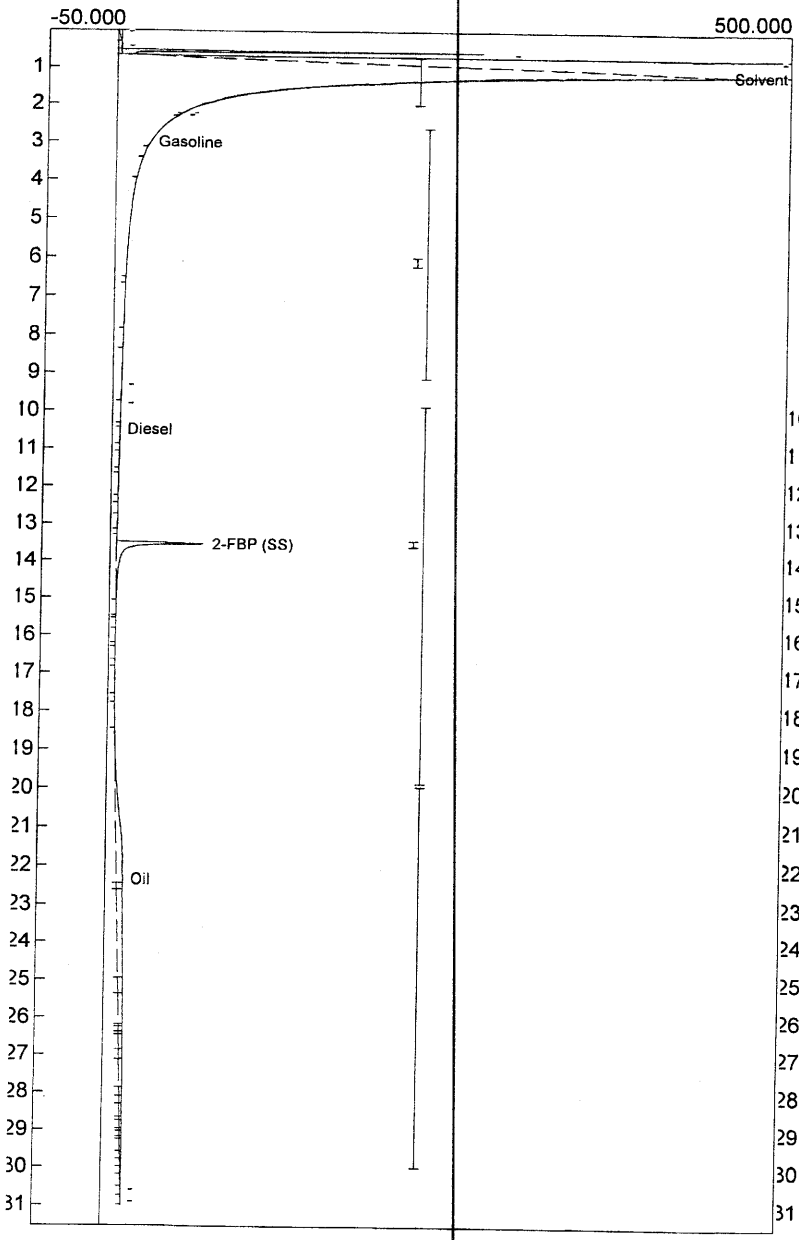
Component	Retention	Area	External	Units
Solvent	1.300	132.8300	0.0000	
Gasoline	6.733	4.6305	0.5530	ppm
Diesel	10.550	385.4215	22.6886	ppm
2-FBP (SS)	13.516	369.8225	77.1569	%
Oil	21.850	1679.7930	87.2772	30
		2572.4975	187.6757	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 13:59:57
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1122.CHR ()
Sample: 30-08 MW14 35.66:1
Operator: TM



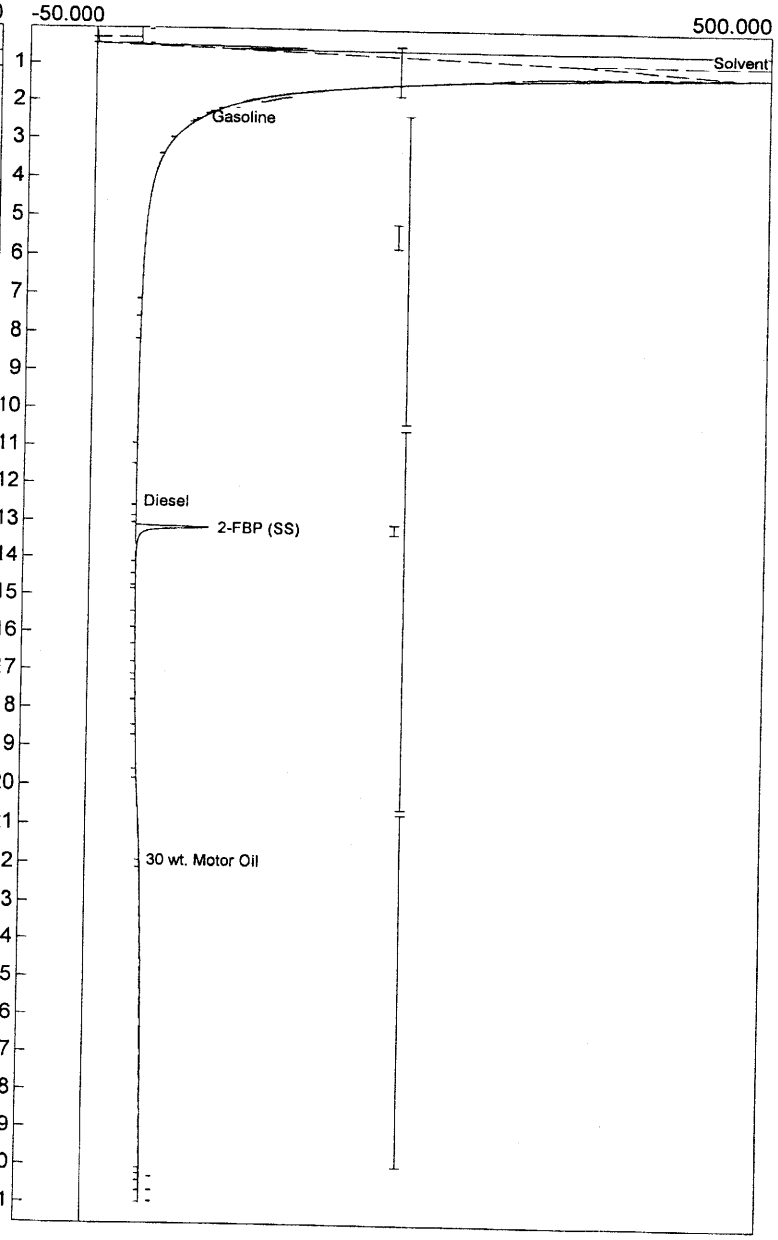
Component	Retention	Area	External	Units
Solvent	0.716	28989.2110	0.0000	
Gasoline	2.400	16.5100	3.3871	ppm
Diesel	12.450	384.5155	24.9078	ppm
2-FBP (SS)	13.150	361.1660	85.4792	%
30 wt. Motor Oil	22.016	820.3955	58.2366	ppm
		30571.7980	172.0107	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 14:35:06
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1136.CHR ()
Sample: 30-08 MW22S 33.17:1
Operator: TM



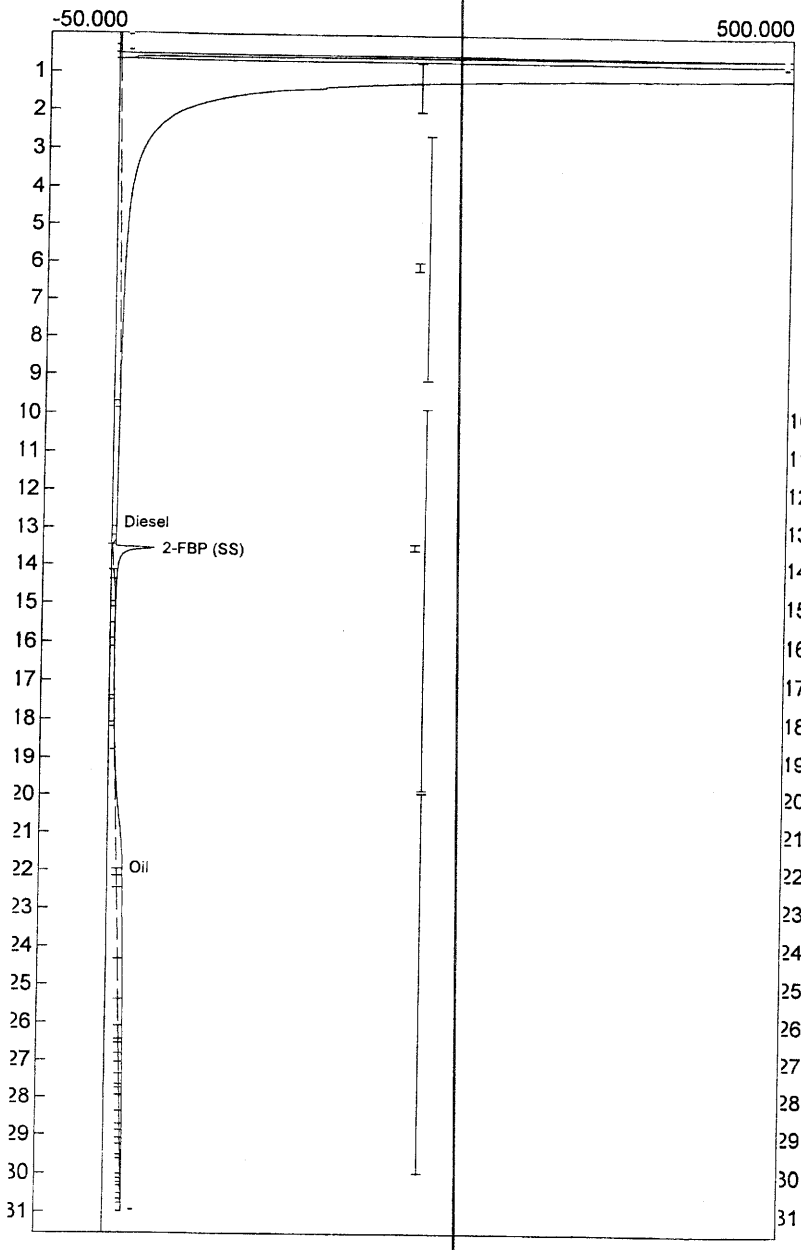
Component	Retention	Area	External	Units
Solvent	1.150	452.9240	0.0000	
Gasoline	3.000	7.0710	0.8444	ppm
Diesel	10.483	462.7395	27.2401	ppm
2-FBP (SS)	13.516	443.6705	92.5640	%
Oil	22.350	1893.2030	98.3654	30
		3259.6080	219.0139	

Lab name: Dragon Analytical
Analysis date: 07/08/2009 14:35:06
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1123.CHR ()
Sample: 30-08 MW~~14.35.66:1~~ C
Operator: TM 13



Component	Retention	Area	External	Units
Solvent	0.683	26698.5845	0.0000	
Gasoline	2.400	11.9520	2.4520	ppm
Diesel	12.466	341.5975	22.1277	ppm
2-FBP (SS)	13.150	314.8150	74.5091	%
30 wt. Motor Oil	21.900	275.0095	19.5218	ppm
		27641.9585	118.6105	

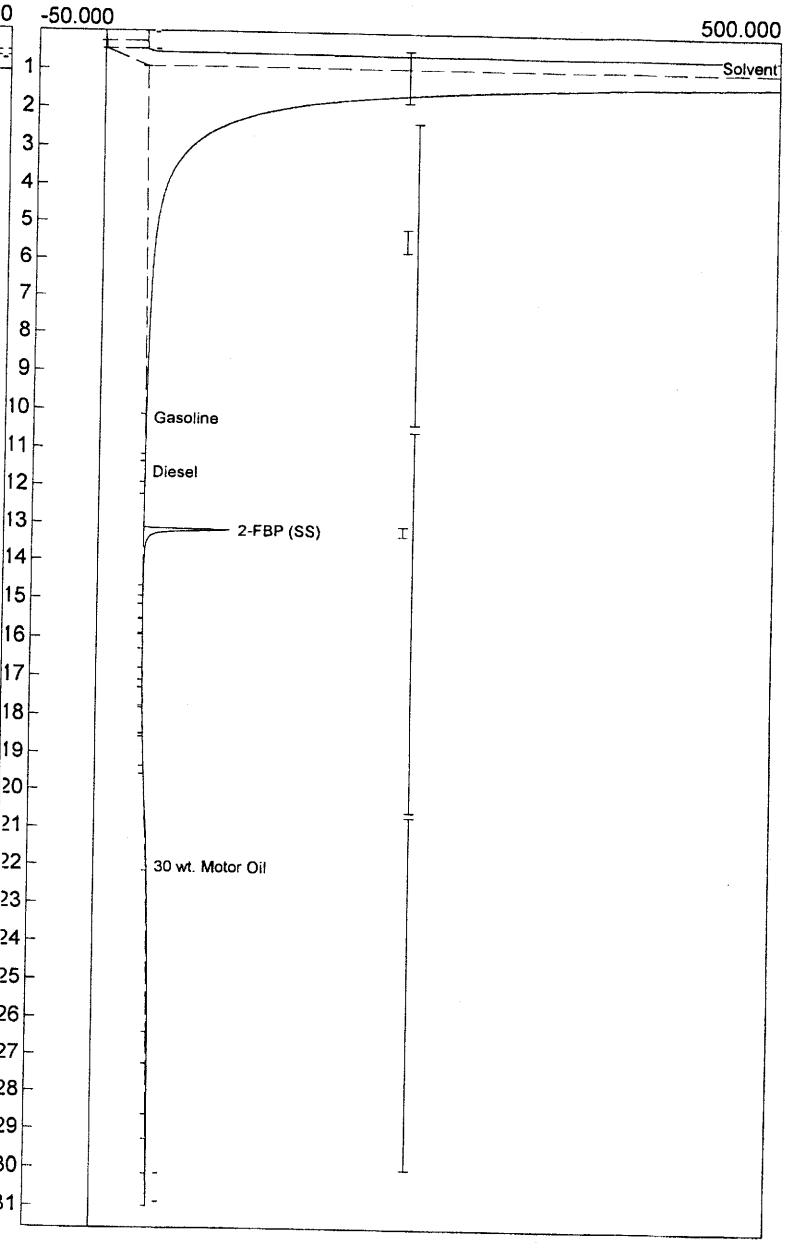
Lab name: Dragon Analytical
Analysis date: 07/08/2009 15:14:44
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1137.CHR ()
Sample: 30-08 MW09 35.55:1
Operator: TM



Component	Retention	Area	External	Units
Diesel	12.850	401.3475	23.6261	ppm
2-FBP (SS)	13.550	321.4880	67.0728	%
Oil	21.933	1711.0220	88.8998	30
		2433.8575	179.5987	

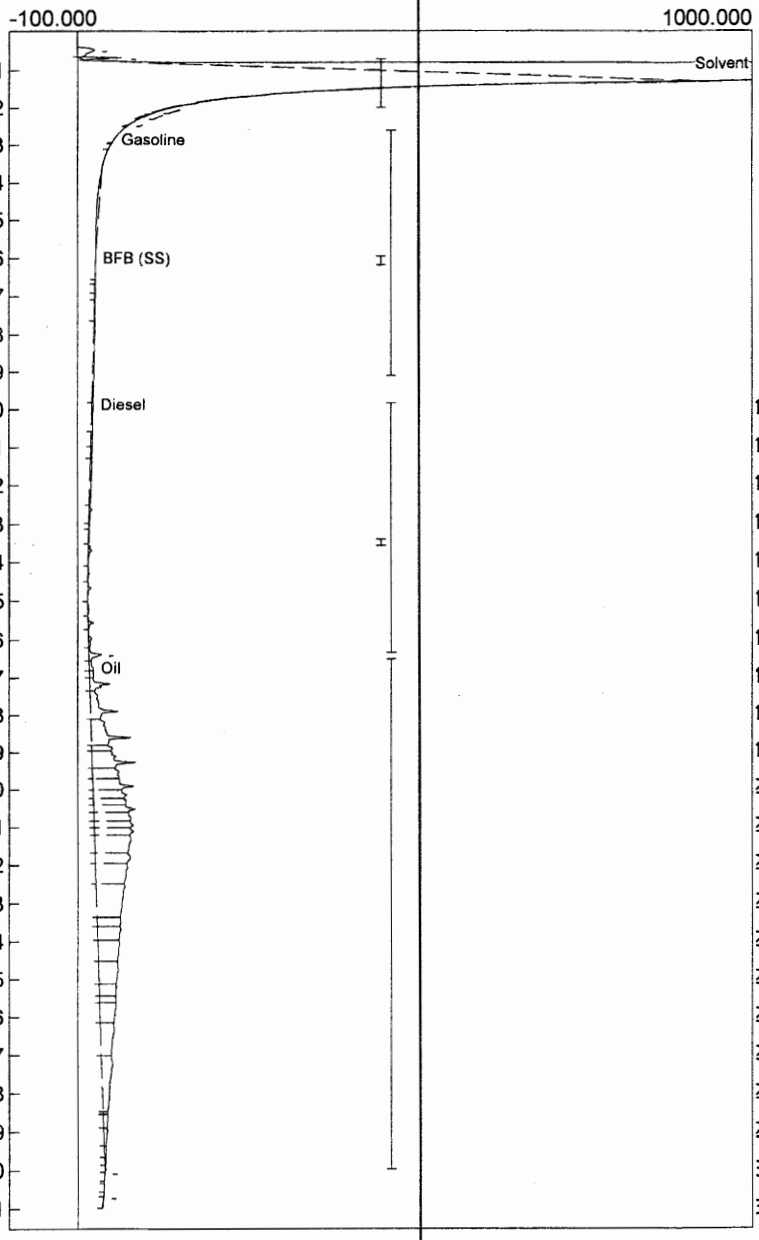
67.1

Lab name: Dragon Analytical
Analysis date: 07/08/2009 15:14:44
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1124.CHR ()
Sample: 30-08 FB 35.76:1
Operator: TM



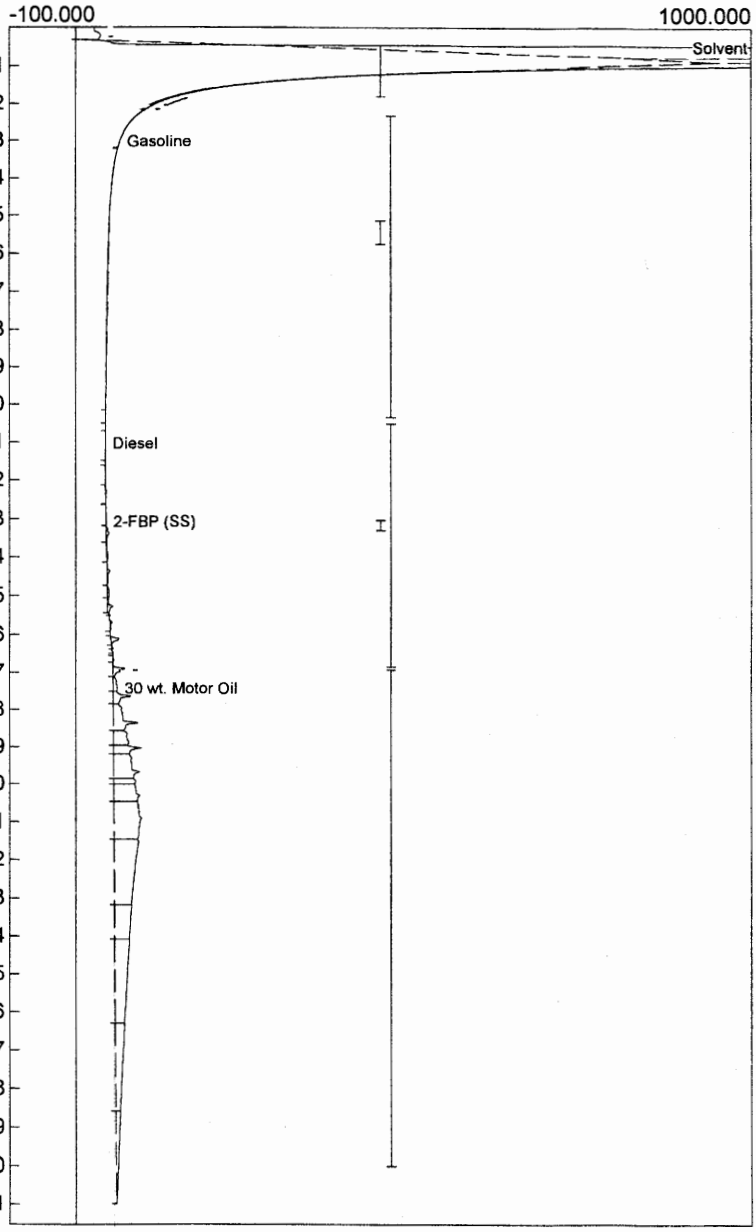
Component	Retention	Area	External	Units
Solvent	0.683	56743.1520	0.0000	
Gasoline	10.216	20.5560	4.2171	ppm
Diesel	11.633	392.2860	25.4111	ppm
2-FBP (SS)	13.166	376.6270	89.1385	%
30 wt. Motor Oil	22.033	365.5345	25.9478	ppm
		57898.1555	144.7145	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 11:21:23
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1140.CHR ()
Sample: 1000 ppm Oil
Operator: TM



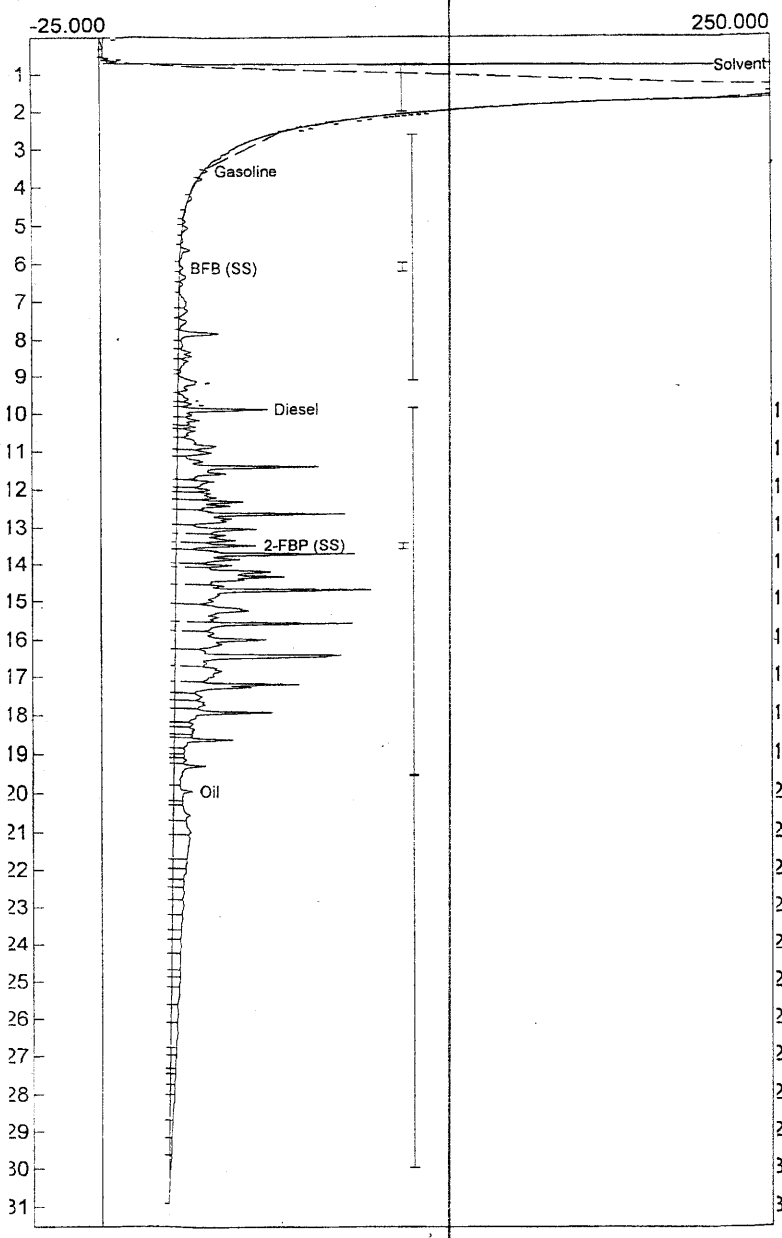
Component	Retention	Area	External	Units
Solvent	0.833	20400.8590	0.0000	
Gasoline	2.850	343.0440	40.9660	ppm
BFB (SS)	6.000	11.4690	3.4042	ppm
Diesel	9.866	616.0905	36.2674	ppm
Oil	16.733	21005.7480	1091.3982	30
		42377.2105	1172.0358	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 11:21:23
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1127.CHR ()
Sample: 1000 ppm Oil
Operator: TM



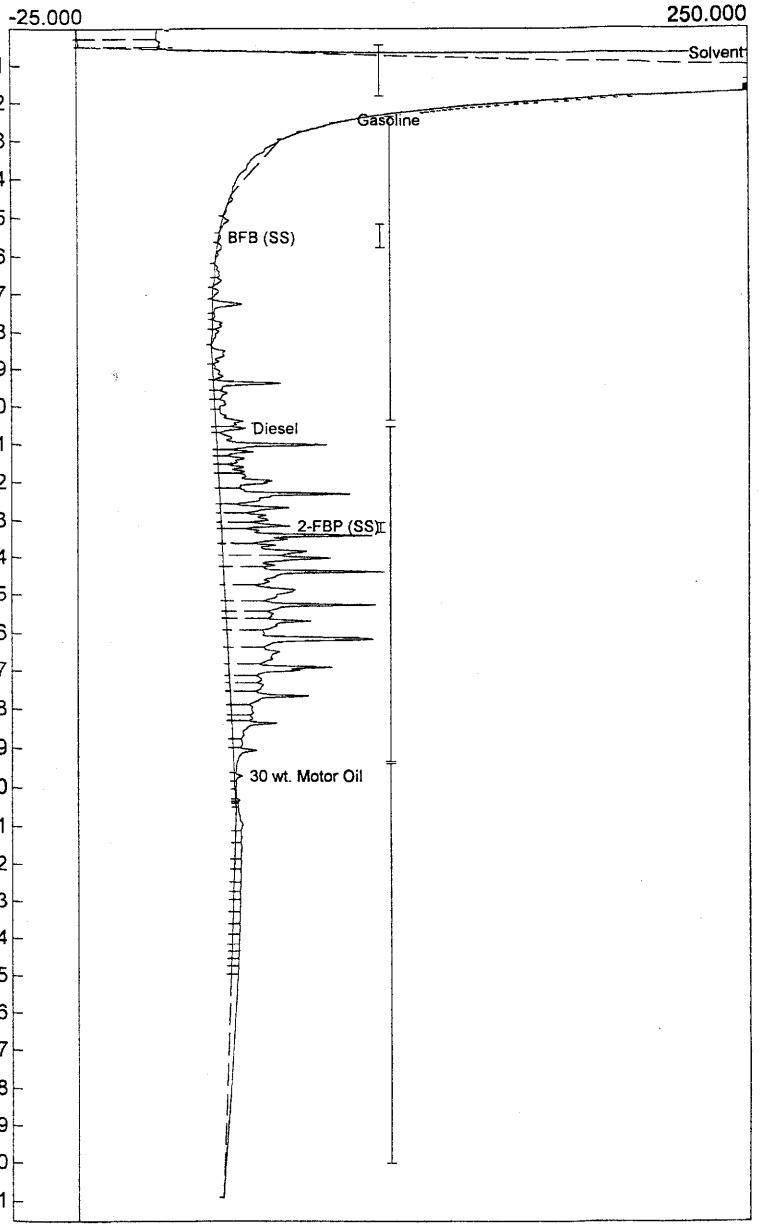
Component	Retention	Area	External	Units
Solvent	0.483	13481.3880	0.0000	
Gasoline	3.016	6.9270	1.4211	ppm
Diesel	11.033	359.0910	23.2608	ppm
2-FBP (SS)	13.066	17.3130	4.0976	%
30 wt. Motor Oil	17.433	15160.5220	1076.1853	ppm
		29025.2410	1104.9648	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 12:01:04
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1141.CHR ()
Sample: ~~1000 ppm Oil~~ 50 µm D
Operator: TM



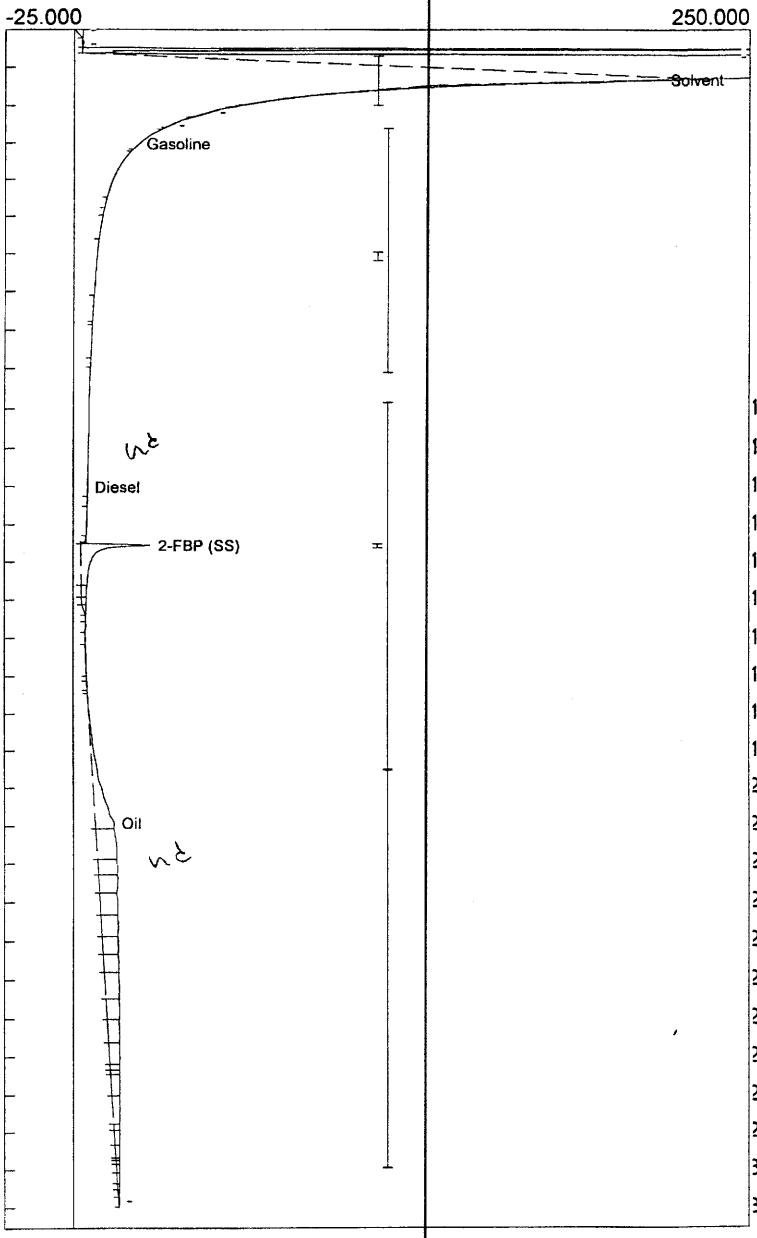
Component	Retention	Area	External	Units
Solvent	0.800	29385.4485	0.0000	
Gasoline	3.566	397.2530	47.4396	ppm
BFB (SS)	6.100	8.2870	2.4597	ppm
Diesel	9.866	8022.0920	472.2359	ppm
2-FBP (SS)	13.466	181.8590	37.9417	%
Oil	19.933	1849.1225	96.0751	30
		39844.0620	656.1520	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 12:01:04
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1128.CHR ()
Sample: ~~1000 ppm Oil~~ 50 µm D
Operator: TM



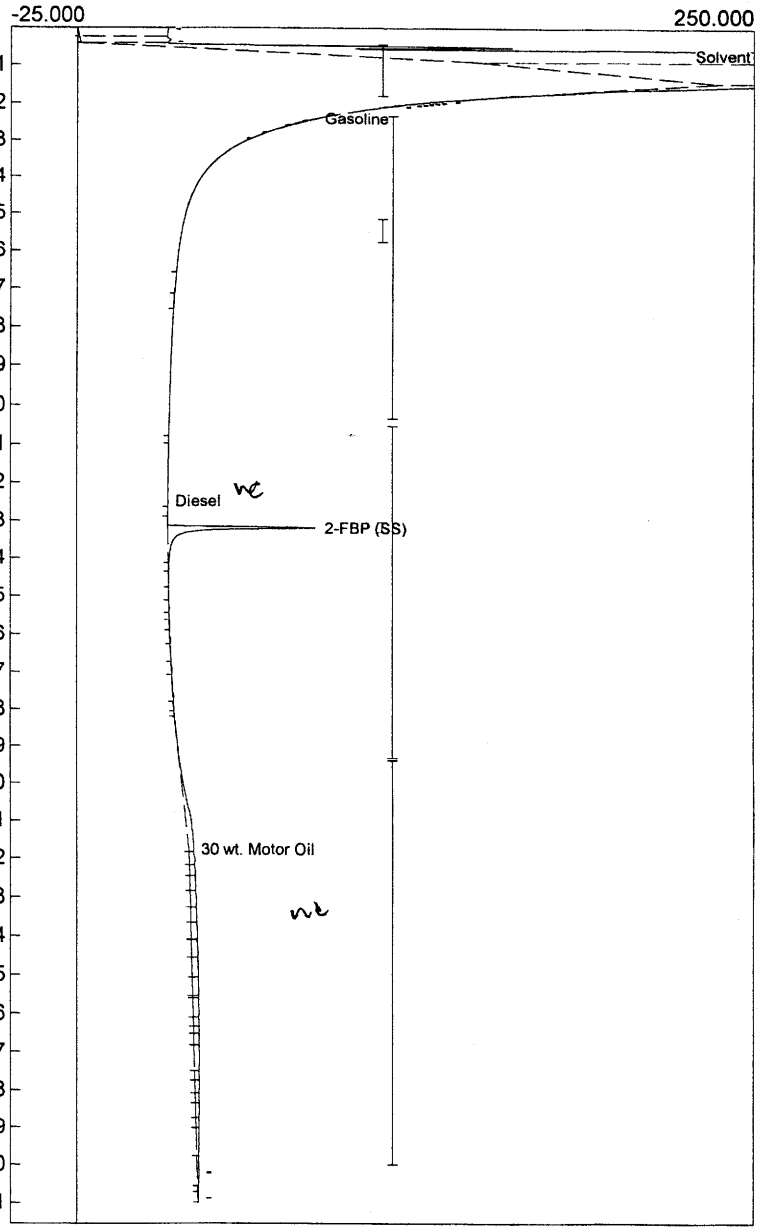
Component	Retention	Area	External	Units
Solvent	0.700	29179.8480	0.0000	
Gasoline	2.433	641.8165	131.6703	ppm
BFB (SS)	5.483	6.0235	1.8123	ppm
Diesel	10.566	7811.5805	506.0105	ppm
2-FBP (SS)	13.133	170.2730	40.2995	%
30 wt. Motor Oil	19.700	1174.1455	83.3479	ppm
		38983.6870	763.1406	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 12:37:55
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1142.CHR ()
Sample: 30-08 MW20 34.32:1
Operator: TM



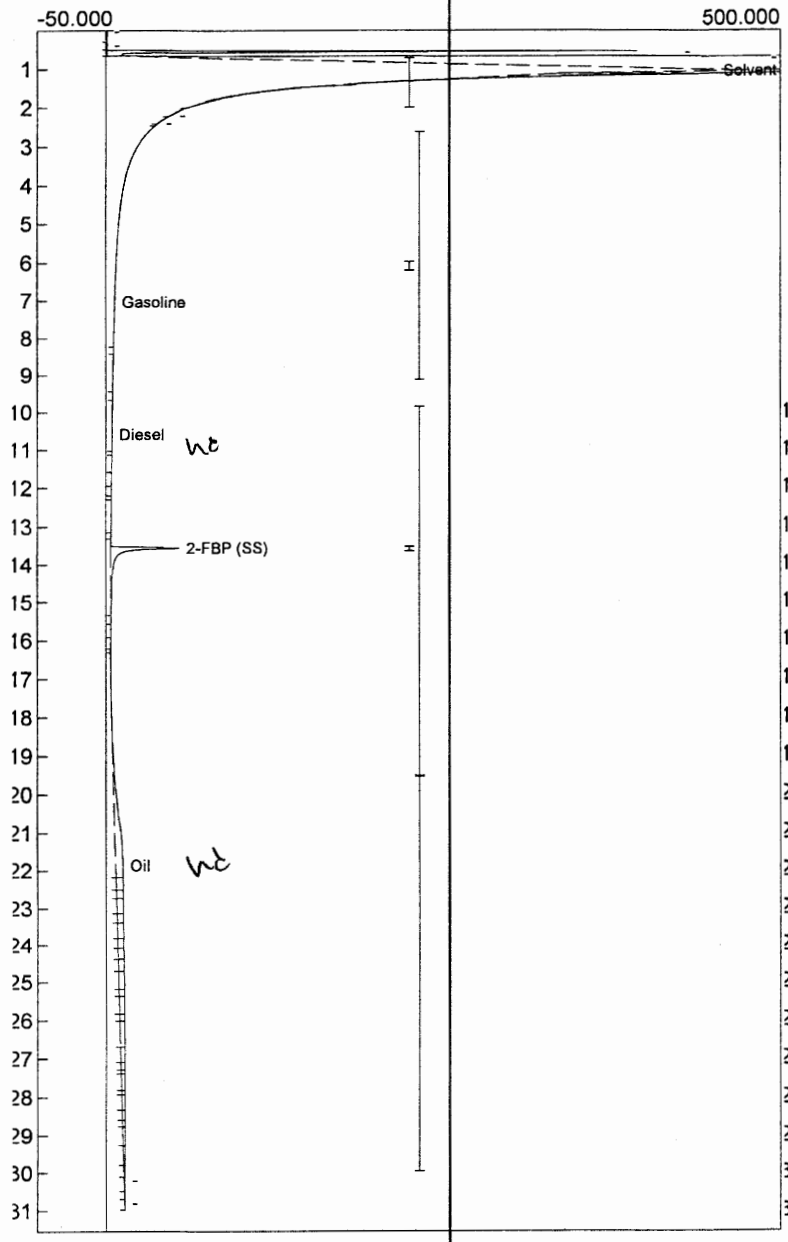
Component	Retention	Area	External	Units
Solvent	1.333	192.8660	0.0000	
Gasoline	3.033	13.4385	1.6048	ppm
Diesel	12.033	427.8065	25.1837	ppm
2-FBP (SS)	13.566	341.5160	71.2513	%
Oil	20.933	2975.3090	154.5885	30
		3950.9360	252.6283	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 12:37:55
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1129.CHR ()
Sample: 30-08 MW01 36.12:1
Operator: TM



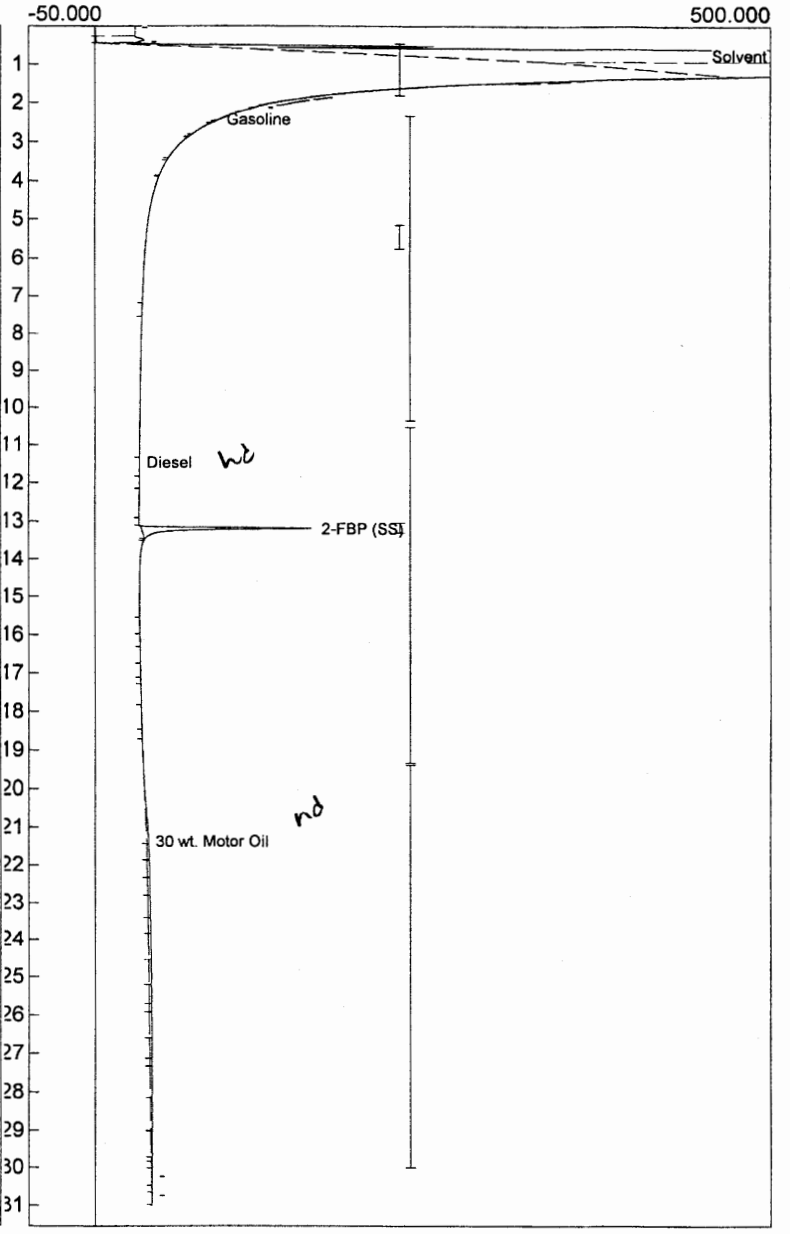
Component	Retention	Area	External	Units
Solvent	0.700	37990.1180	0.0000	
Gasoline	2.400	12.8910	2.6446	ppm
Diesel	12.483	348.1515	22.5522	ppm
2-FBP (SS)	13.183	328.7075	77.7971	%
30 wt. Motor Oil	21.766	1059.8990	75.2380	ppm
		39739.7670	178.2319	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 13:15:36
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1143.CHR ()
Sample: 30-08 MW23S 36.09:1
Operator: TM



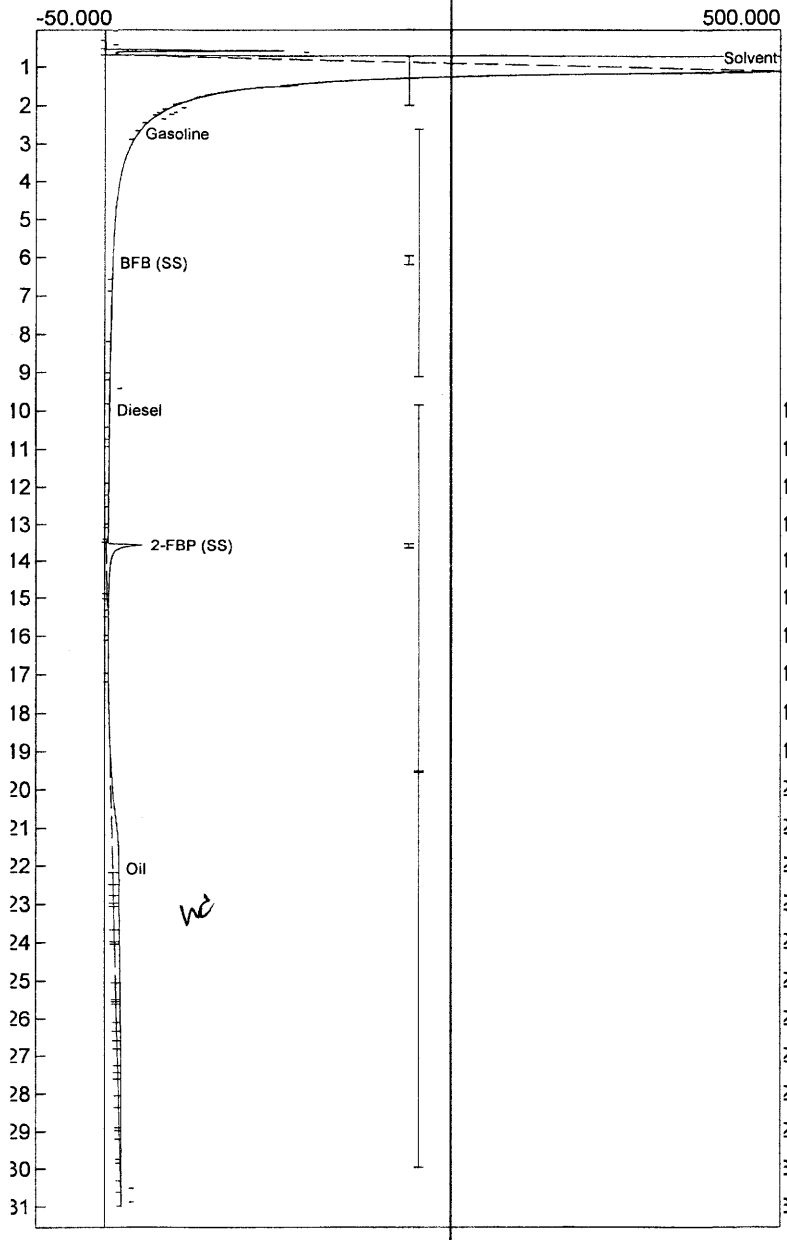
Component	Retention	Area	External	Units
Solvent	1.050	1726.7925	0.0000	
Gasoline	7.033	3.6065	0.4307	ppm
Diesel	10.583	370.6415	21.8185	ppm
2-FBP (SS)	13.550	362.2690	75.5810	%
Oil	21.866	2207.3170	114.6858	30
		4670.6265	212.5161	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 13:15:36
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1130.CHR ()
Sample: 30-08 MW21S 34.66:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.750	29949.1650	0.0000	
Gasoline	2.416	9.7020	1.9904	ppm
Diesel	11.466	572.7990	37.1042	ppm
2-FBP (SS)	13.183	551.7580	130.5877	%
30 wt. Motor Oil	21.366	865.4120	61.4322	ppm
		31948.8360	231.1145	

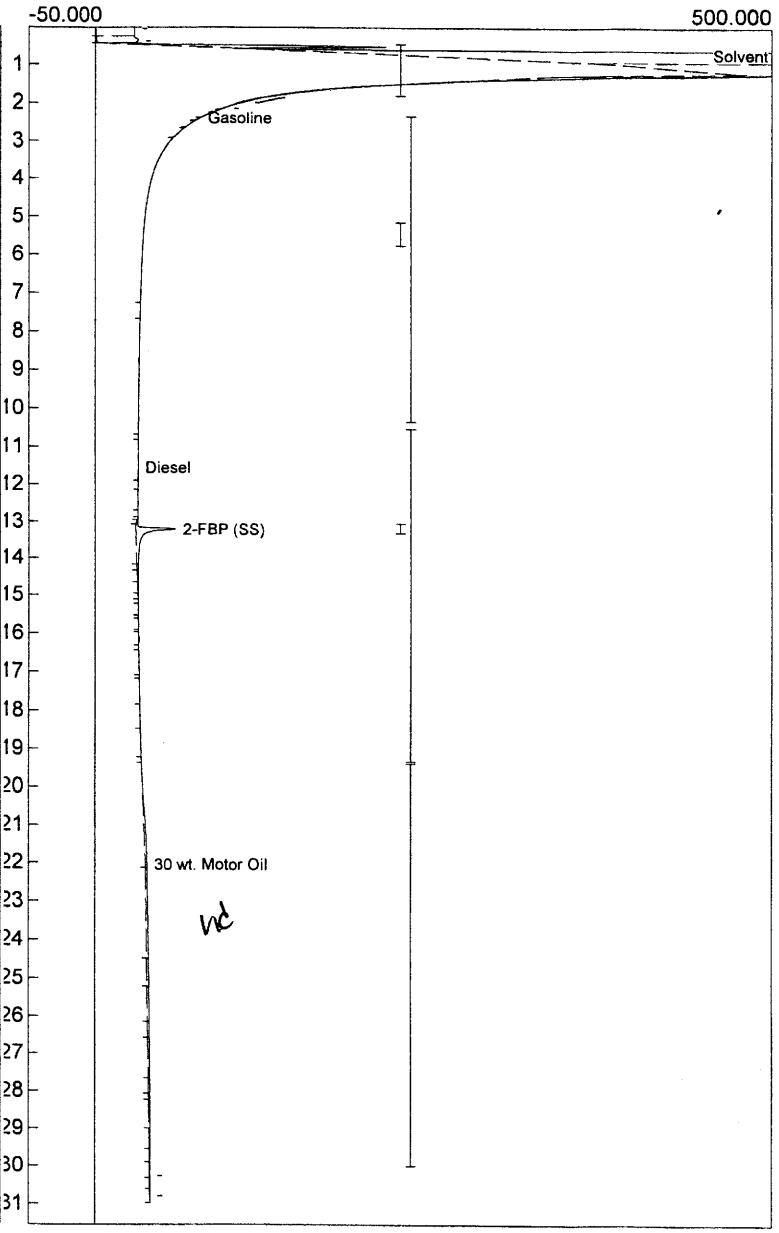
Lab name: Dragon Analytical
Analysis date: 07/09/2009 13:53:19
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1144.CHR ()
Sample: 30-08 MW02 35.43:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.750	18905.6040	0.0000	
Gasoline	2.733	12.3290	1.4723	ppm
BFB (SS)	6.150	1.1465	0.3403	ppm
Diesel	9.983	399.7520	23.5322	ppm
2-FBP (SS)	13.566	357.0360	74.4893	%
Oil	22.083	1867.4405	97.0268	30
		21543.3080	196.8609	

74.5

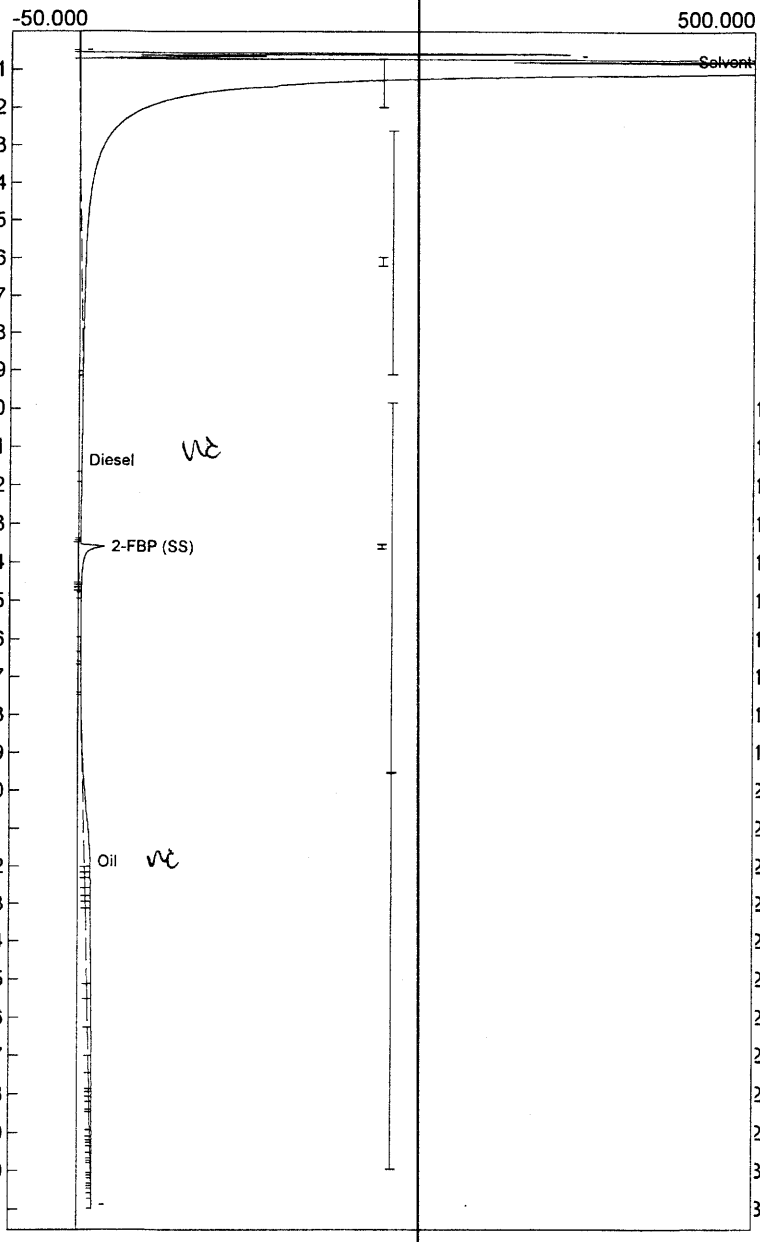
Lab name: Dragon Analytical
Analysis date: 07/09/2009 13:53:19
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1131.CHR ()
Sample: 30-08 MW16 35.12:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.700	25958.7980	0.0000	
Gasoline	2.383	12.4440	2.5529	ppm
Diesel	11.550	368.7690	23.8877	ppm
2-FBP (SS)	13.200	298.7780	70.7135	%
30 wt. Motor Oil	22.050	691.1800	49.0641	ppm
		27329.9690	146.2183	

70.7

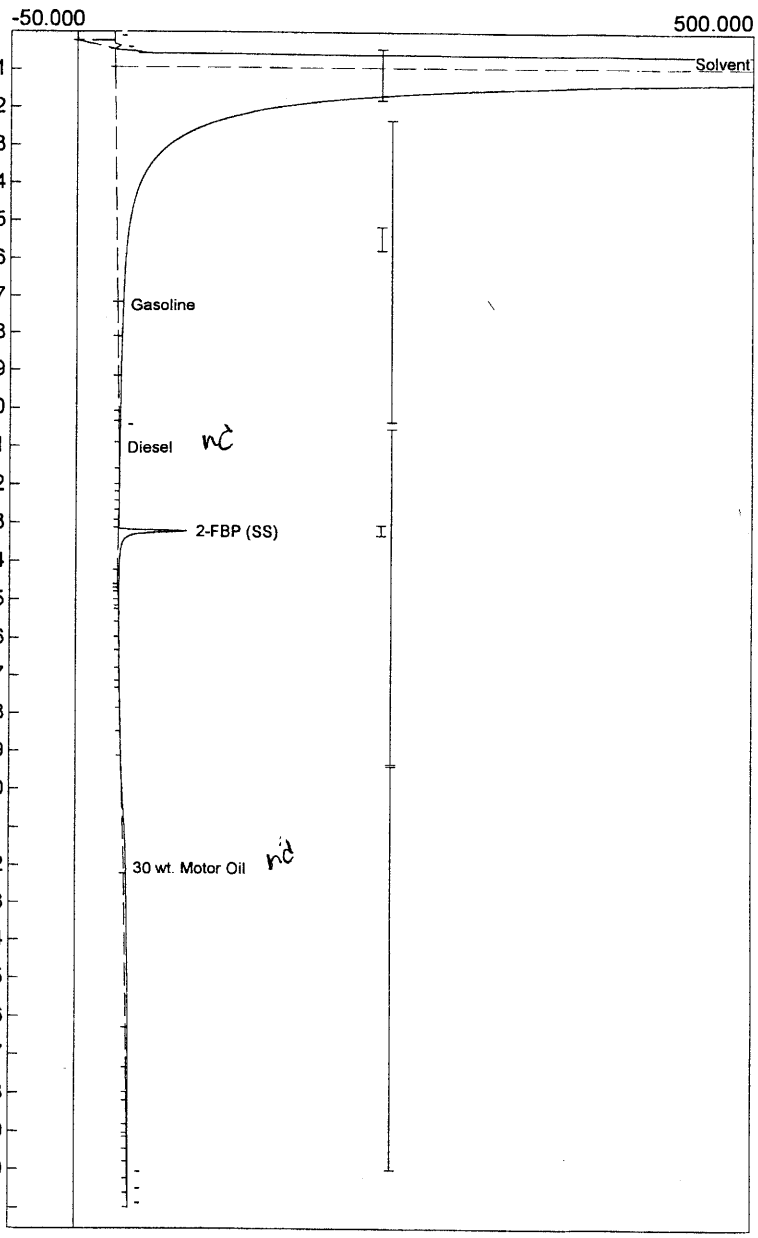
Lab name: Dragon Analytical
Analysis date: 07/09/2009 14:33:58
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1145.CHR ()
Sample: 30-08 MW04 36.04:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.766	34036.7105	0.0000	
Diesel	11.350	364.6785	21.4675	ppm
2-FBP (SS)	13.583	318.6870	66.4884	%
Oil	21.866	1673.1965	86.9345	30
		36393.2725	174.8904	

66 ~

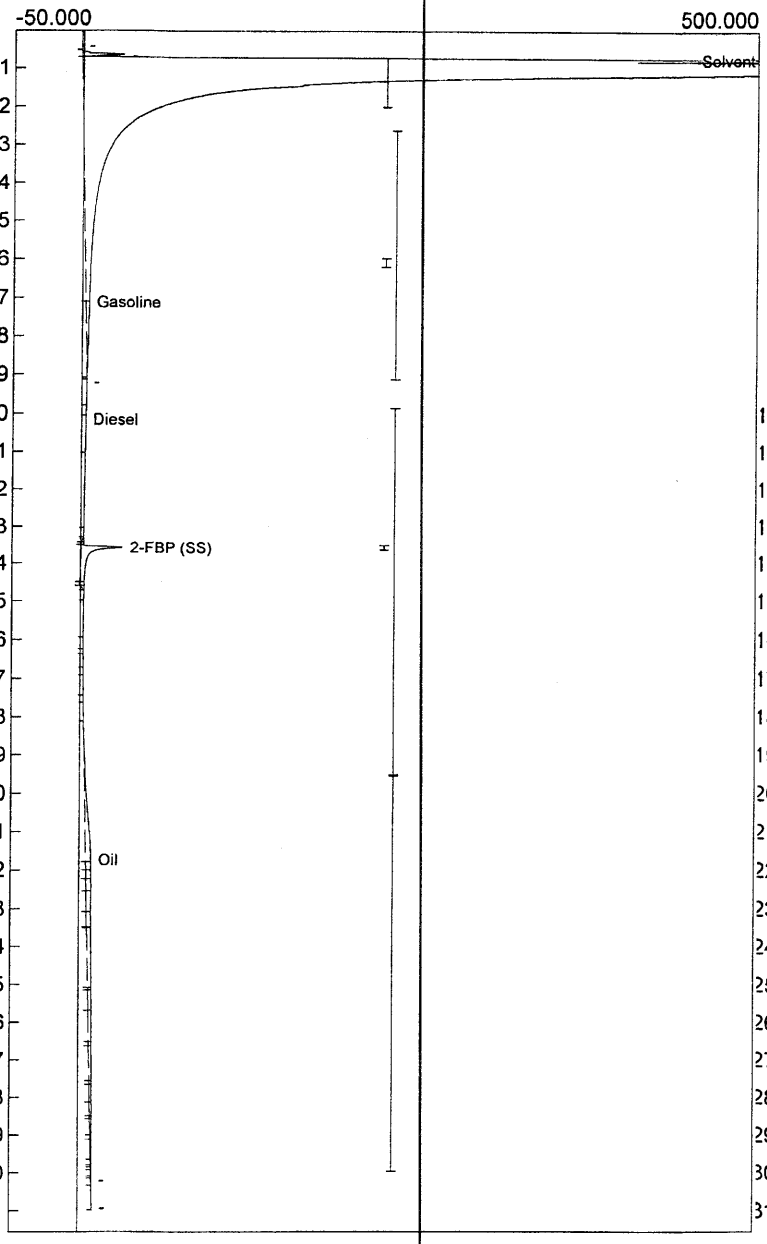
Lab name: Dragon Analytical
Analysis date: 07/09/2009 14:33:58
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1132.CHR ()
Sample: 30-08 MW11 35.00:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.733	59688.7450	0.0000	
Gasoline	7.233	473.0700	97.0515	ppm
Diesel	11.016	487.3850	31.5713	ppm
2-FBP (SS)	13.200	381.2990	90.2442	%
30 wt. Motor Oil	22.066	778.5250	55.2644	ppm
		61809.0240	274.1315	

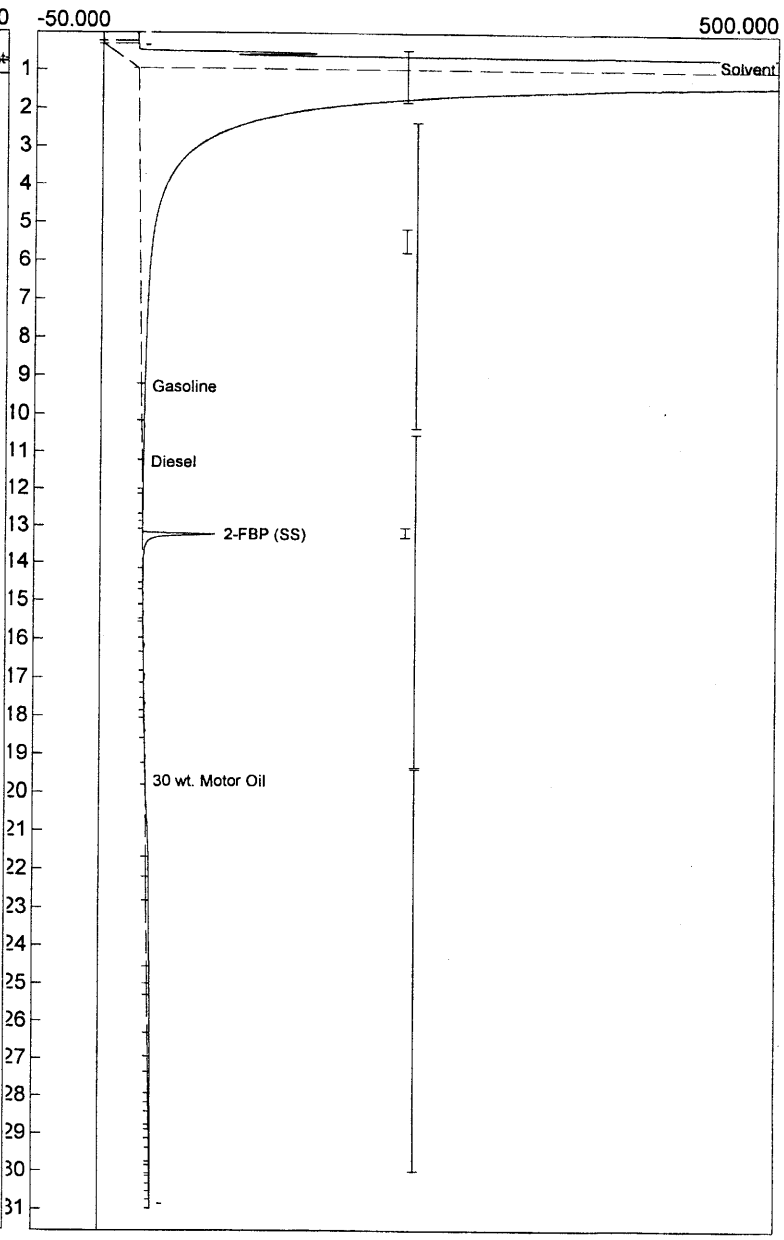
90 ~

Lab name: Dragon Analytical
Analysis date: 07/09/2009 15:47:03
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: A1146.CHR ()
Sample: 30-08 MW188 81:1
Operator: TM



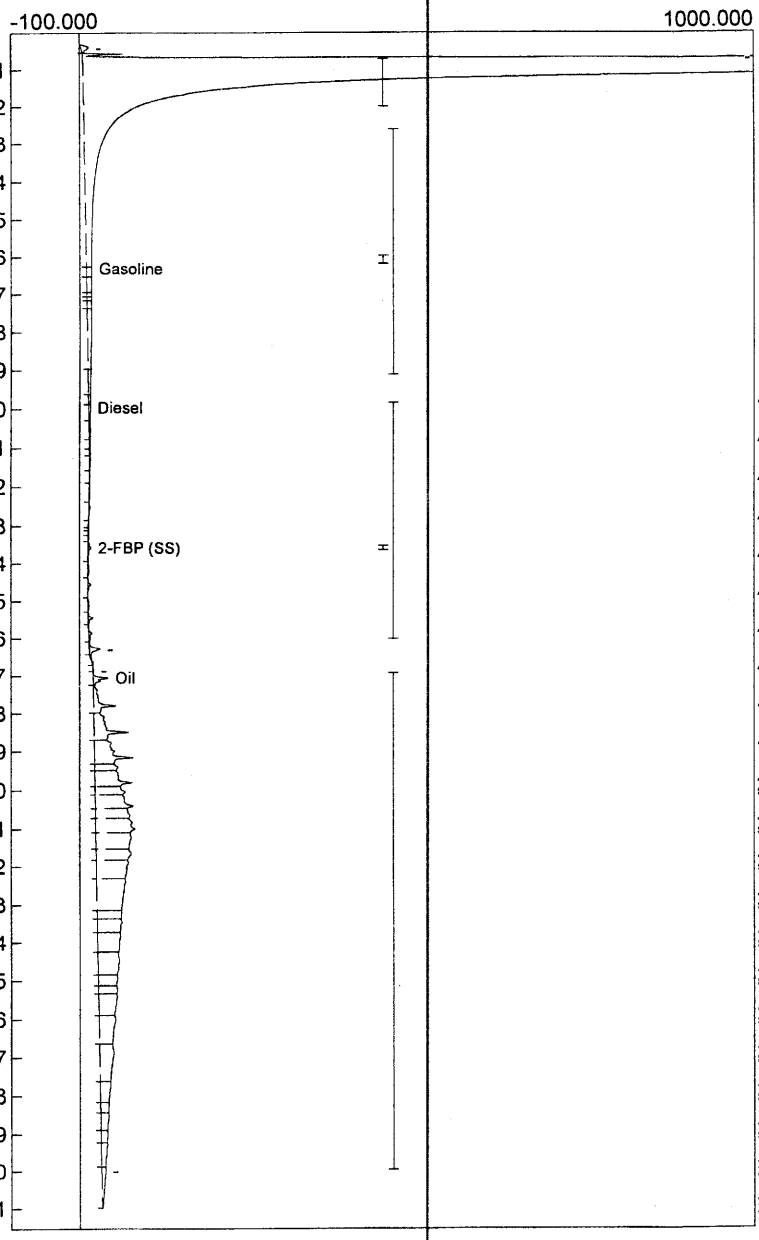
Component	Retention	Area	External	Units
Solvent	0.750	38626.9650	0.0000	
Gasoline	7.116	148.6590	17.7527	ppm
Diesel	10.150	435.7435	25.6509	ppm
2-FBP (SS)	13.583	368.1040	76.7984	%
Oil	21.733	1478.1030	76.7980	30
		41057.5745	197.0000	

Lab name: Dragon Analytical
Analysis date: 07/09/2009 15:47:03
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: B1133.CHR ()
Sample: 30-08 MW03 36.08:1
Operator: TM



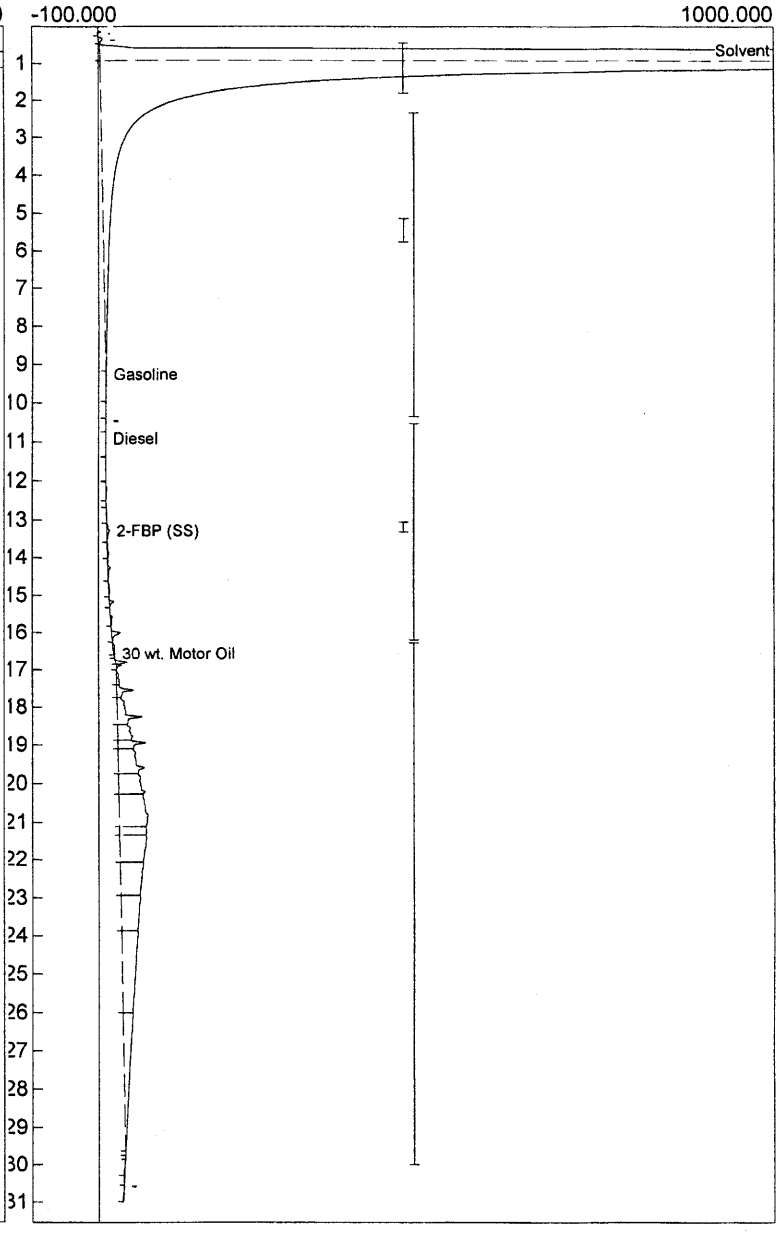
Component	Retention	Area	External	Units
Solvent	0.800	62544.3745	0.0000	
Gasoline	9.266	236.0485	48.4260	ppm
Diesel	11.266	439.5510	28.4728	ppm
2-FBP (SS)	13.216	317.8130	75.2186	%
30 wt. Motor Oil	19.700	834.4090	59.2314	ppm
		64372.1960	211.3488	

Lab name: Dragon Analytical
Analysis date: 07/11/2009 16:14:49
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\A1150.CHR ()
Sample: 1000 ppm Oil
Operator: TM



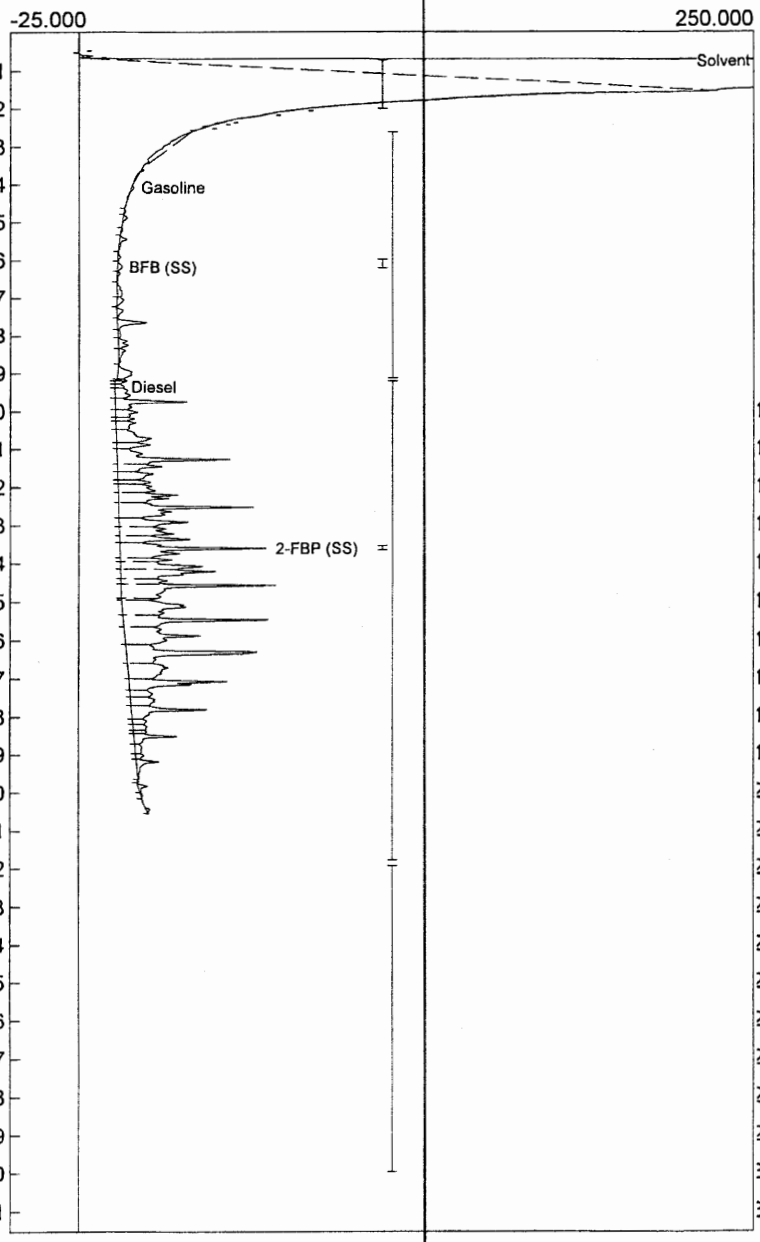
Component	Retention	Area	External	Units
Gasoline	6.316	1088.7385	130.0161	ppm
Diesel	9.966	420.6995	24.7653	ppm
2-FBP (SS)	13.583	43.1245	8.9972	%
Oil	17.050	21023.6690	1092.3293	30
		22576.2315	1256.1079	

Lab name: Dragon Analytical
Analysis date: 07/11/2009 16:14:49
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\B1137.CHR ()
Sample: 1000 ppm Oil
Operator: TM



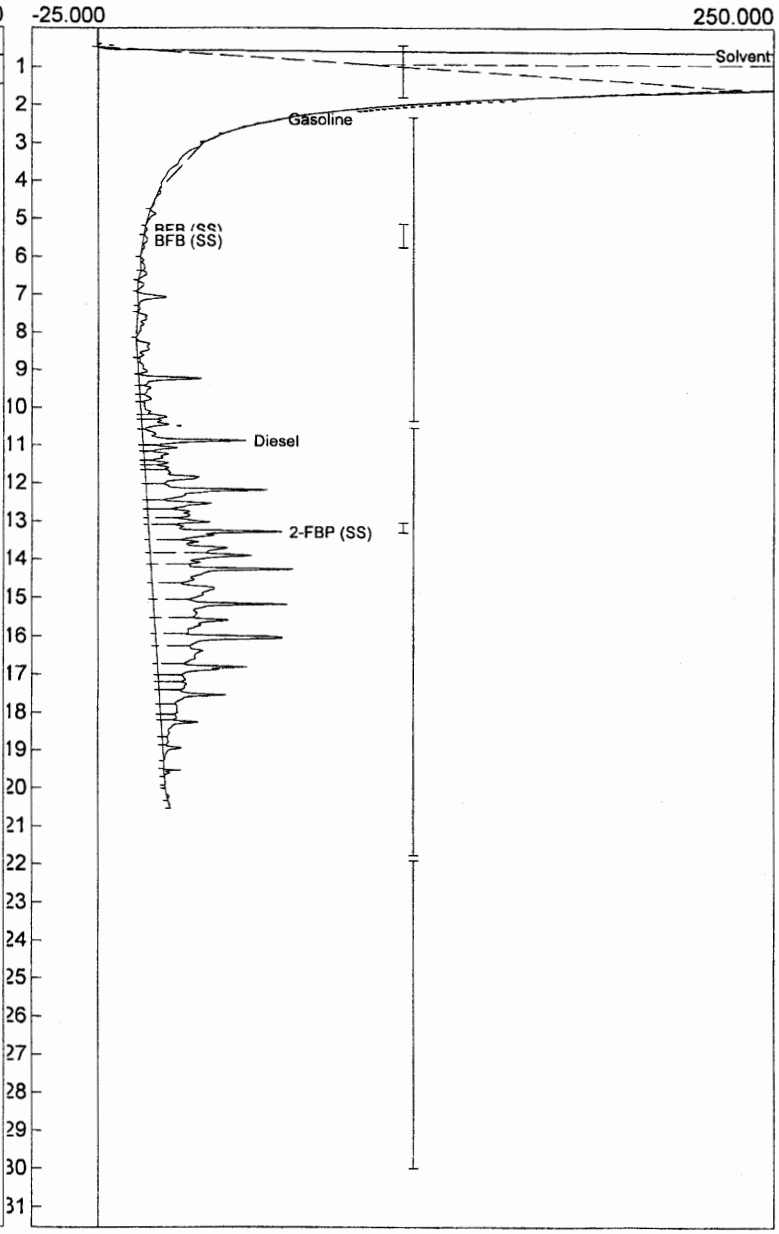
Component	Retention	Area	External	Units
Solvent	0.633	59381.3560	0.0000	
Gasoline	9.250	50.0075	10.2592	ppm
Diesel	10.900	310.3345	20.1025	ppm
2-FBP (SS)	13.266	49.2060	11.6459	%
30 wt. Motor Oil	16.566	15323.5160	1087.7556	ppm
		75114.4200	1129.7631	

Lab name: Dragon Analytical
Analysis date: 07/11/2009 16:52:50
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\A1151.CHR ()
Sample: 500 ppm Diesel
Operator: TM
QC batch: 457



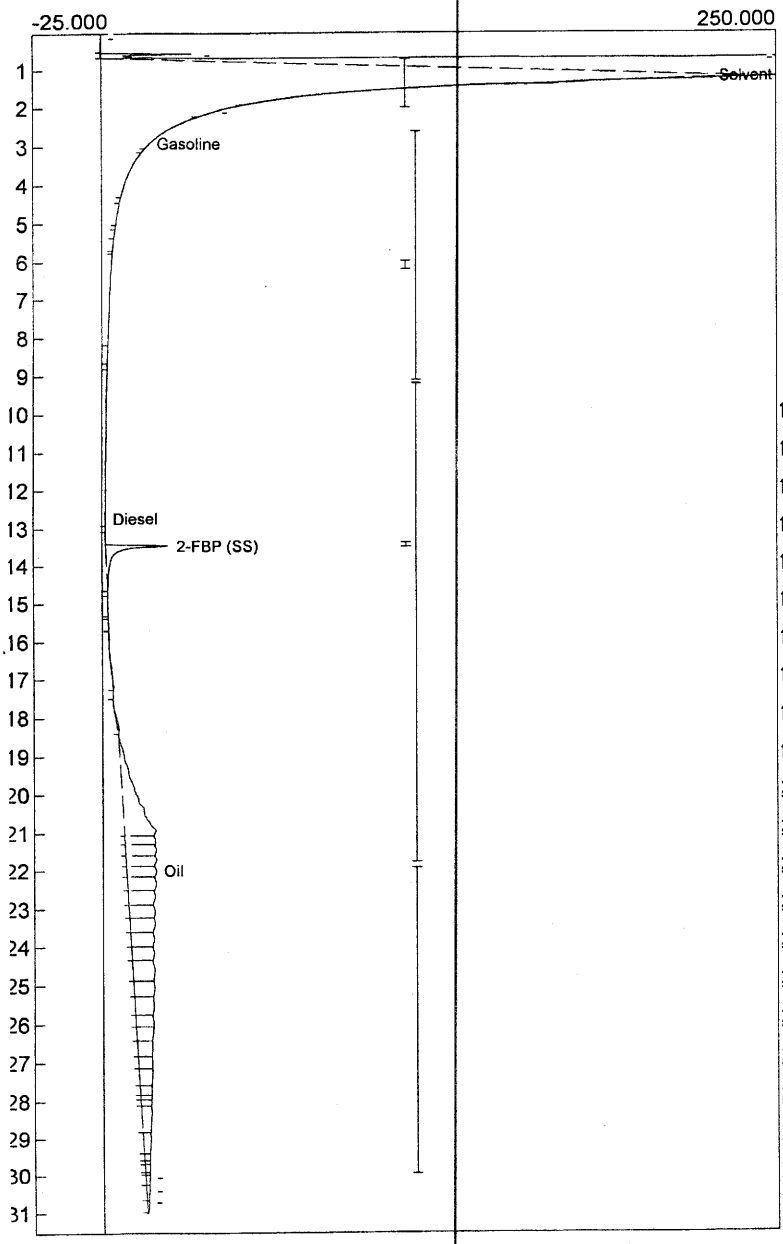
Component	Retention	Area	External	Units
Solvent	0.750	34275.2880	0.0000	
Gasoline	4.066	337.4565	40.2987	ppm
BFB (SS)	6.166	15.1720	4.5033	ppm
Diesel	9.350	7456.7745	438.9574	ppm
2-FBP (SS)	13.600	477.9030	99.7060	%
		42562.5940	583.4655	

Lab name: Dragon Analytical
Analysis date: 07/11/2009 16:52:50
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\B1138.CHR ()
Sample: 500 ppm Diesel
Operator: TM
QC batch: 457



Component	Retention	Area	External	Units
Solvent	0.666	39134.1980	0.0000	
Gasoline	2.383	709.3505	145.5251	ppm
BFB (SS)	5.300	5.7245	1.7223	ppm
BFB (SS)	5.583	21.1760	6.3712	ppm
Diesel	10.883	6943.6300	449.7873	ppm
2-FBP (SS)	13.283	481.0240	113.8467	%
		47295.1030	717.2527	

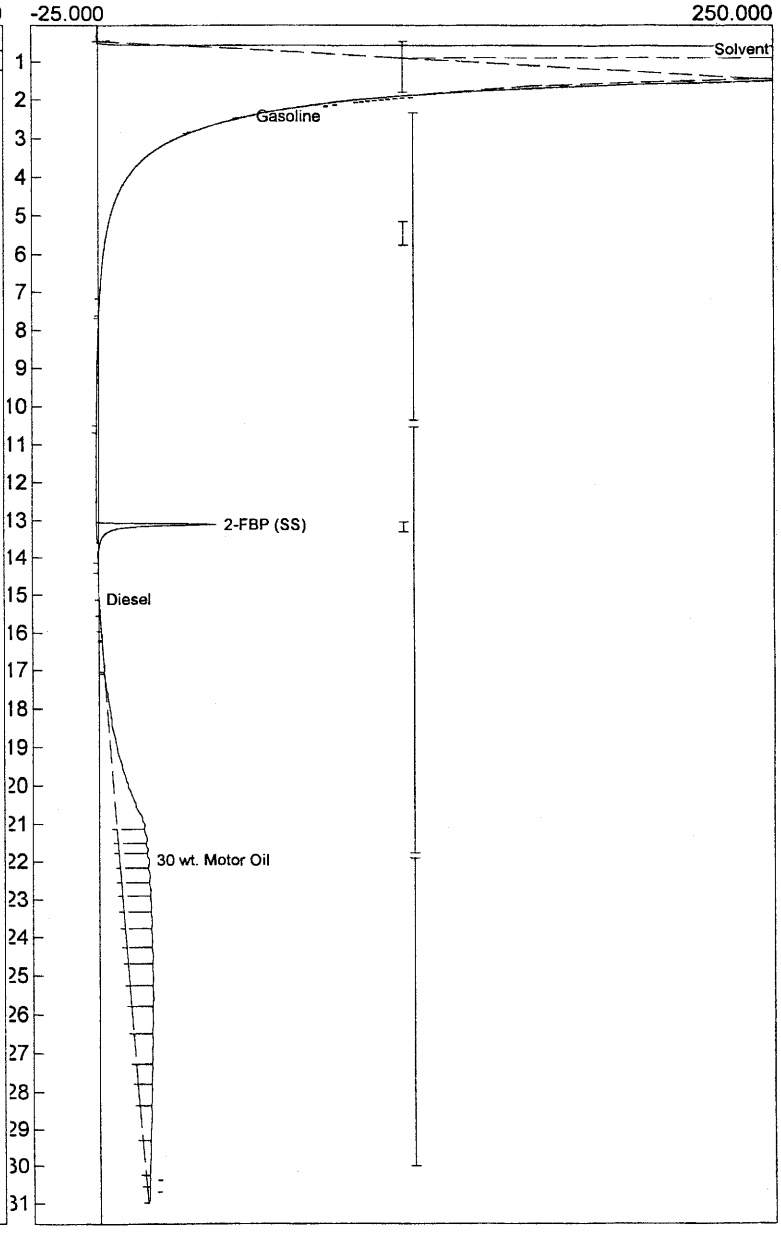
Lab name: Dragon Analytical
Analysis date: 07/11/2009 17:19:42
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\A1152.CHR ()
Sample: 30-08 MW15 36.36:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	1.200	159.6130	0.0000	
Gasoline	2.916	9.0420	1.0798	ppm
Diesel	12.733	1518.1995	89.3717	ppm
2-FBP (SS)	13.466	194.4840	77.4759	%
Oil	22.000	3037.7785	157.8342	30
		4919.1170	325.7617	

77.5

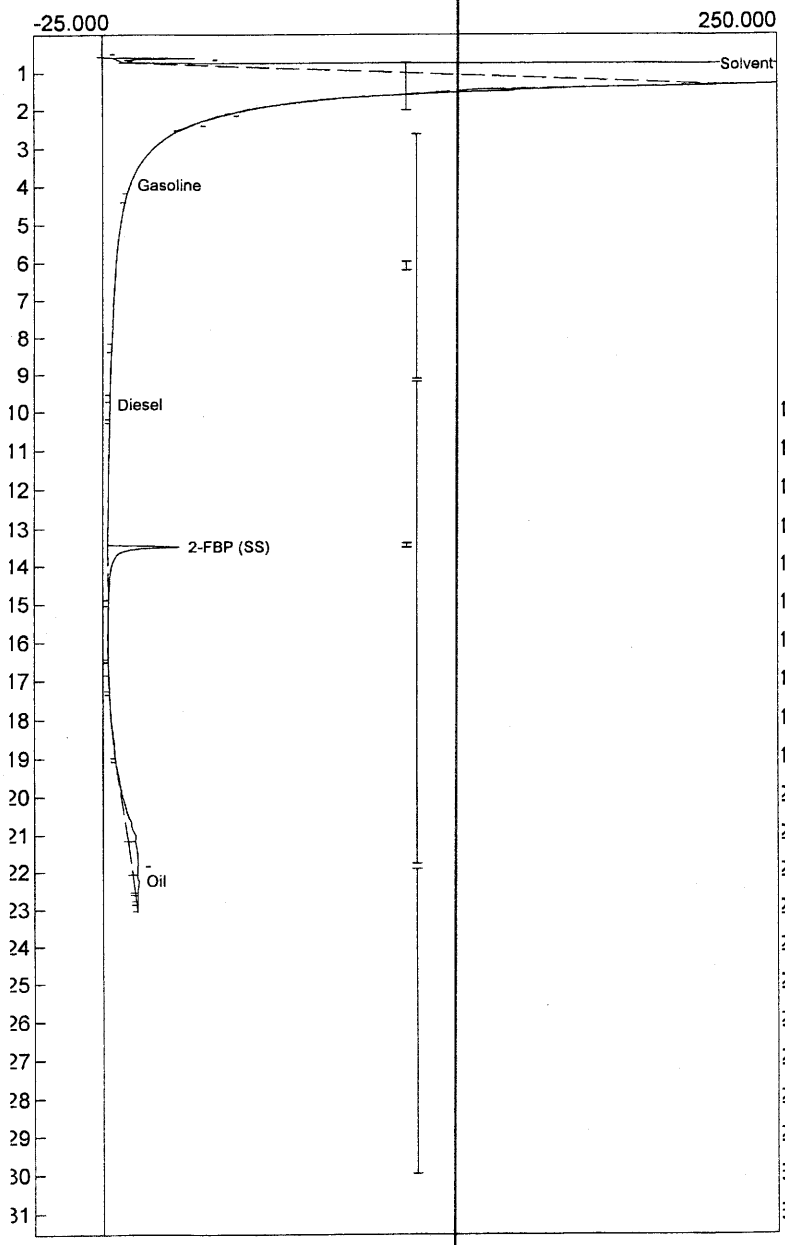
Lab name: Dragon Analytical
Analysis date: 07/11/2009 17:19:42
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\B1139.CHR ()
Sample: MB
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.650	37617.3530	0.0000	
Gasoline	2.416	8.8190	1.8092	ppm
2-FBP (SS)	13.100	303.1750	71.7542	%
Diesel	15.100	1619.5810	104.9116	ppm
30 wt. Motor Oil	21.950	3618.9980	256.8983	ppm
		43167.9260	435.3733	

105

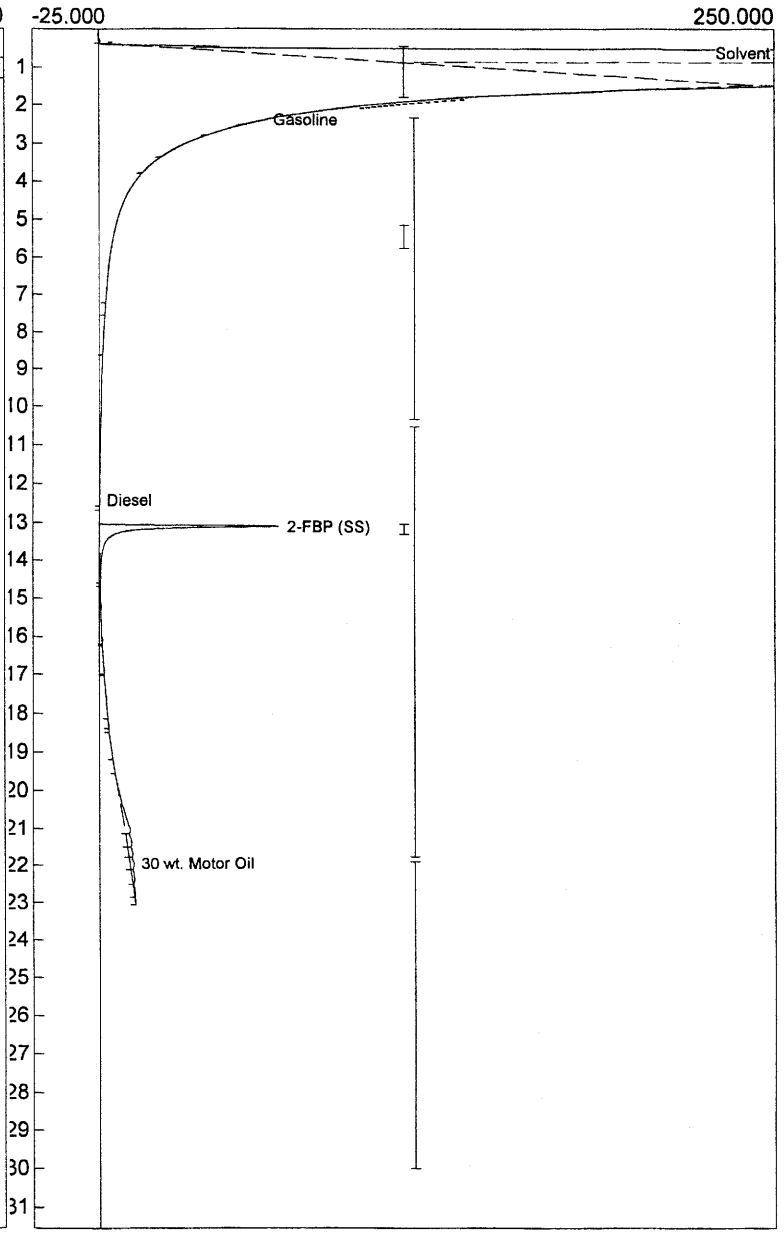
Lab name: Dragon Analytical
Analysis date: 07/11/2009 17:57:35
Method: Direct inject
Description: CHANNEL 1 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\A1153.CHR ()
Sample: 30-08 MW15 35.22:1 Dup
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.783	24924.3215	0.0000	
Gasoline	3.950	6.0865	0.7268	ppm
Diesel	9.800	386.5480	22.7549	ppm
2-FBP (SS)	13.466	232.5480	92.6394	%
Oil	22.233	57.0305	2.9631	30
		25606.5345	119.0843	

92.6

Lab name: Dragon Analytical
Analysis date: 07/11/2009 17:57:35
Method: Direct Inject
Description: CHANNEL 2 - FID
Column: Restek 30m XTI-5
Carrier: He @ 100 on dial
Data file: C:\Peak329\B1140.CHR ()
Sample: 30-08 MW24S 35.84:1
Operator: TM



Component	Retention	Area	External	Units
Solvent	0.600	39326.0635	0.0000	
Gasoline	2.383	11.7510	2.4107	ppm
Diesel	12.416	579.0105	37.5065	ppm
2-FBP (SS)	13.100	436.9455	103.4144	%
30 wt. Motor Oil	21.950	52.9270	3.7571	ppm
		40406.6975	147.0888	

103

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

091216 028 **PITC** Last Due 12/30/2009
1st SAMP 12/15/200 1st RCVD 12/16/2009
DEC09 EAST BAY GWM

Company Name: PTC	Project Manager:
Address: 2612 Yelm Hwy SE	Project Name & #: Dec09 East Bay GWM
City: Olympia State: WA Zip: 98501	Email Address: bussey+@wspioneer.com
Phone: 360 570 1700	Purchase Order #: Credit Card
Fax:	Sampler Name & phone: Melody Feden 3605701700

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

✓Normal __Next Day* __2nd Day* __Other*_____ *All rush order requests must be prior approved. __Phone __Mail __Fax __Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH G NWTPH-Gx	TPH D NWTPH-DX	TPH HO NWTPH-DX	VOC 8260	PAH 8270	PCB 8082	Metals Total 6000/7000	Metals Diss. 6000/7000	
				Preservative:										
1	MW02R-121509	121509 / 930	Water	11		X	X	X	X	X	X	X	X	
2	MW20-121509	121509 / 1030	Water	11		X	X	X	X	X	X	X	X	✱
3	MW04-121509	121509/ 1130	Water	11		X	X	X	X	X	X	X	X	✱
4	MW01-121509	121509/ 1430	Water	11		X	X	X	X	X	X	X	X	✓
5	MW03-121509	121509/ 1530	Water	11		X	X	X	X	[redacted]	[redacted]	X	X	✱
	✓= 1 PAH sample vial broken, put remaining sample in bottle													
	✱= Caps received broken on PAH													

Note Special Instructions/Comments

MUOBS

Cu+Ni
Total Metals ← total RCRA 8 metal
Diss Metals: As, Pb, Cu, Ni

✱ Used wrong bottles for analysis follow the COC and not the analysis on the bottle. Call w/questions.

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	121509	1700
Received by	Travis Maas	Travis Maas	Anatek	12/16/09	12:35
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	(Y)	N

FedEx
Temperature (°C): 4.6
Preservative: HCl
Date & Time:
Inspected By:

Anatek Labs, Inc.

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Chain of Custody Record

091217 043 PITC Last Due 1/4/2010
1st SAMP 12/16/200 1st RCVD 12/17/2009
EAST BAY DEC GW

Company Name: PTC		Project Manager: Troy Bussey	
Address: 2612 Yelm Hwy SE		Project Name & #: East Bay Dec GW	
City: Olympia	State: WA Zip: 98501	Email Address: busseyt@uspioneer.com	
Phone: 360-570-1700		Purchase Order #:	
Fax:		Sampler Name & phone:	

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

✓ Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G NWTPH-G	TPH-D+HO NWTPH-DX	VOC 8260	PAH 8270	PCB 8082	Total Metals*	Diss. Metals*			
1	MW03-121609	12.16.09/0730	WT	2					X	X					
2	MW09-121609	12.16.09/1030	WT	11		X	X	X	X	X	X	X			
3	MW08-121609	12.16.09/1115	WT	11		X	X	X	X	X	X	X			
4	MW25S-121609	12.16.09/1200	WT	11		X	X	X	X	X	X	X			
5	MW22S-121609	12.16.09/1400	WT	11		X	X	X	X	X	X	X			
6	MW14-121609	12.16.09/1500	WT	11		X	X	X	X	X	X	X			

Note Special Instructions/Comments

MWBS

* Total Metals: total RCRA 8 Metals and Cu + Ni

* Dissolved Metals: As, Pb, Cu + Ni

Total DCS = 57

Inspection Checklist

Received Intact? (Y) N
Labels & Chains Agree? (Y) N
Containers Sealed? (Y) N
VOC Head Space? (Y) N

Fedex

Temperature (°C): 5.6
Preservative: HCl

Date & Time: ______
Inspected By: ______

	Printed Name	Signature	Company	Date	Time
Relinquished by	Kara Roberts	Kara Roberts	PTC	121609	1700
Received by	Trovelhoose	[signature]	Anatek	12/17/09	13:15
Relinquished by					
Received by					
Relinquished by					
Received by					

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

091221 002 **PITC** Last Due 1/5/2010
1st SAMP 12/17/200 1st RCVD 12/18/2009
EAST BAY DEC GW

Company Name: PTC
Address: 2612 Yelm Hwy SE
City: Olympia State: WA Zip: 98501
Phone: 360-570-1700
Fax:

Project Manager: Troy Bussey
Project Name & #: East Bay DeC GW
Email Address: busseyb@pioneer.com
Purchase Order #:
Sampler Name & phone:

Please refer to our normal turn around times at: http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*______

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested / Note Special Instructions/Comments

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G NWTPH-G	TPH-D+HO NWTPH-DX	VOCS 8260	PAHS 8270	PCB 8082	Total Metals*	Diss. Metals*			
1	MW18-121709	12/17/09/915	Water	11		X	X	X	X	X	X	X			
2	MW16-121709	12/17/09/1030	Water	11		X	X	X	X	X	X	X			
3	MW23S-121709	12/17/09/1100	Water	11		X	X	X	X	X	X	X			
	1-1L	Broken													
	Also received:														
	MW-11														
	MW-17														
	MW-24S														

Preservative:

Special Instructions/Comments:

MWBS

*Total Metals: total RCRA 8 metals and Cu and Ni

*Diss Metals: As, Pb, Cu, Ni

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody Feden	PTC	12/17/09	1630
Received by	[illegible]	[illegible]	Anatek	12/18/09	14:35
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact? Y (N)
Labels & Chains Agree? (Y) N
Containers Sealed? (Y) N
VOC Head Space? (Y) N

Fedex

Temperature (°C): 4.7
Preservative:

Date & Time:
Inspected By:

Anatek Labs Inc.

Chain of Custody Record

Anatek Log-In #

504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Printed on: 18 December 200[illegible] 5:25

Company Name: PTC	Project Manager: Tracy Bussey
Address: [illegible] SE	Project Name & #: [illegible]
City: Olympia State: WA Zip: 98501	Email Address: busseyt@[illegible].com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Turn Around Time & Reporting

Please refer to our normal turn around times at: [illegible]

- X Normal
- __Next Day*
- __2nd Day*
- __Other*______

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

Preservative:

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TPH-G NWTPH-G	TPH-Dx NWTPH-Dx	VOCs 8260	PAHs 8270	PCB 8082	Total metals *	Diss metals *				Notes
4	MW12-121709	121709/1200	WT	11		X	X	X	X	X	X	X				* Total metals: total RCRA metals and Cu and Ni
5	MW24s-121709	121709/1300	WT	11		X	X	X	X	X	X	X				
6	MW11-121709	121709/1430	WT	11		X	X	X	X	X	X	X				* Diss metals As, Pb, Cu, Ni

	Printed Name	Signature	Company	Date	Time
Relinquished by	Melody Feden	Melody F[illegible]	PTC	12/17/09	1[illegible]50
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature (°C): ____________

Preservative: ____________

Date & Time: ____________

Inspected By: ____________

Anatek Labs, Inc.

Chain of Custody Record

1282 Alturas Drive, Moscow ID 83843 (208) 883-2839 FAX 882-9246
504 E Sprague Ste D, Spokane WA 99202 (509) 838-3999 FAX 838-4433

Anatek Log-: 091221 022 PITC Last Due 1/6/2010
1st SAMP 12/18/200 1st RCVD 12/21/2009
EAST BAY DEC GW

Company Name: PTC	Project Manager: Troy Bussey
Address: 2612 Yelm Hwy SE	Project Name & #: East Bay Dec GW
City: Olympia State: WA Zip: 98501	Email Address: busseyt@uspioneer.com
Phone: 360-570-1700	Purchase Order #:
Fax:	Sampler Name & phone:

Please refer to our normal turn around times at:
http://www.anateklabs.com/services/guidelines/reporting.asp

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

Provide Sample Description / List Analyses Requested

Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	Preservative:	TPH-G NWTPH-Gx	TPH-D+HO NWTPH-Dx	VOCs 8260	PAH 8270	PCBs 8082	Total Metals*	Diss. Metals*
1	MW07-121809	12/18/09 0900	Water	11			X	X	X	X	X	X	X
2	MW15-121809	12/18/09 1050	Water	11			X	X	X	X	X	X	X

Note Special Instructions/Comments

MWOBS

*Total Metals: total RCRA 8 metals and Cu and Ni

*Diss. Metals: As, Pb, Cu, Ni

	Printed Name	Signature	Company	Date	Time
Relinquished by	Kara Roberts	Kara Roberts	PTC	121809	1200
Received by	Travis Hear		Anatek	12/21/09	1065
Relinquished by					
Received by					
Relinquished by					
Received by					

Inspection Checklist

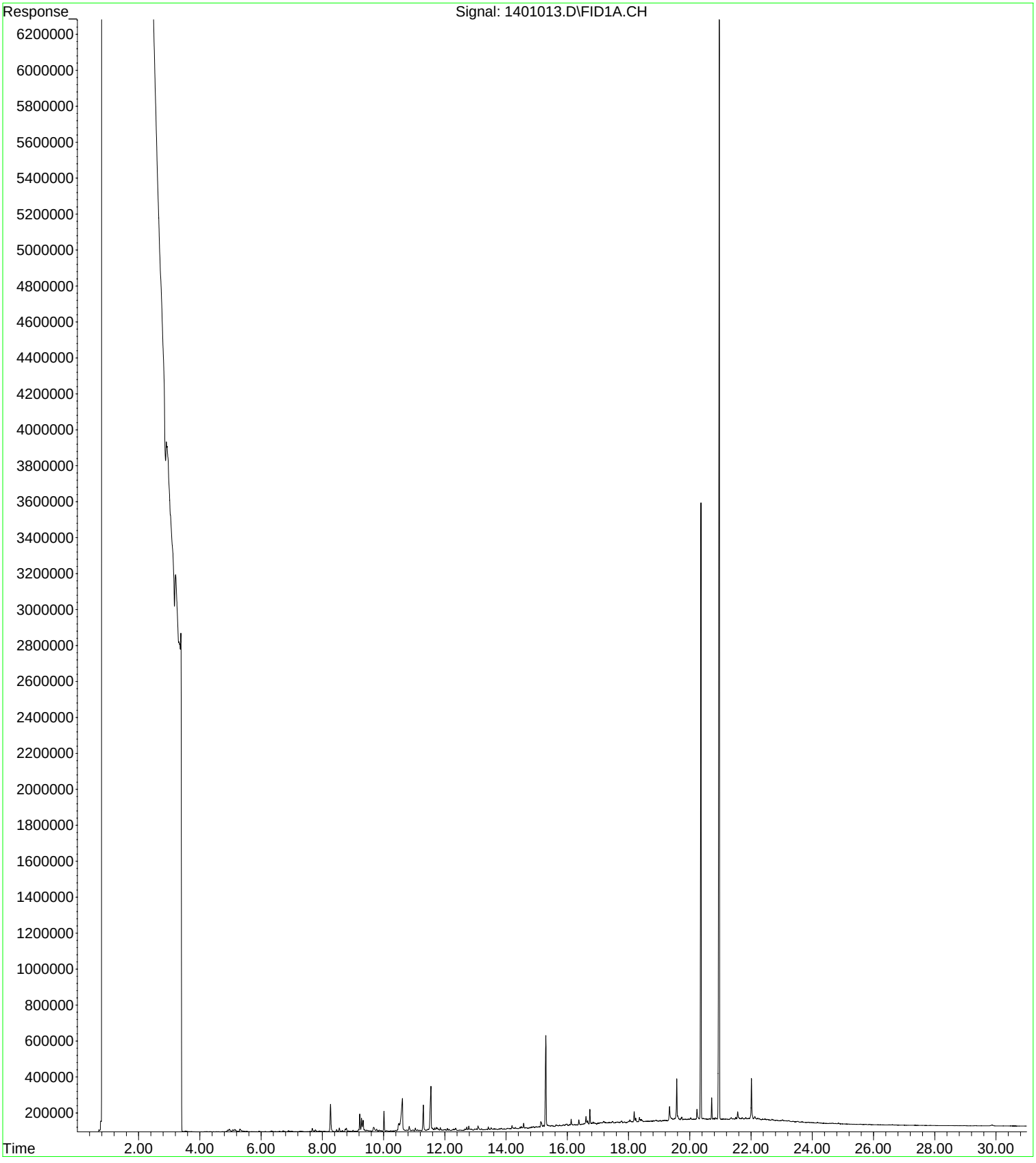
Received Intact?	(Y)	N
Labels & Chains Agree?	(Y)	N
Containers Sealed?	(Y)	N
VOC Head Space?	(Y)	N

Fedex
Temperature (°C): 4.6
Preservative: HCl

Date & Time:
Inspected By:

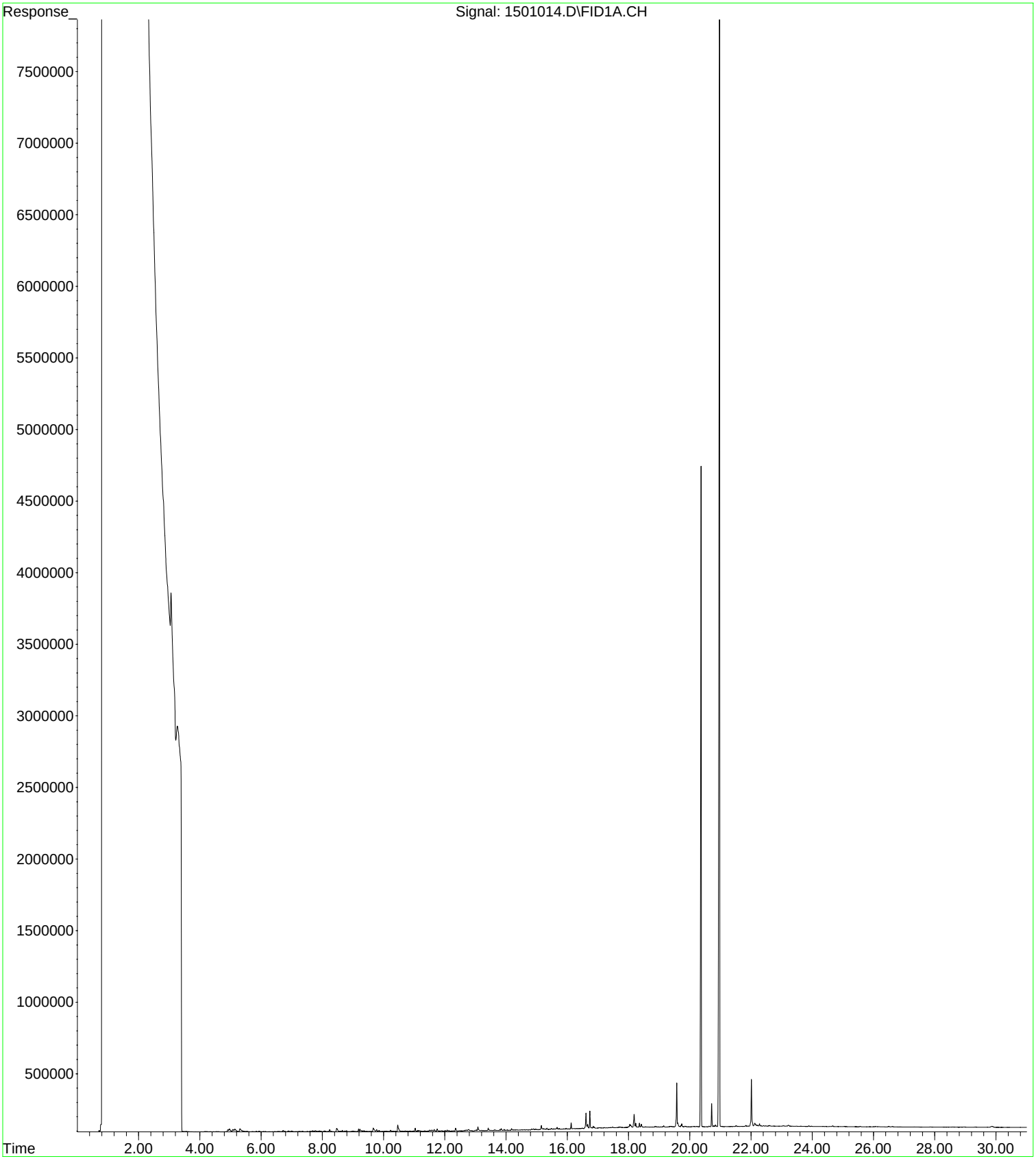
MW02R TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1401013.D
Operator :
Acquired : 21 Dec 2009 6:54 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091216028-001
Misc Info : WATER
Vial Number: 14



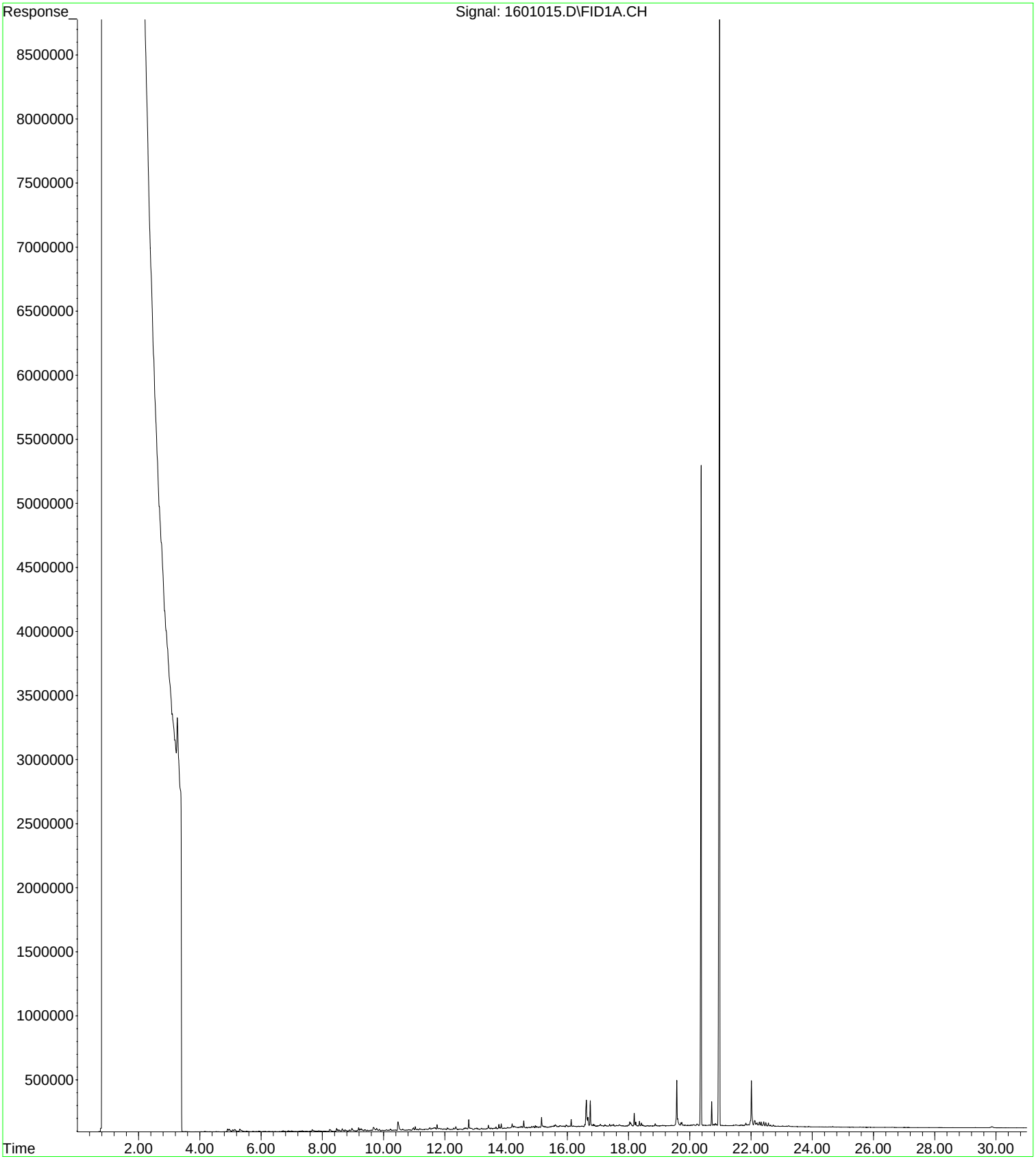
MW20 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1501014.D
Operator :
Acquired : 21 Dec 2009 7:33 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091216028-002
Misc Info : WATER
Vial Number: 15



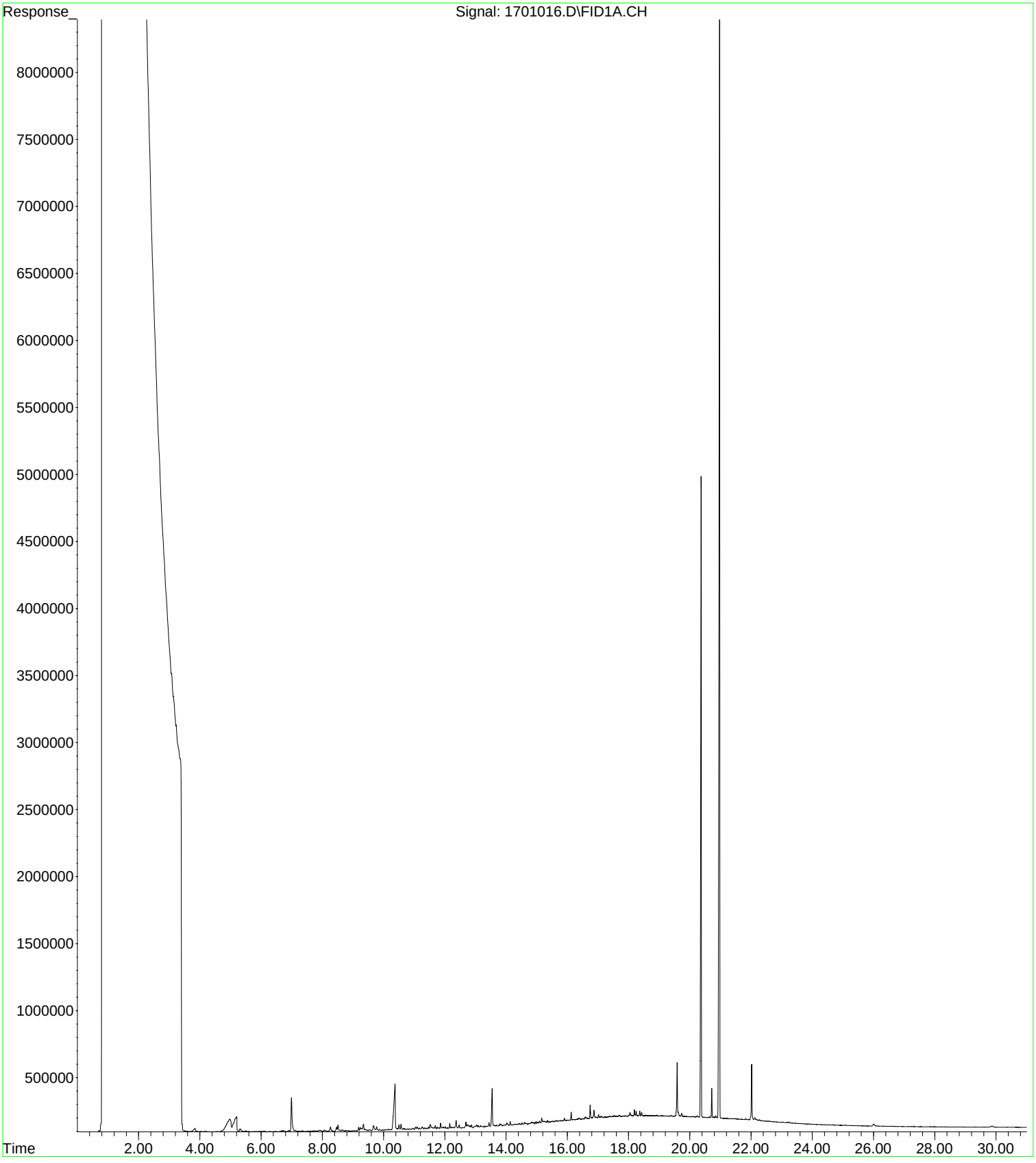
MW04 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1601015.D
Operator :
Acquired : 21 Dec 2009 8:12 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091216028-003
Misc Info : WATER
Vial Number: 16



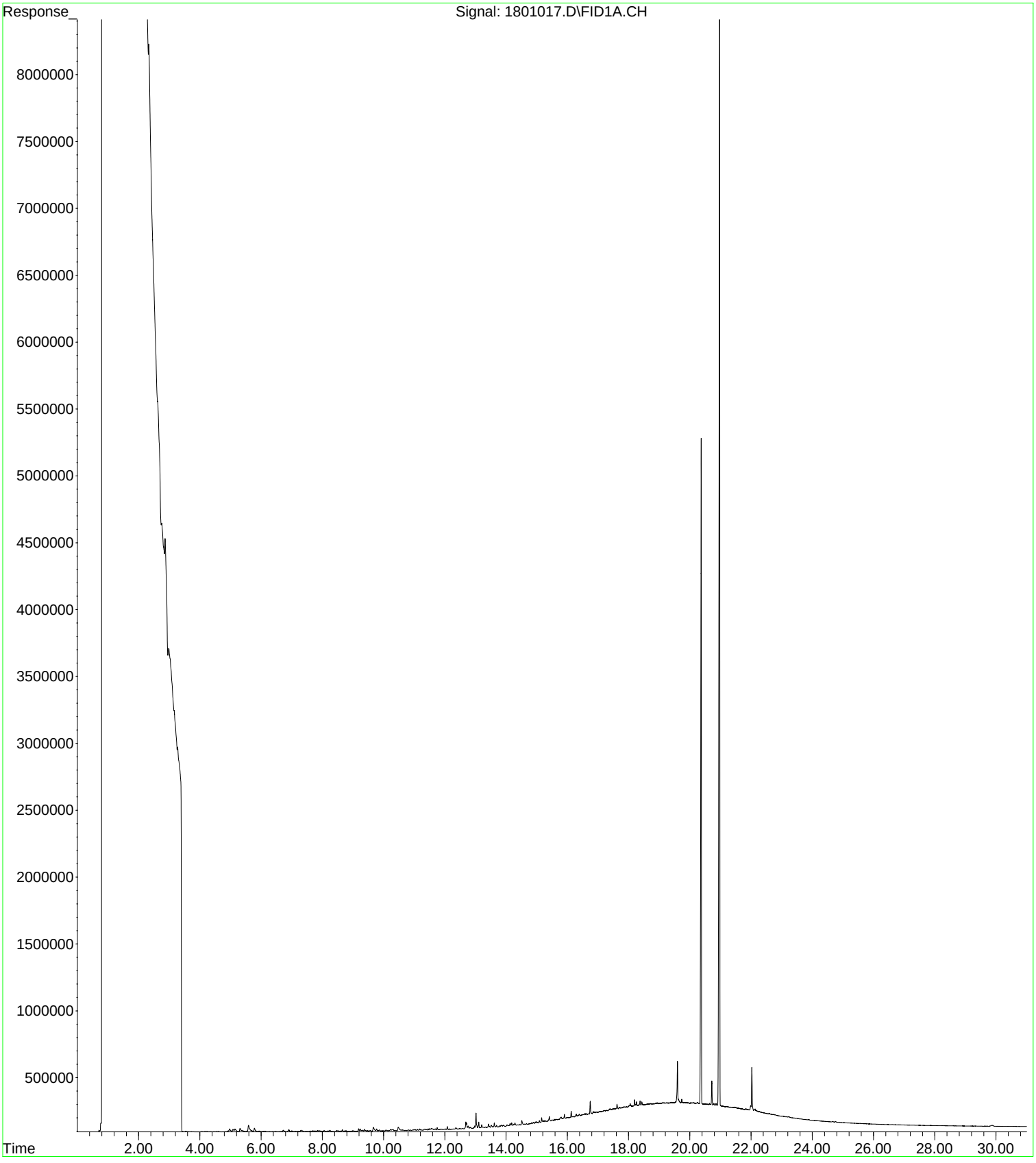
MW01 TPH

```
File       : T:\DATA3\FID2\2009DATA\DEC\DEC21\1701016.D
Operator   :
Acquired   : 21 Dec 2009   8:52 pm using AcqMethod HCIDTT.M
Instrument :   FID2
Sample Name: 091216028-004
Misc Info  : WATER
Vial Number: 17
```



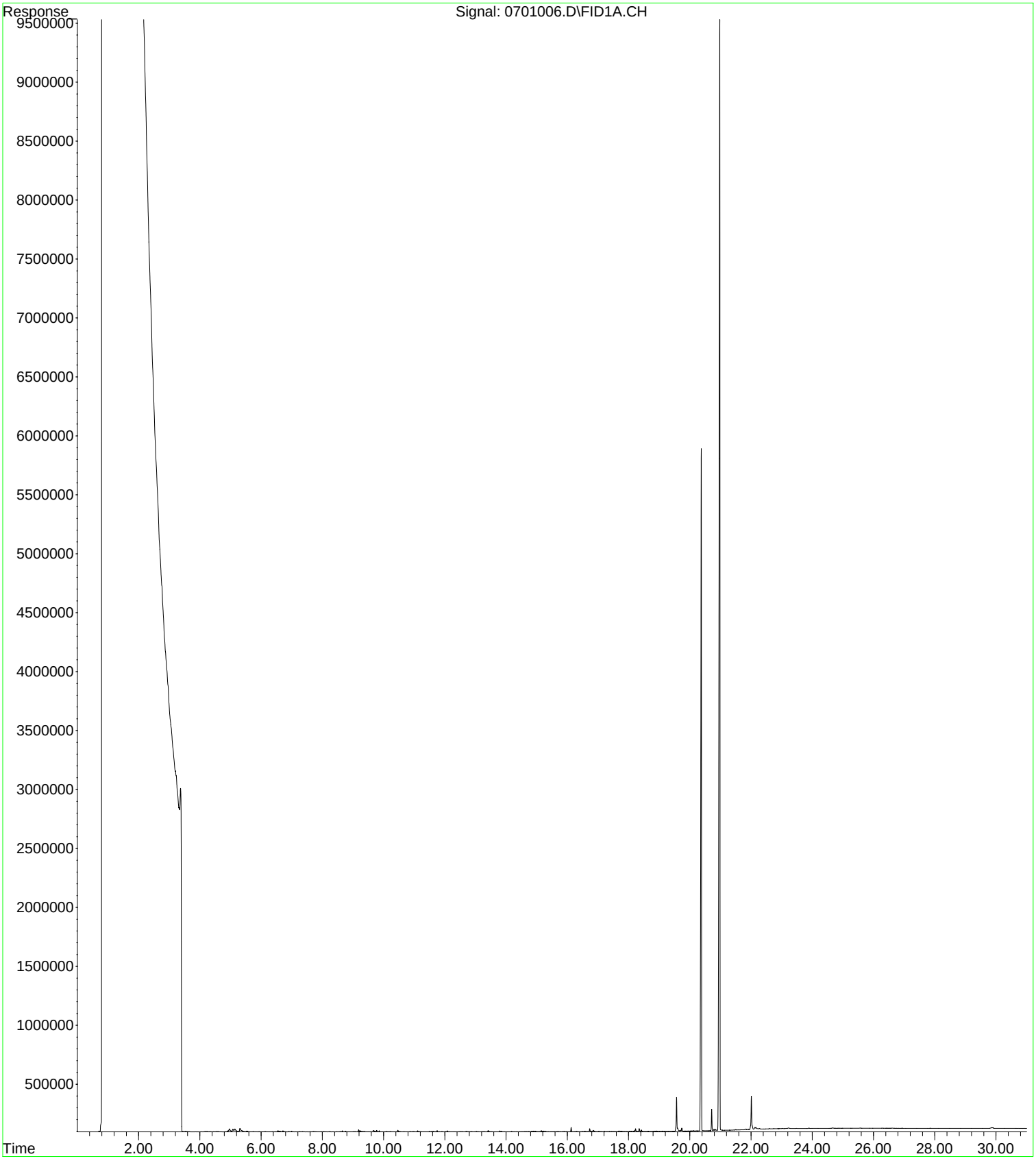
MW03 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1801017.D
Operator :
Acquired : 21 Dec 2009 9:31 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091216028-005
Misc Info : WATER
Vial Number: 18



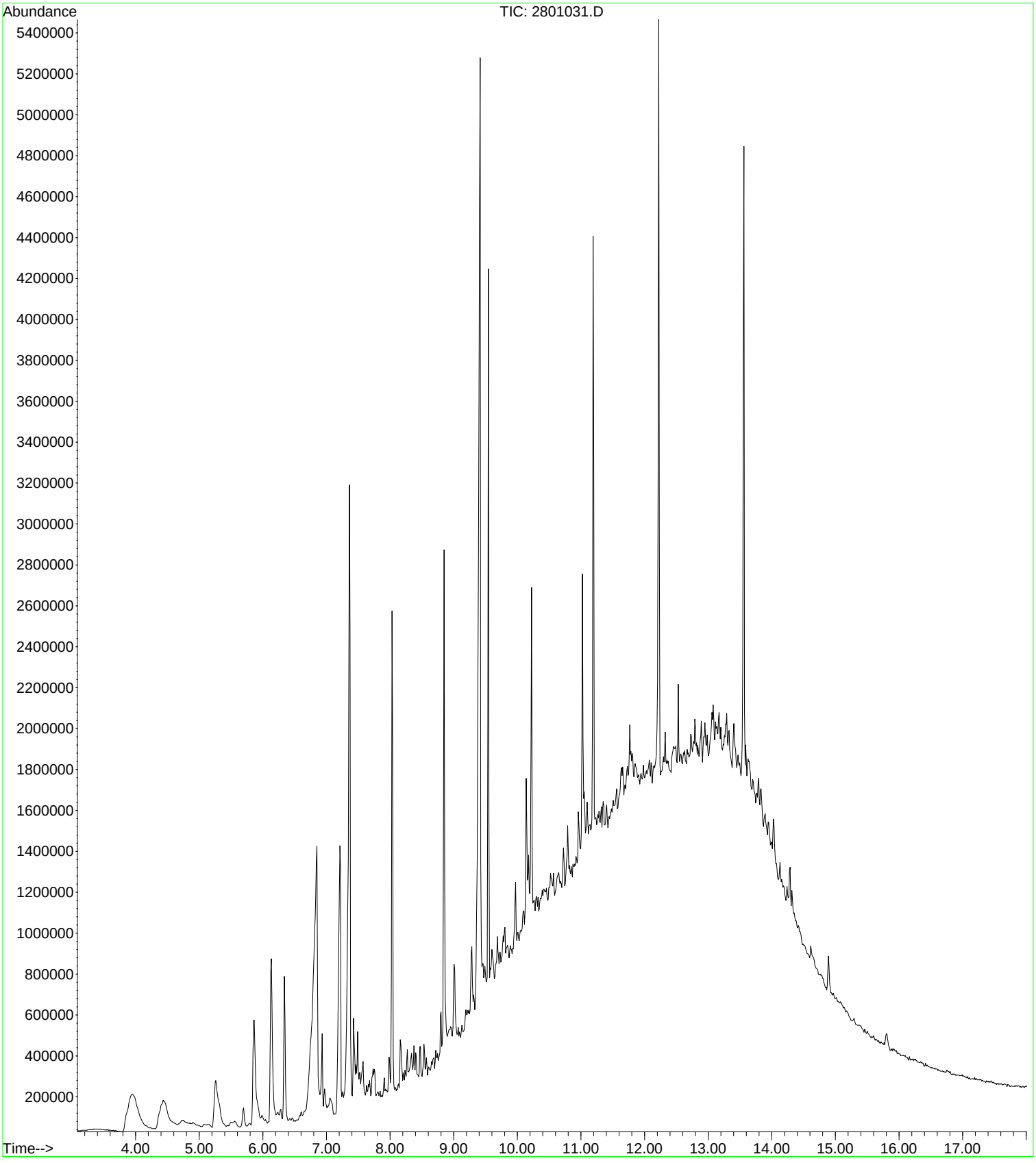
Blank TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\0701006.D
Operator :
Acquired : 21 Dec 2009 2:17 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: BLK
Misc Info : WATER
Vial Number: 7



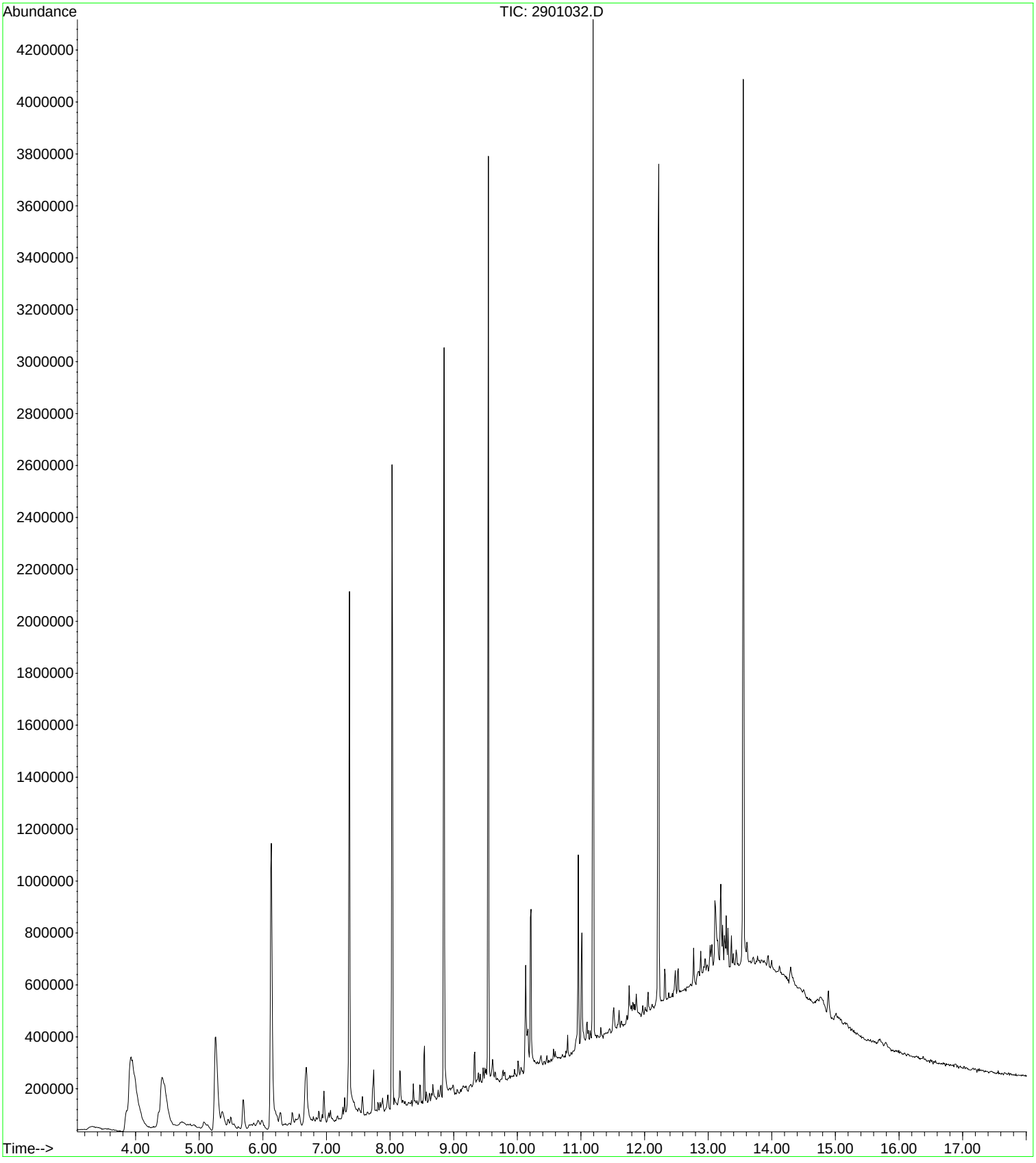
MW02R PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1223PAH\2801031.D
Operator : EMP
Acquired : 23 Dec 2009 10:56 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091216028-001
Misc Info :
Vial Number: 28



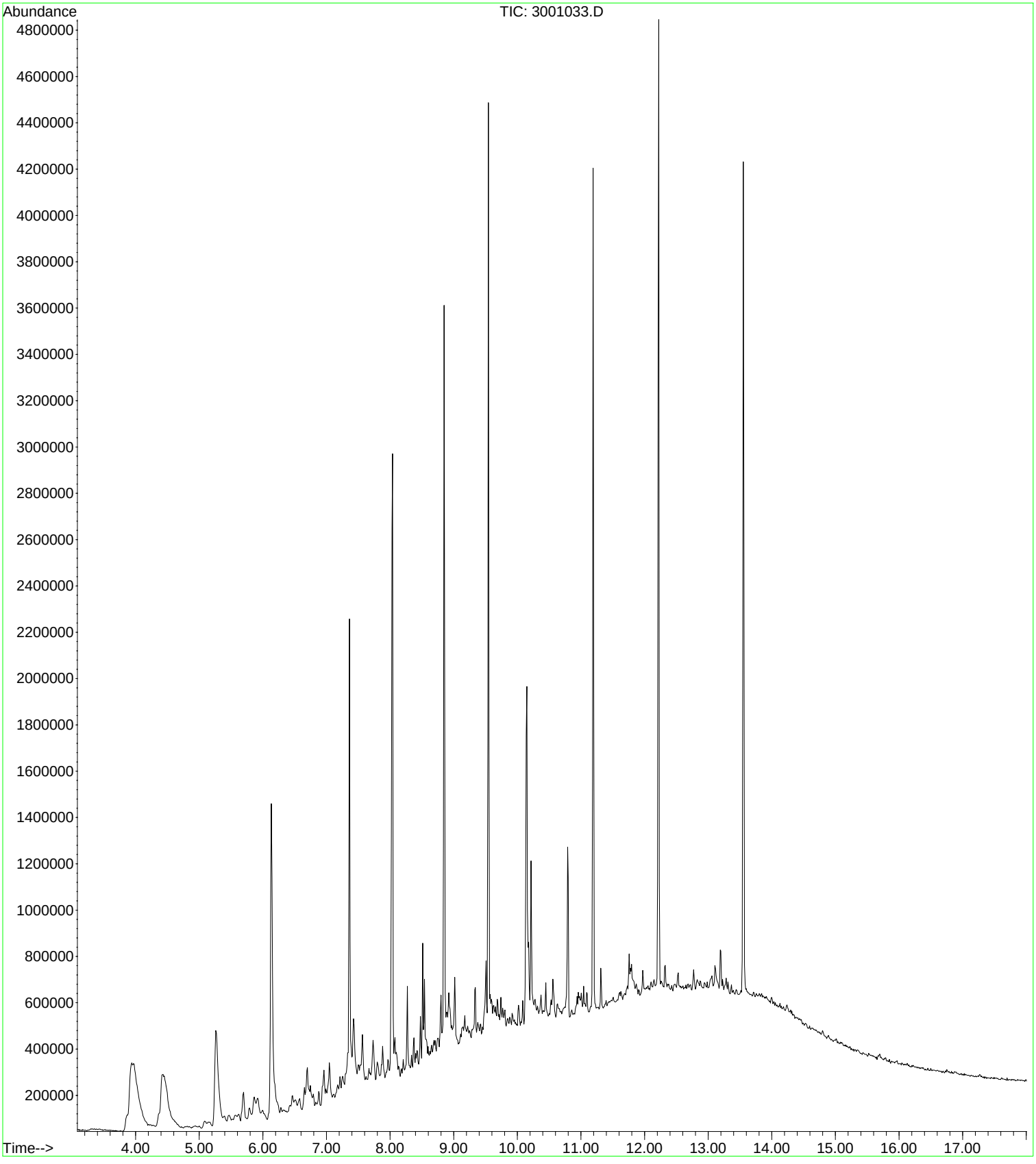
MW20 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1223PAH\2901032.D
Operator : EMP
Acquired : 23 Dec 2009 11:20 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091216028-002
Misc Info :
Vial Number: 29



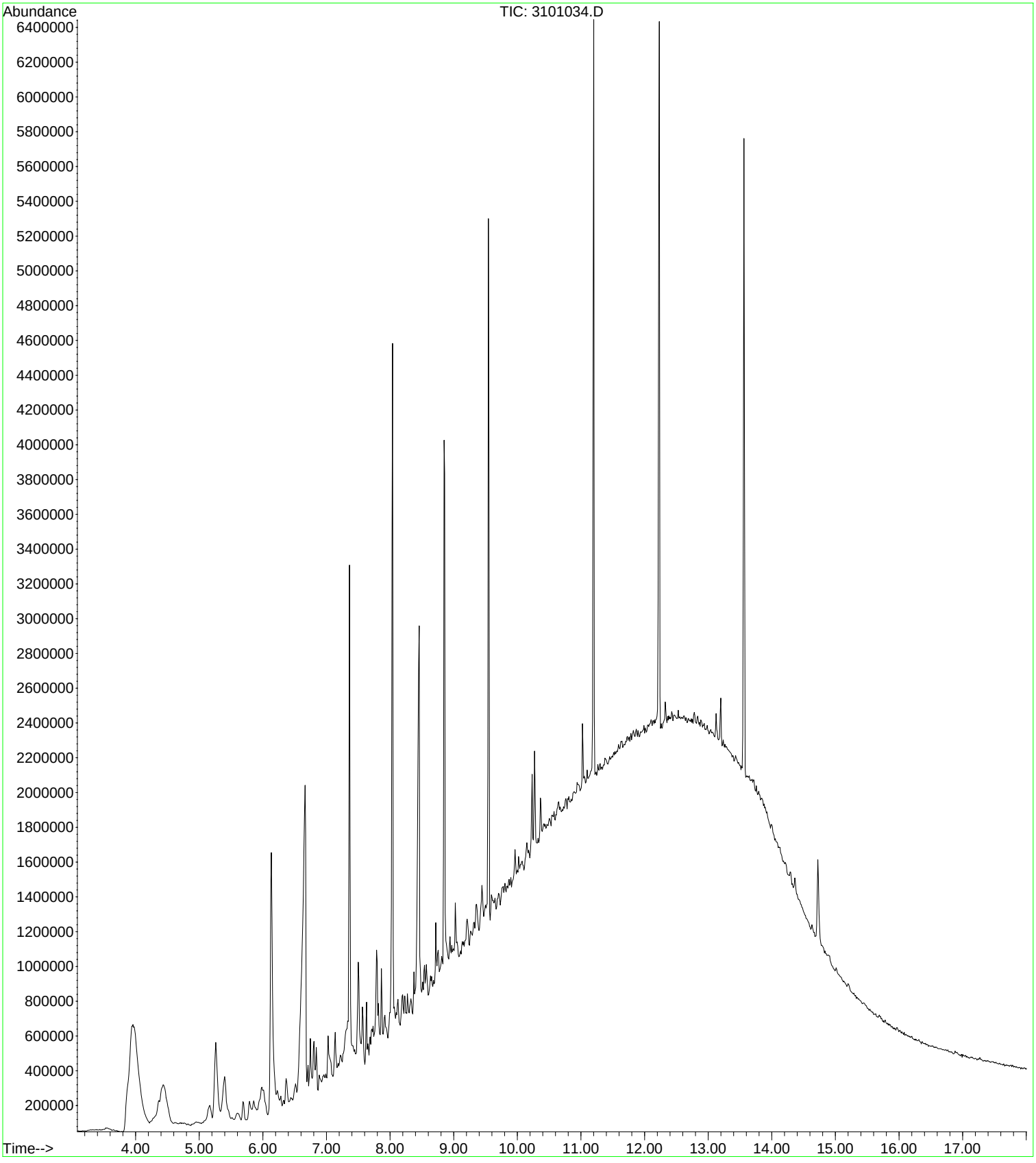
MW04 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1223PAH\3001033.D
Operator : EMP
Acquired : 23 Dec 2009 11:43 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091216028-003
Misc Info :
Vial Number: 30



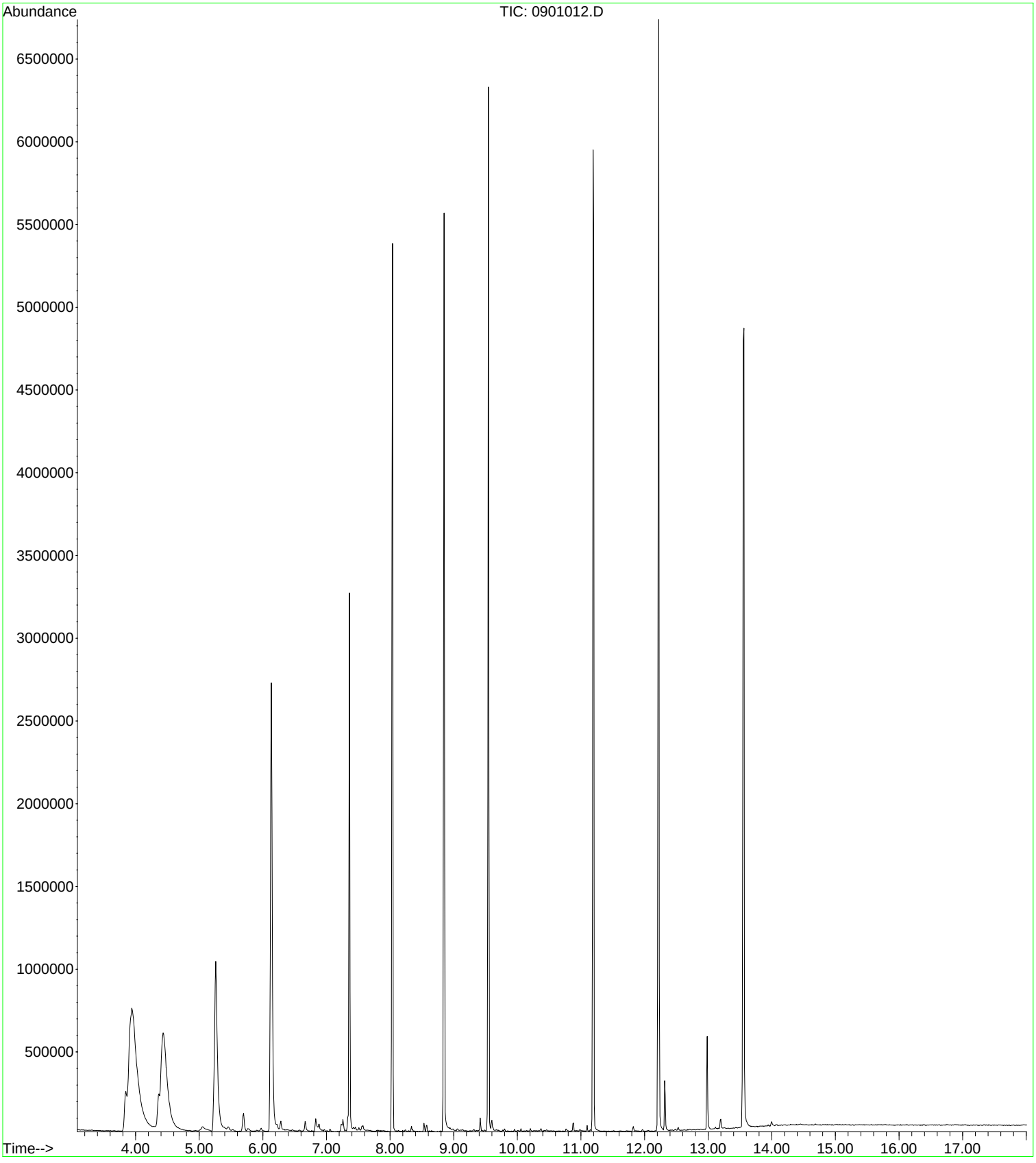
MW01 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1223PAH\3101034.D
Operator : EMP
Acquired : 24 Dec 2009 12:06 am using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091216028-004
Misc Info :
Vial Number: 31



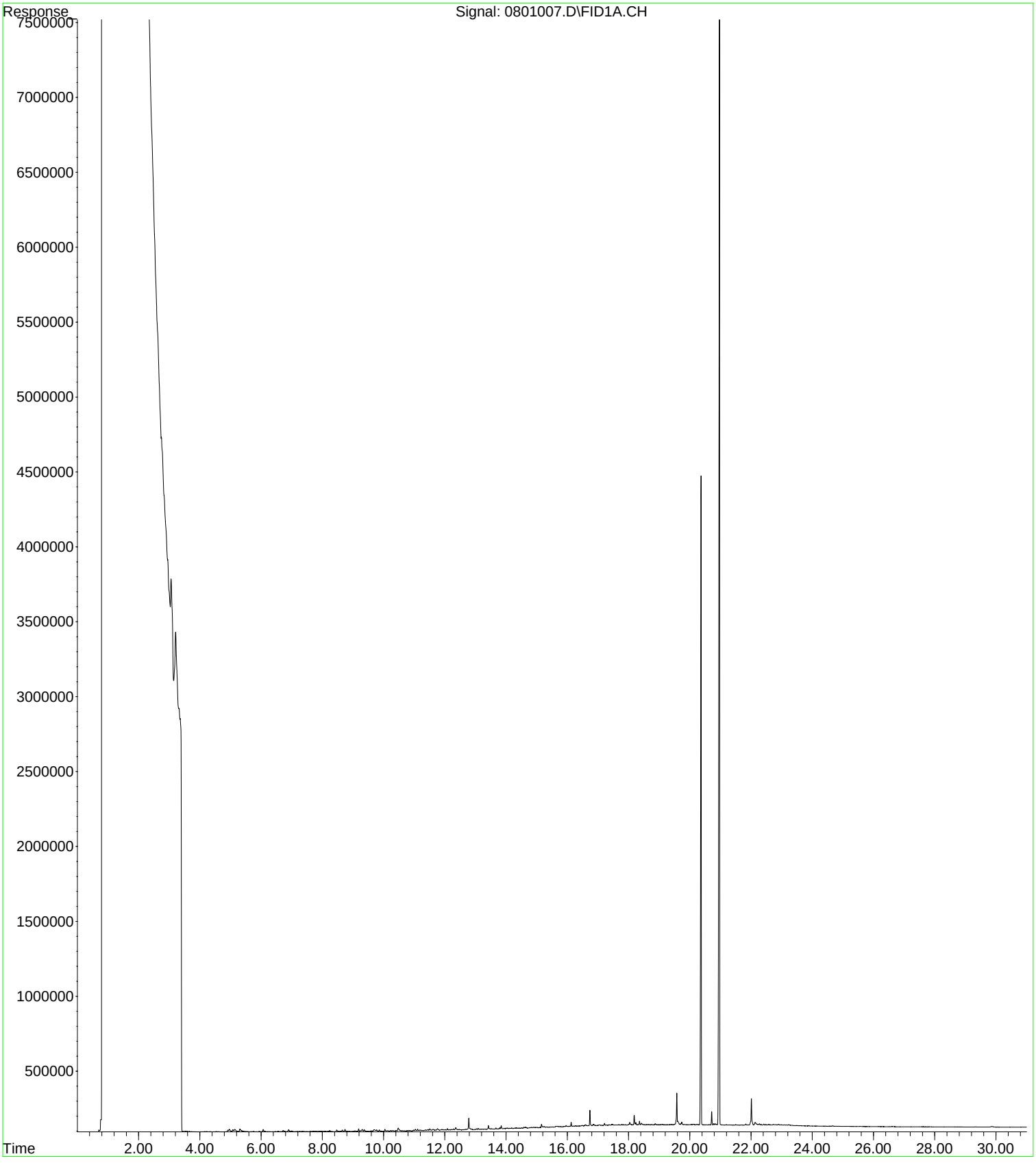
Blank PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1223PAH\0901012.D
Operator : EMP
Acquired : 23 Dec 2009 3:35 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: MB Water 12/21
Misc Info :
Vial Number: 9



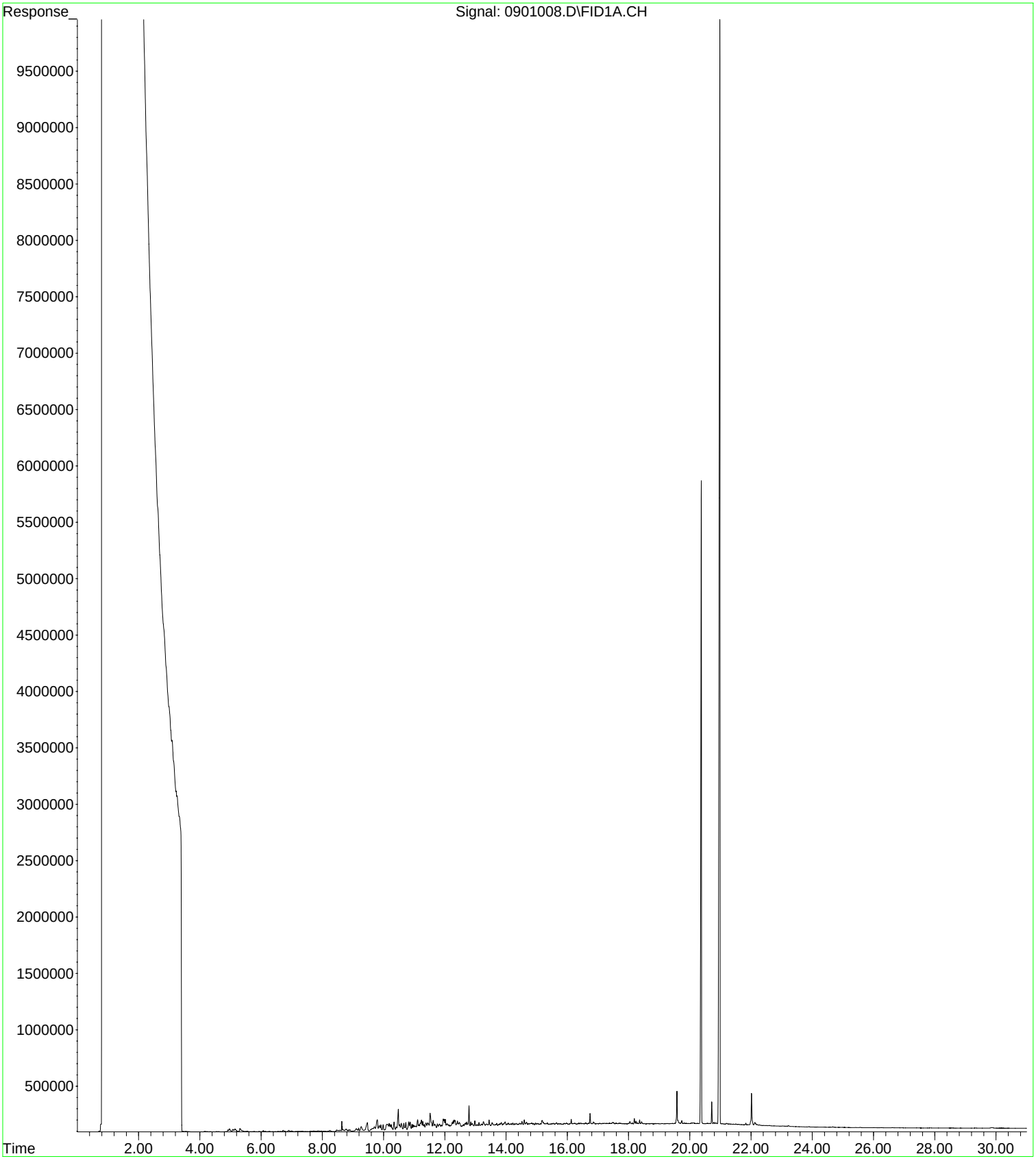
MW09 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\0801007.D
Operator :
Acquired : 21 Dec 2009 2:57 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091217043-002
Misc Info : WATER
Vial Number: 8



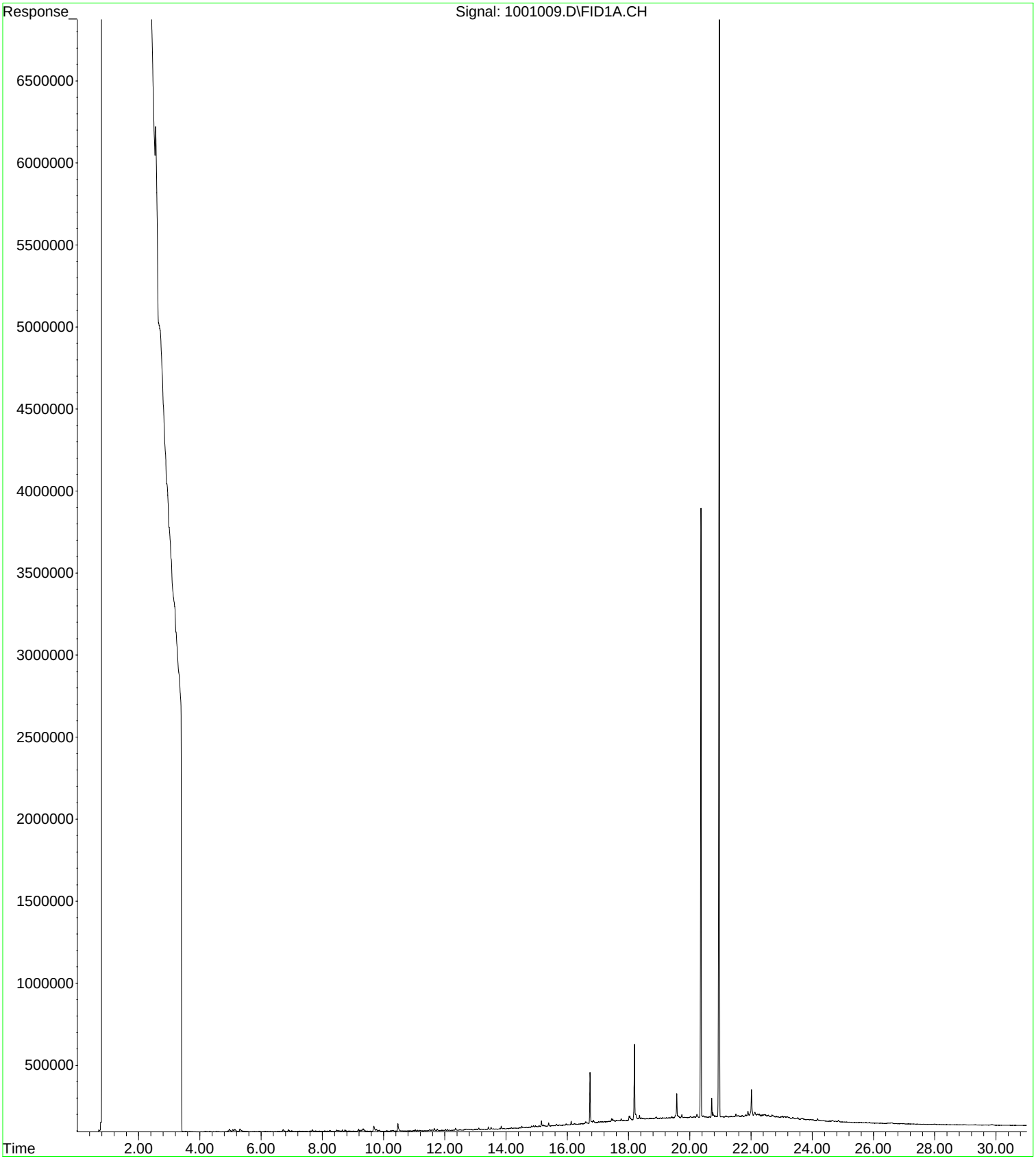
MW08 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\0901008.D
Operator :
Acquired : 21 Dec 2009 3:36 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091217043-003
Misc Info : WATER
Vial Number: 9



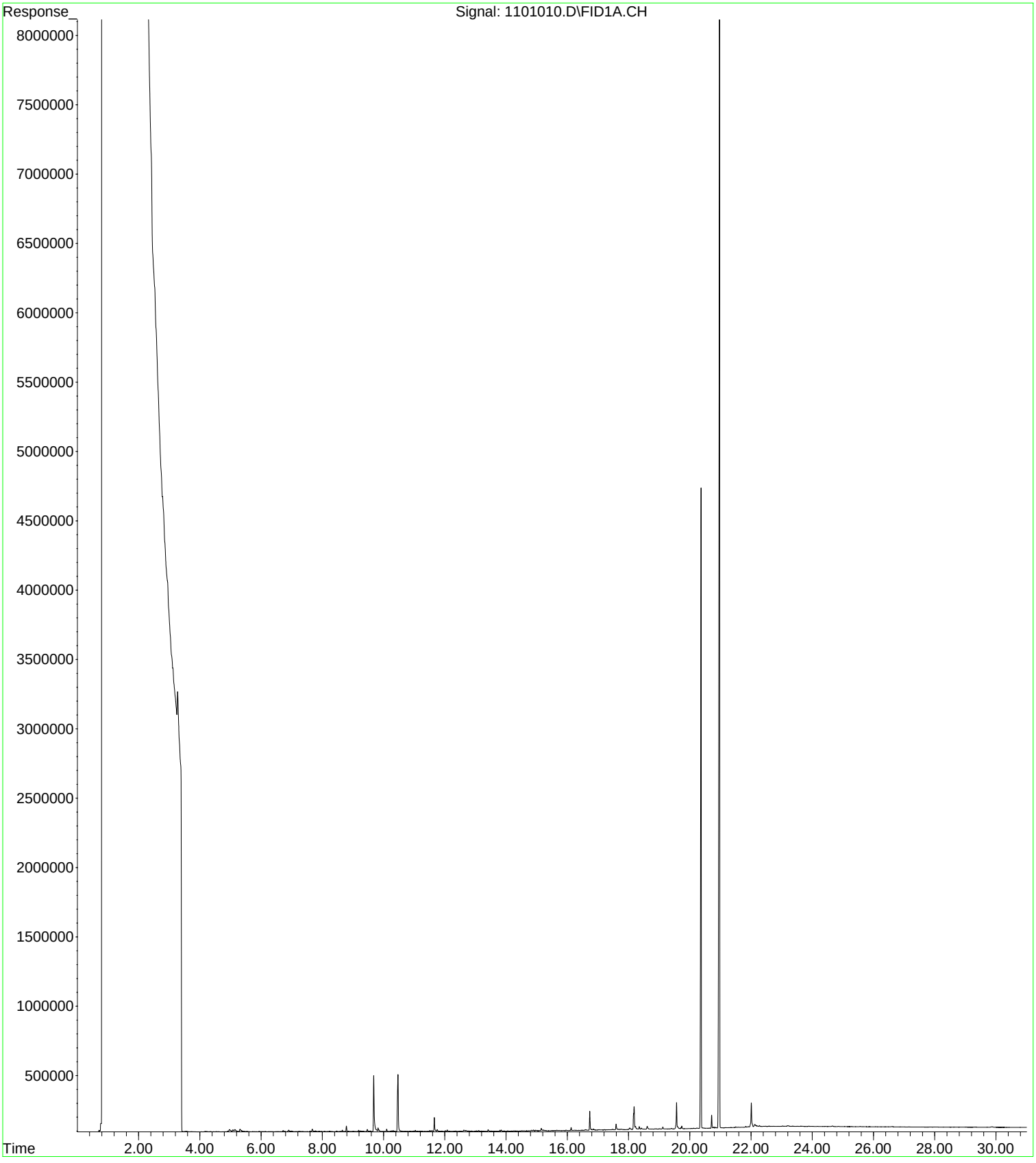
MW25S TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1001009.D
Operator :
Acquired : 21 Dec 2009 4:15 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091217043-004
Misc Info : WATER
Vial Number: 10



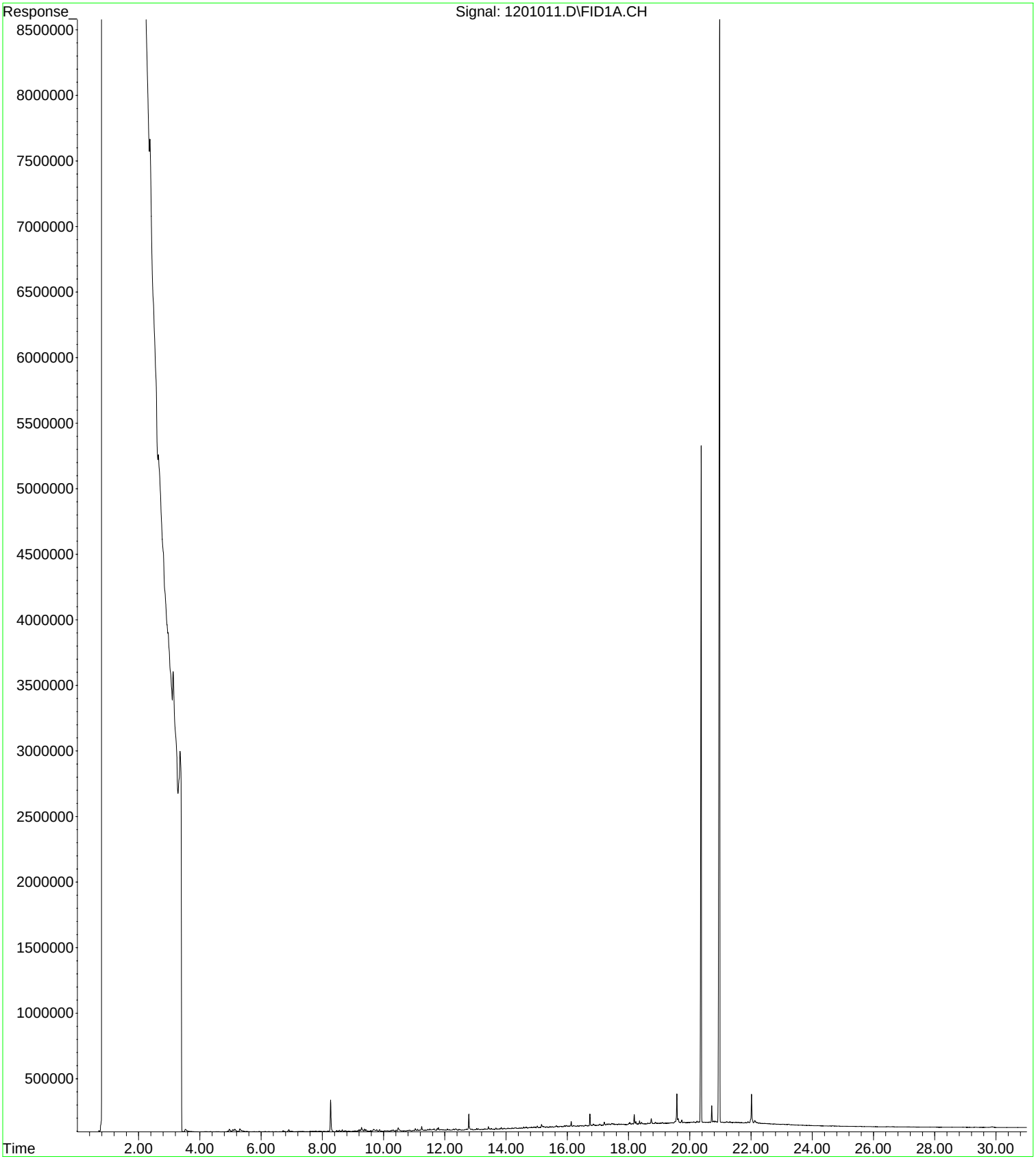
MW22S TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1101010.D
Operator :
Acquired : 21 Dec 2009 4:55 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091217043-005
Misc Info : WATER
Vial Number: 11



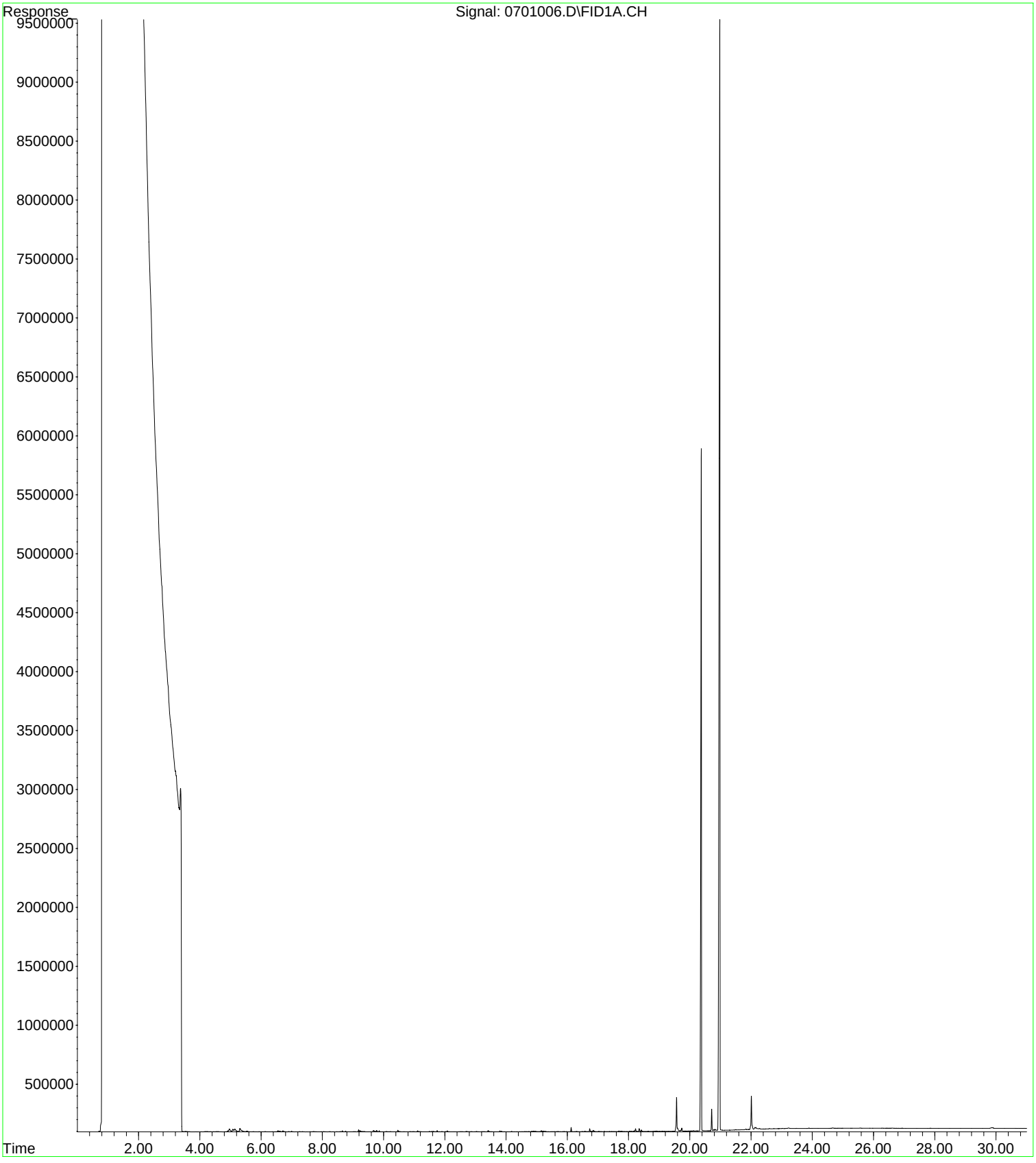
MW14 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\1201011.D
Operator :
Acquired : 21 Dec 2009 5:34 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091217043-006
Misc Info : WATER
Vial Number: 12



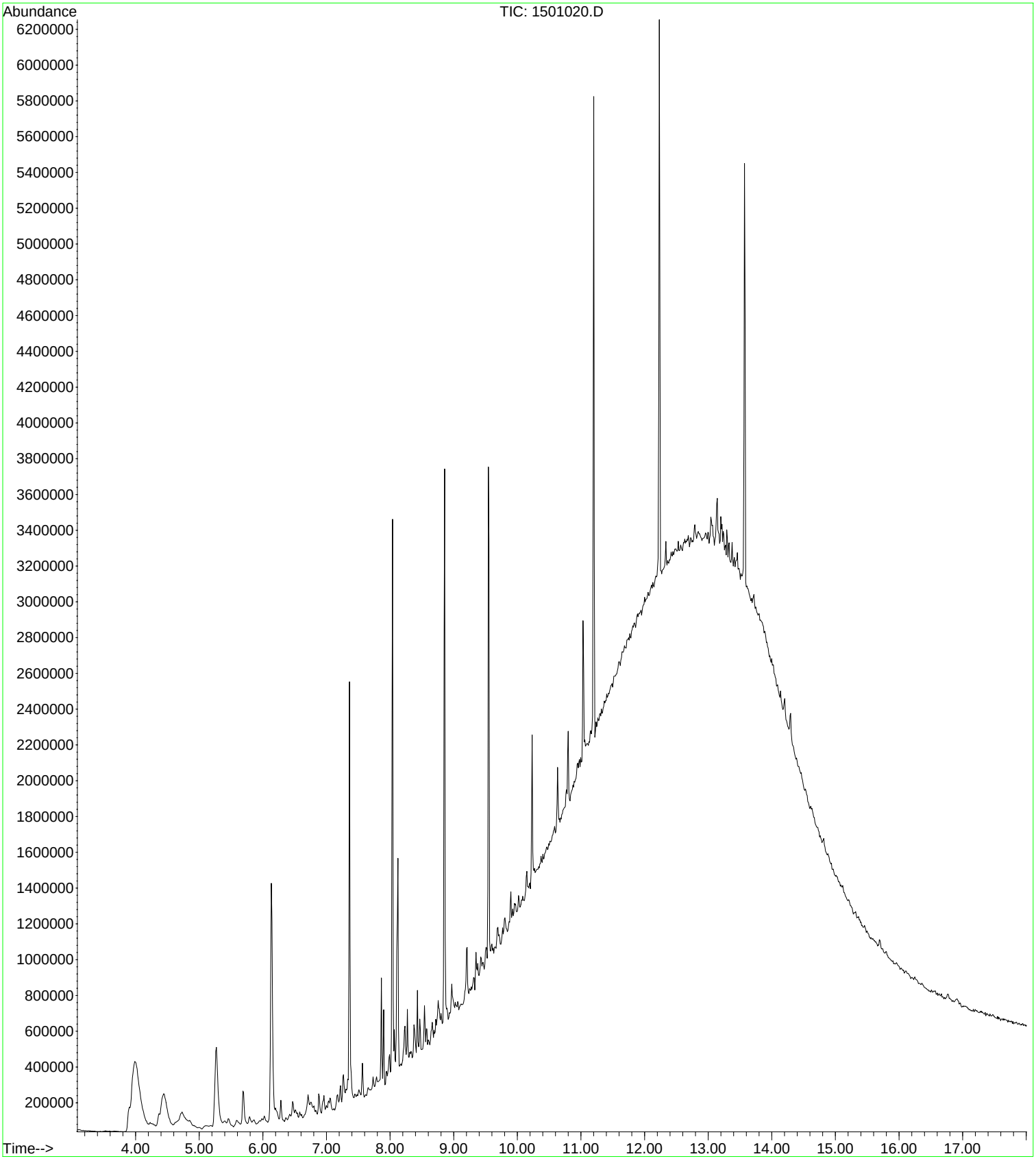
Blank TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC21\0701006.D
Operator :
Acquired : 21 Dec 2009 2:17 pm using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: BLK
Misc Info : WATER
Vial Number: 7



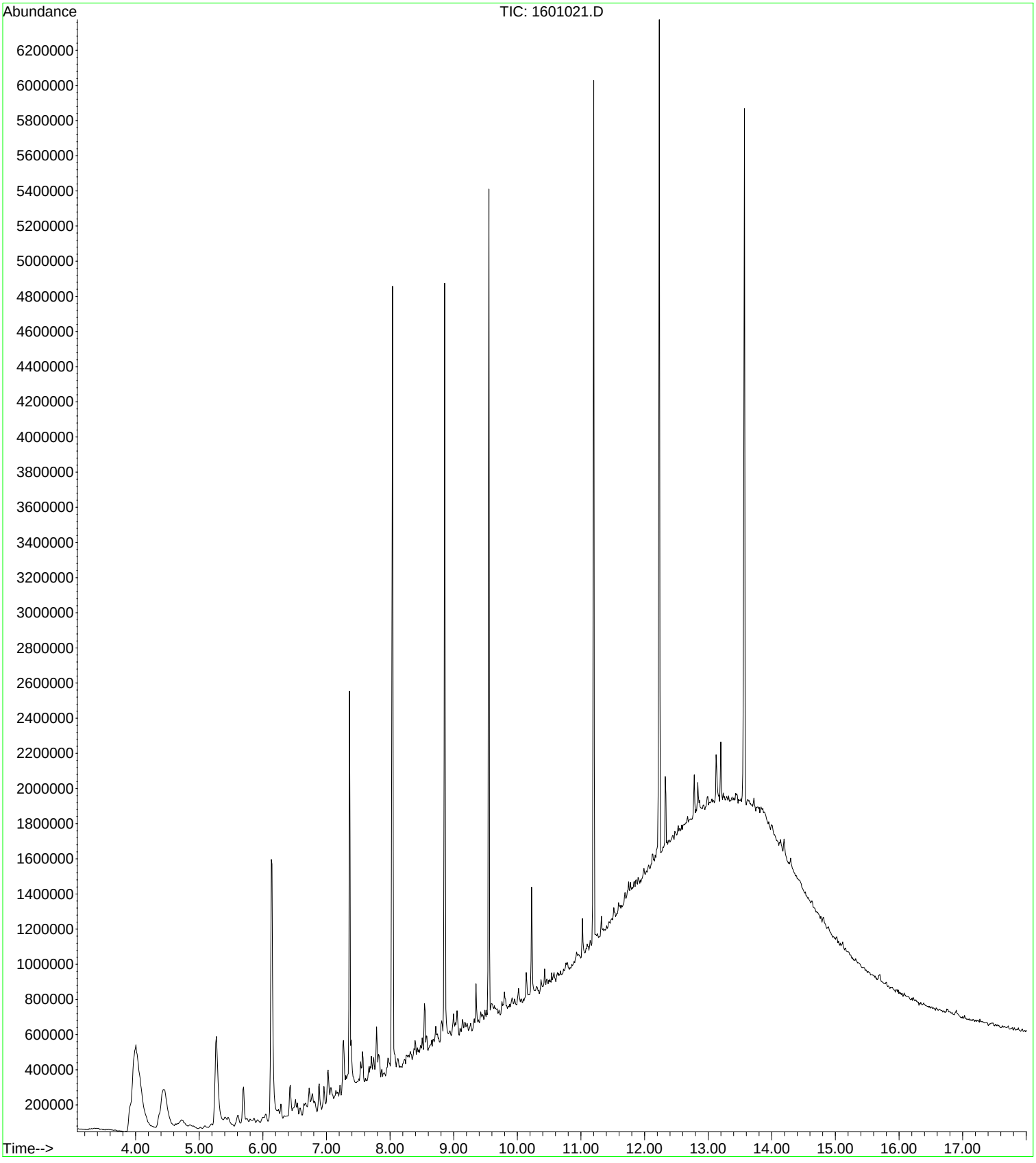
MW03 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1501020.D
Operator : EMP
Acquired : 28 Dec 2009 5:05 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091217043-001
Misc Info :
Vial Number: 15



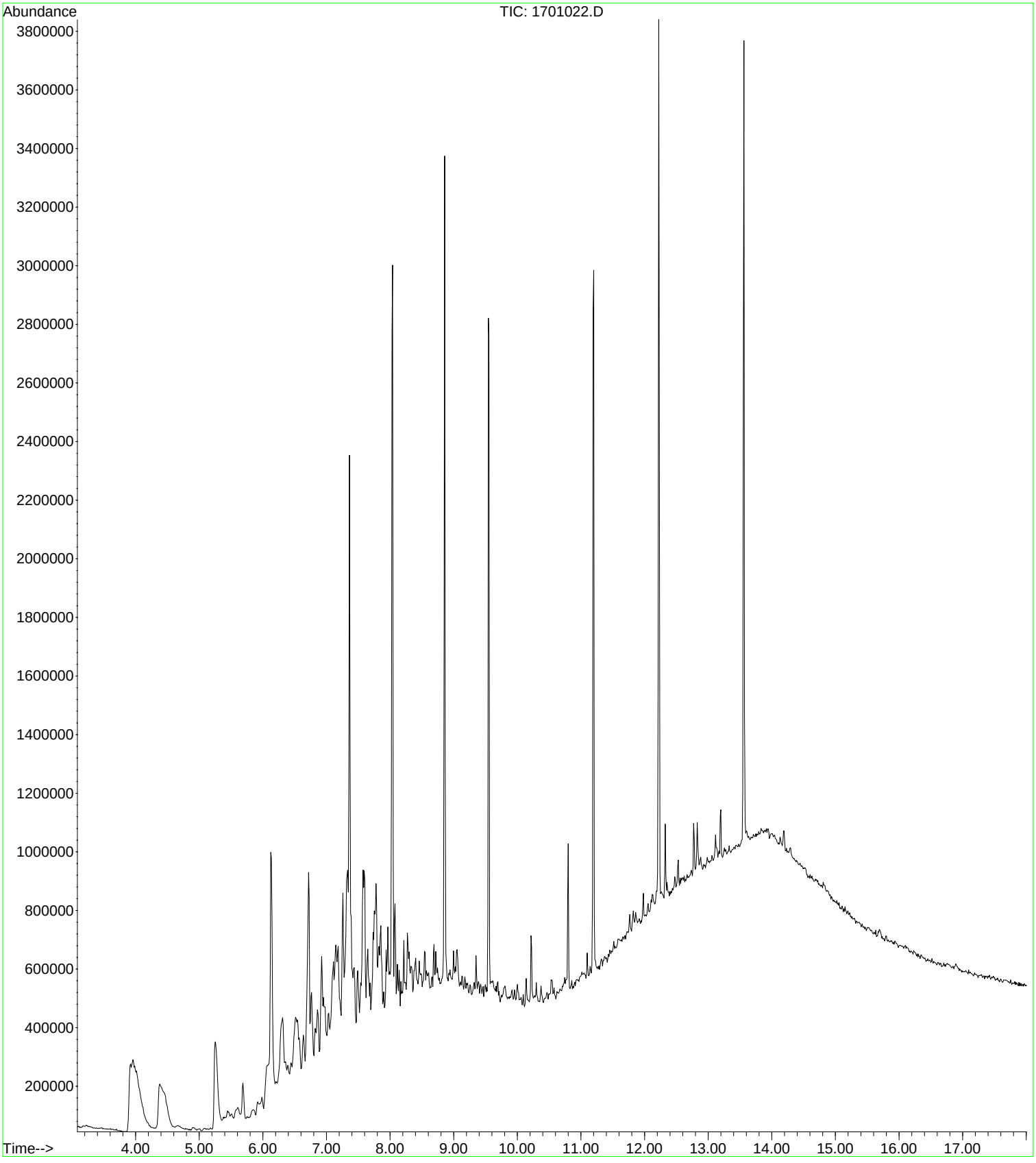
MW09 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1601021.D
Operator : EMP
Acquired : 28 Dec 2009 5:29 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091217043-002
Misc Info :
Vial Number: 16



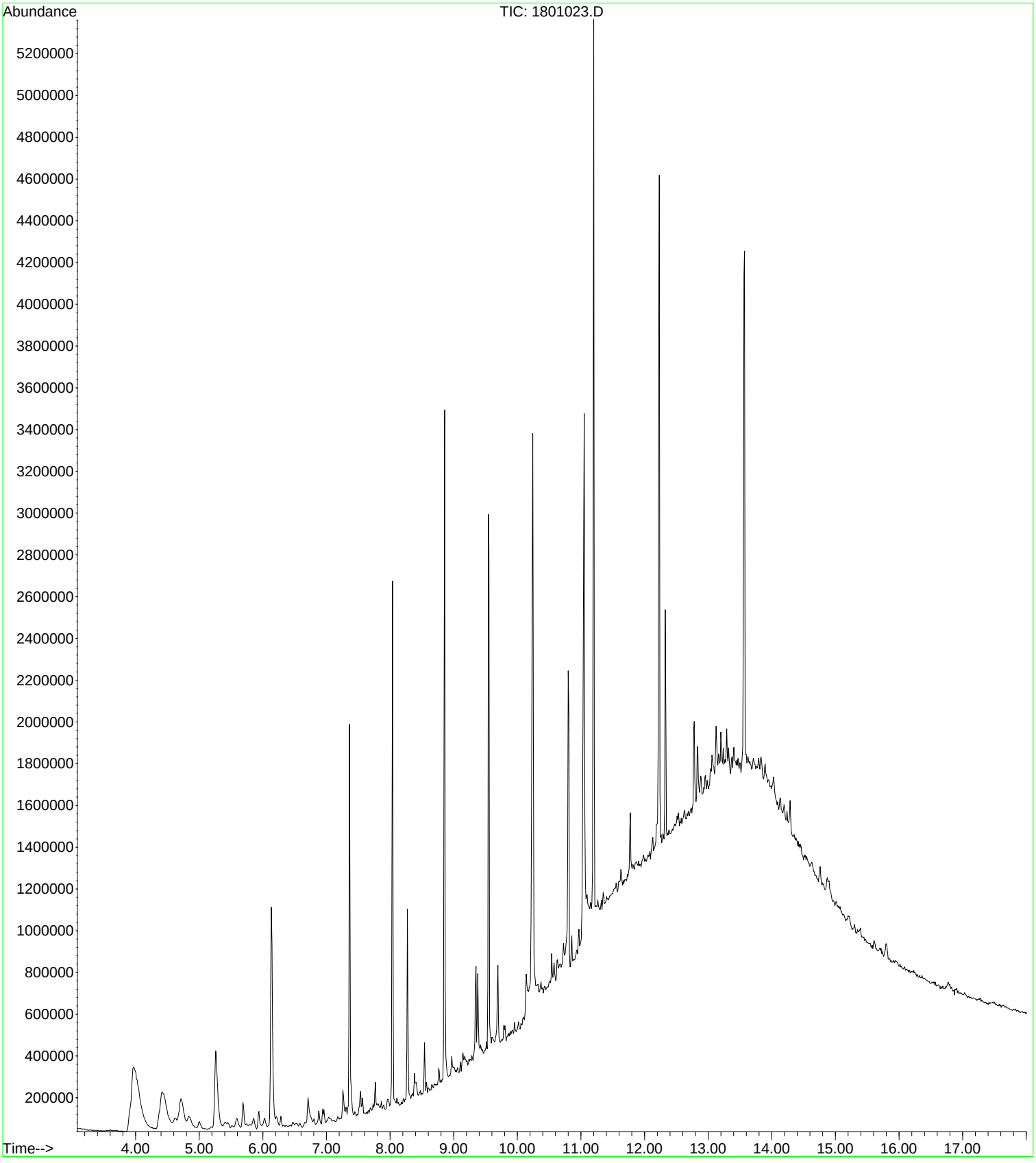
MW08 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1701022.D
Operator : EMP
Acquired : 28 Dec 2009 5:52 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091217043-003
Misc Info :
Vial Number: 17



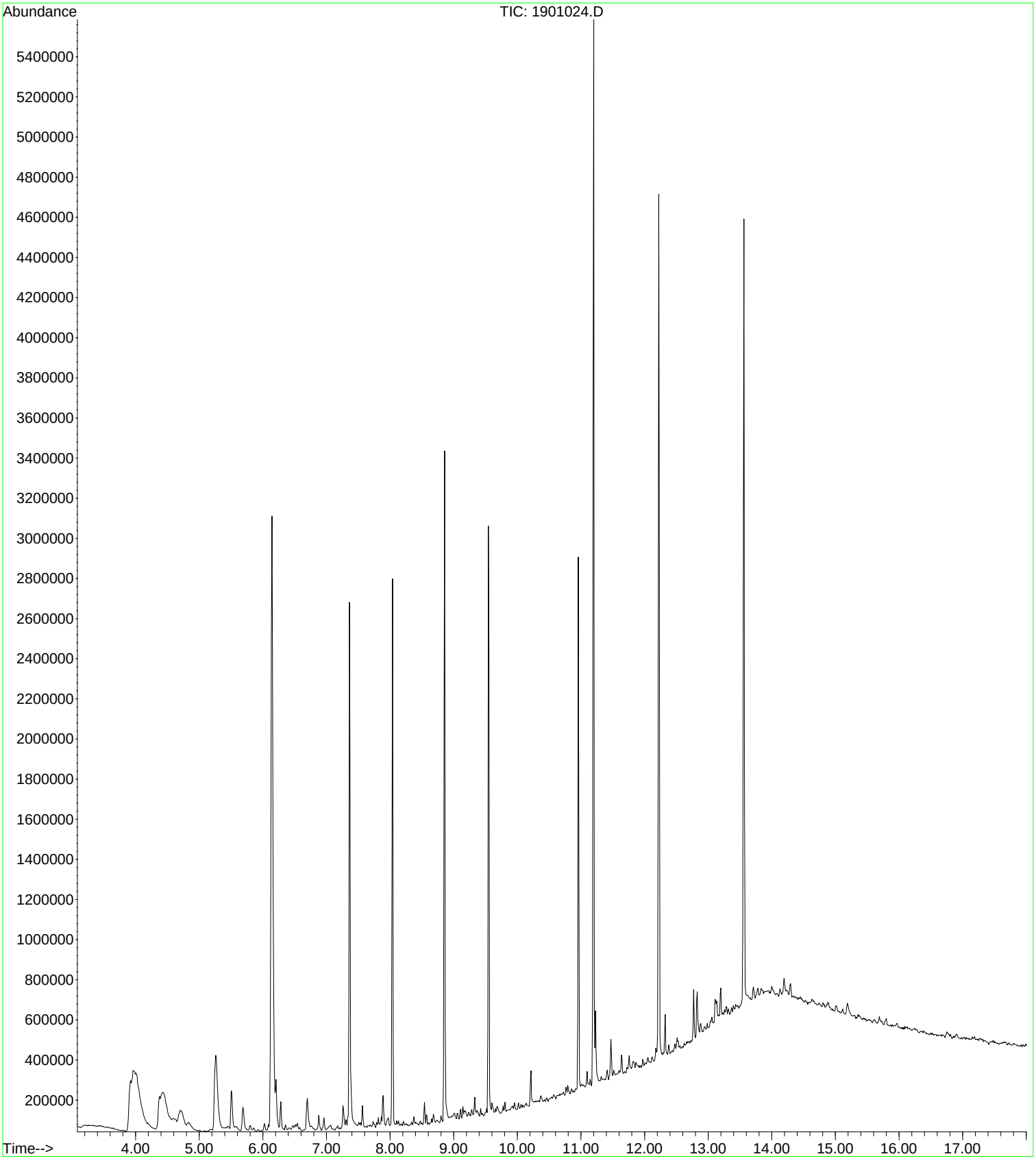
MW25S PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1801023.D
Operator : EMP
Acquired : 28 Dec 2009 6:16 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091217043-004
Misc Info :
Vial Number: 18



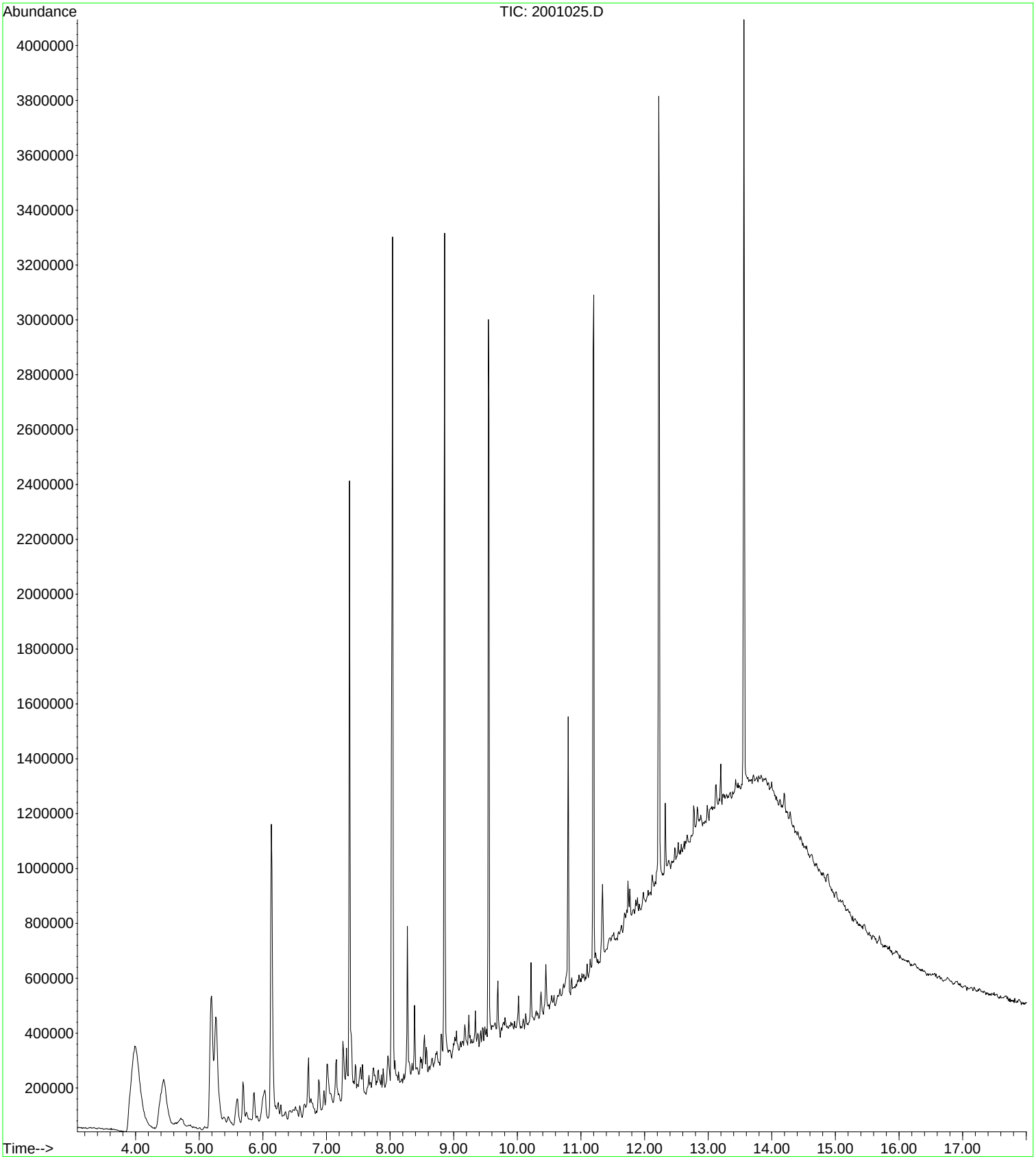
MW22S PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1901024.D
Operator : EMP
Acquired : 28 Dec 2009 6:39 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091217043-005
Misc Info :
Vial Number: 19



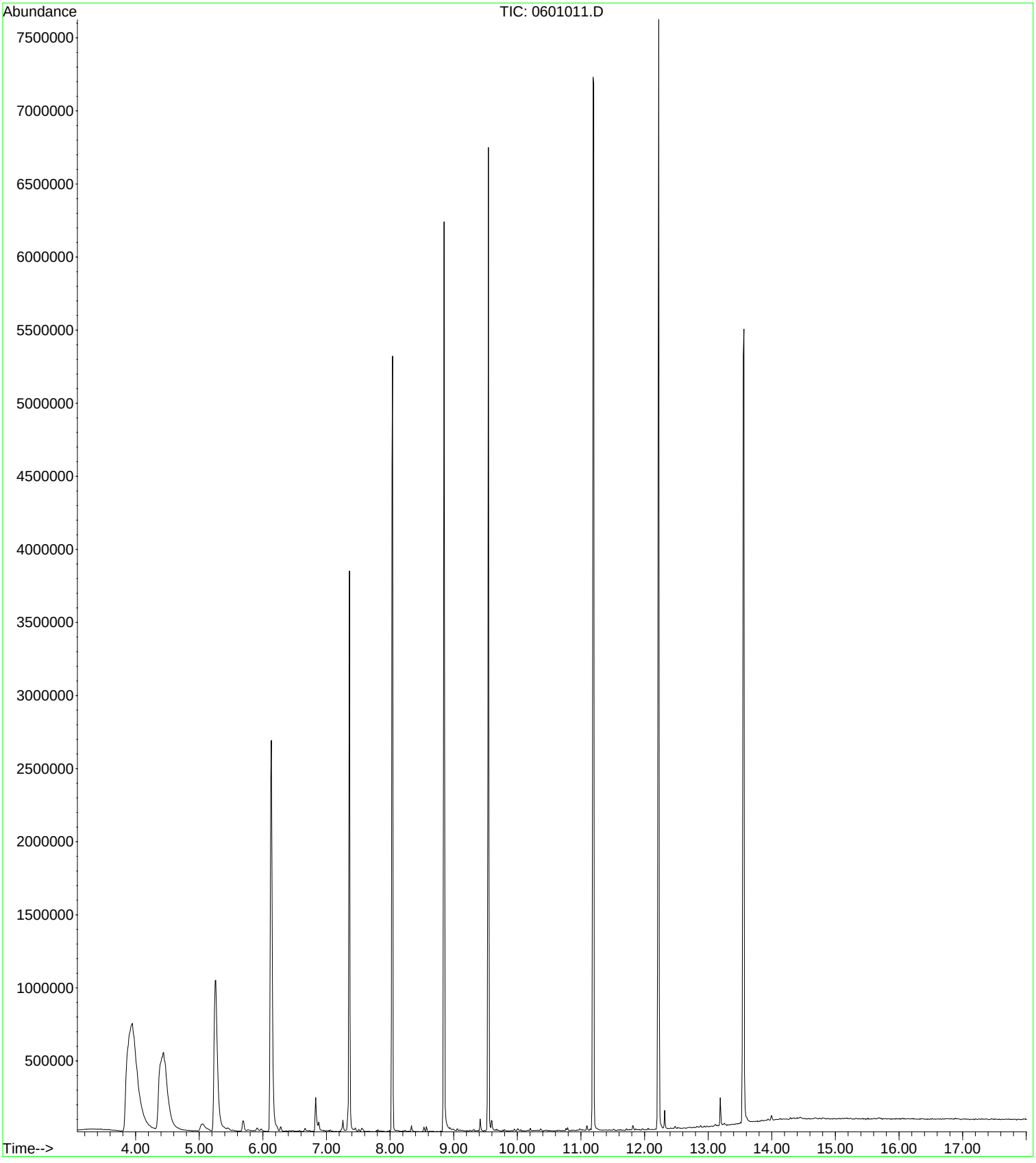
MW14 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\2001025.D
Operator : EMP
Acquired : 28 Dec 2009 7:03 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091217043-006
Misc Info :
Vial Number: 20



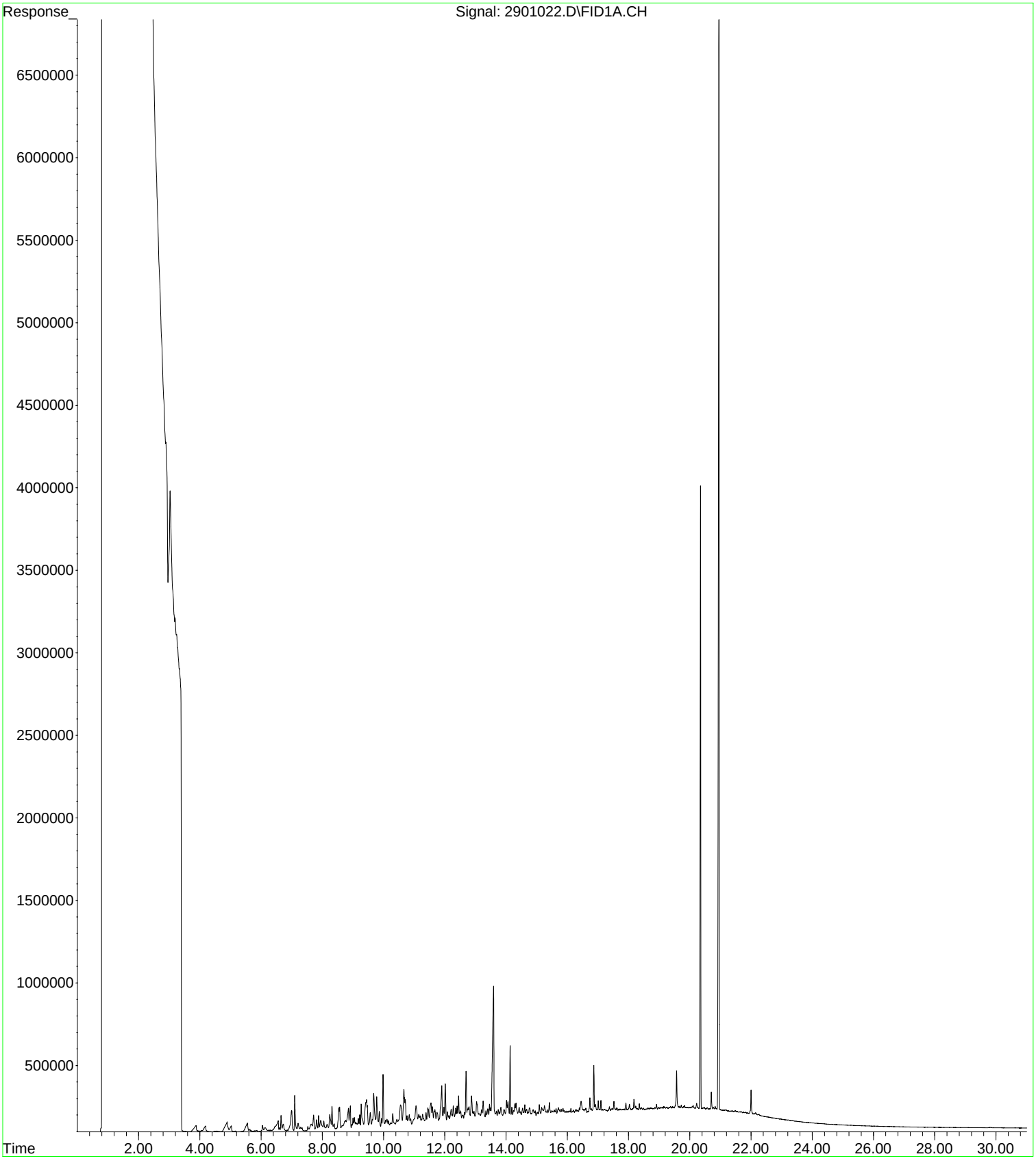
Blank PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\0601011.D
Operator : EMP
Acquired : 28 Dec 2009 1:34 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: MB Water 12/22
Misc Info :
Vial Number: 6



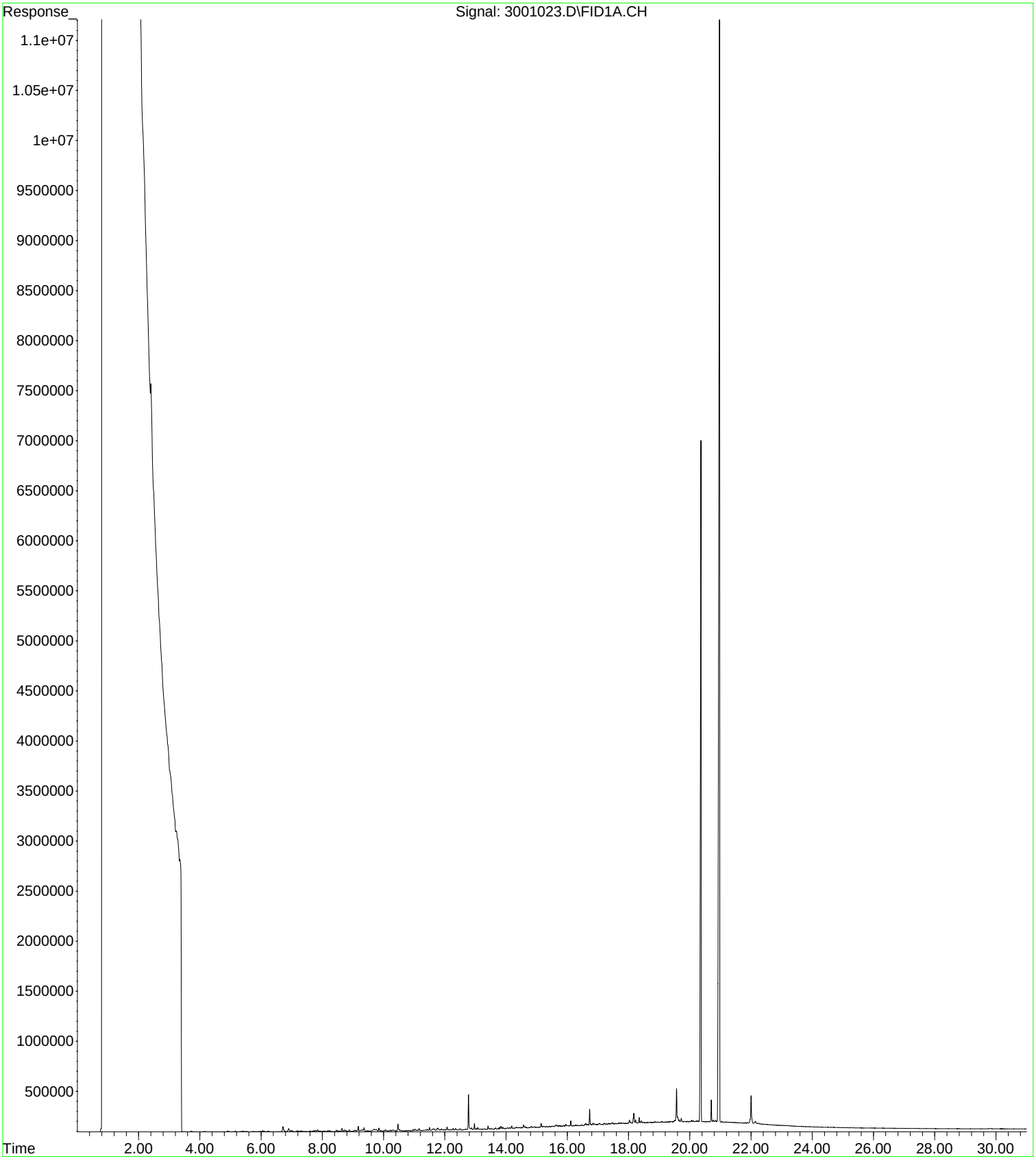
MW18 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\2901022.D
Operator :
Acquired : 31 Dec 2009 4:39 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221002-001
Misc Info : WATER
Vial Number: 29



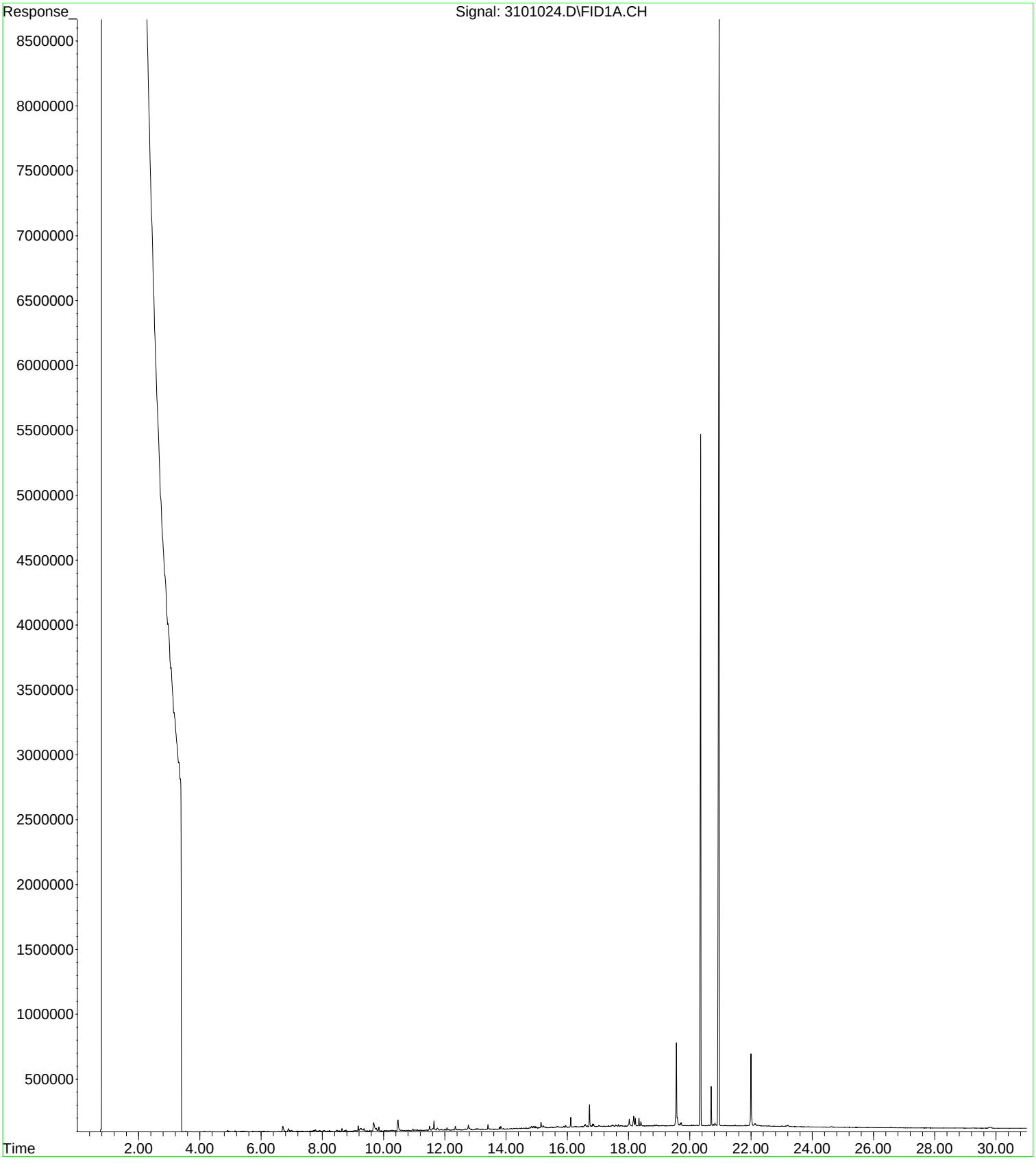
MW16 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3001023.D
Operator :
Acquired : 31 Dec 2009 5:17 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221002-002
Misc Info : WATER
Vial Number: 30



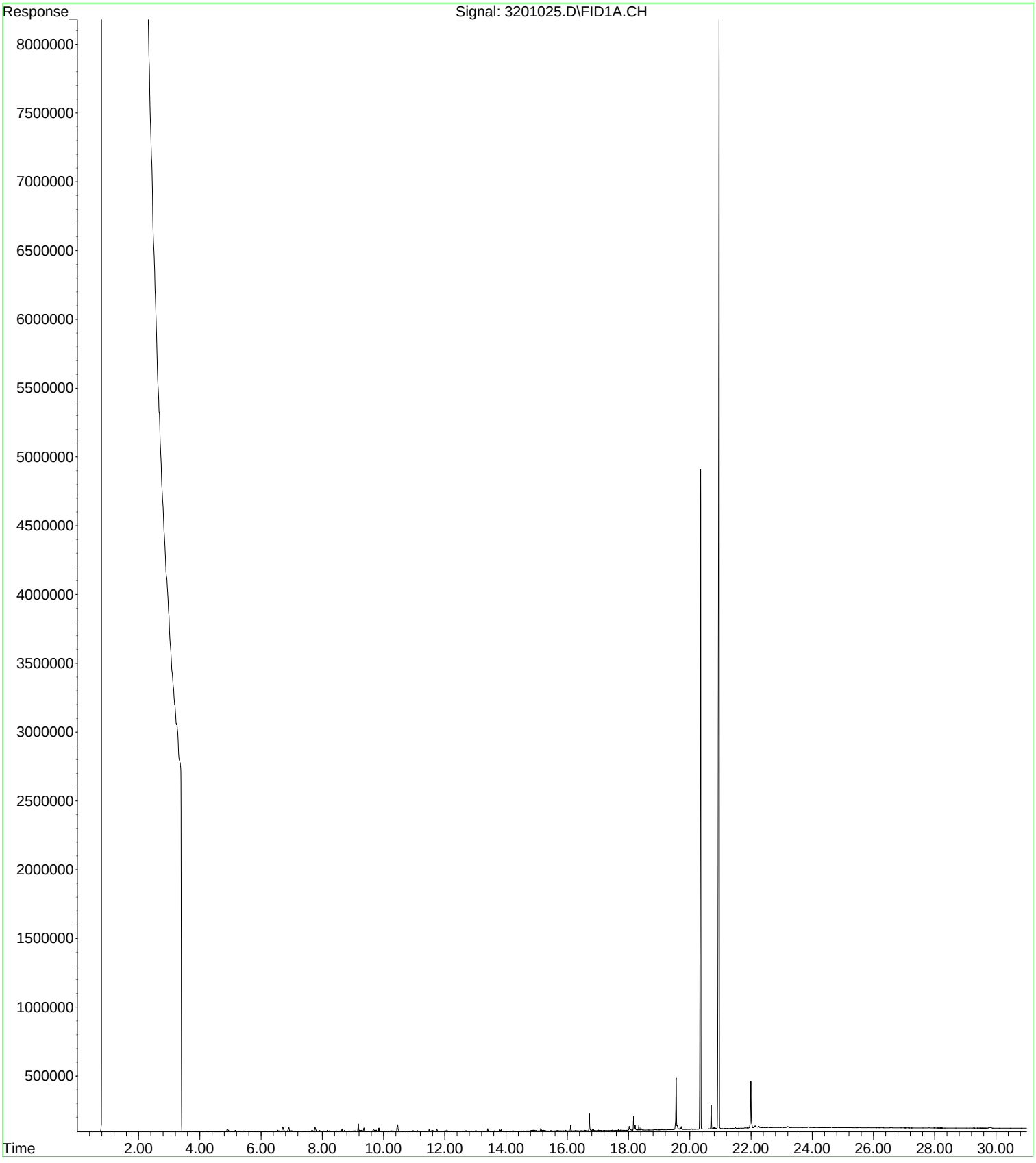
MW23S TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3101024.D
Operator :
Acquired : 31 Dec 2009 5:56 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221002-003
Misc Info : WATER
Vial Number: 31



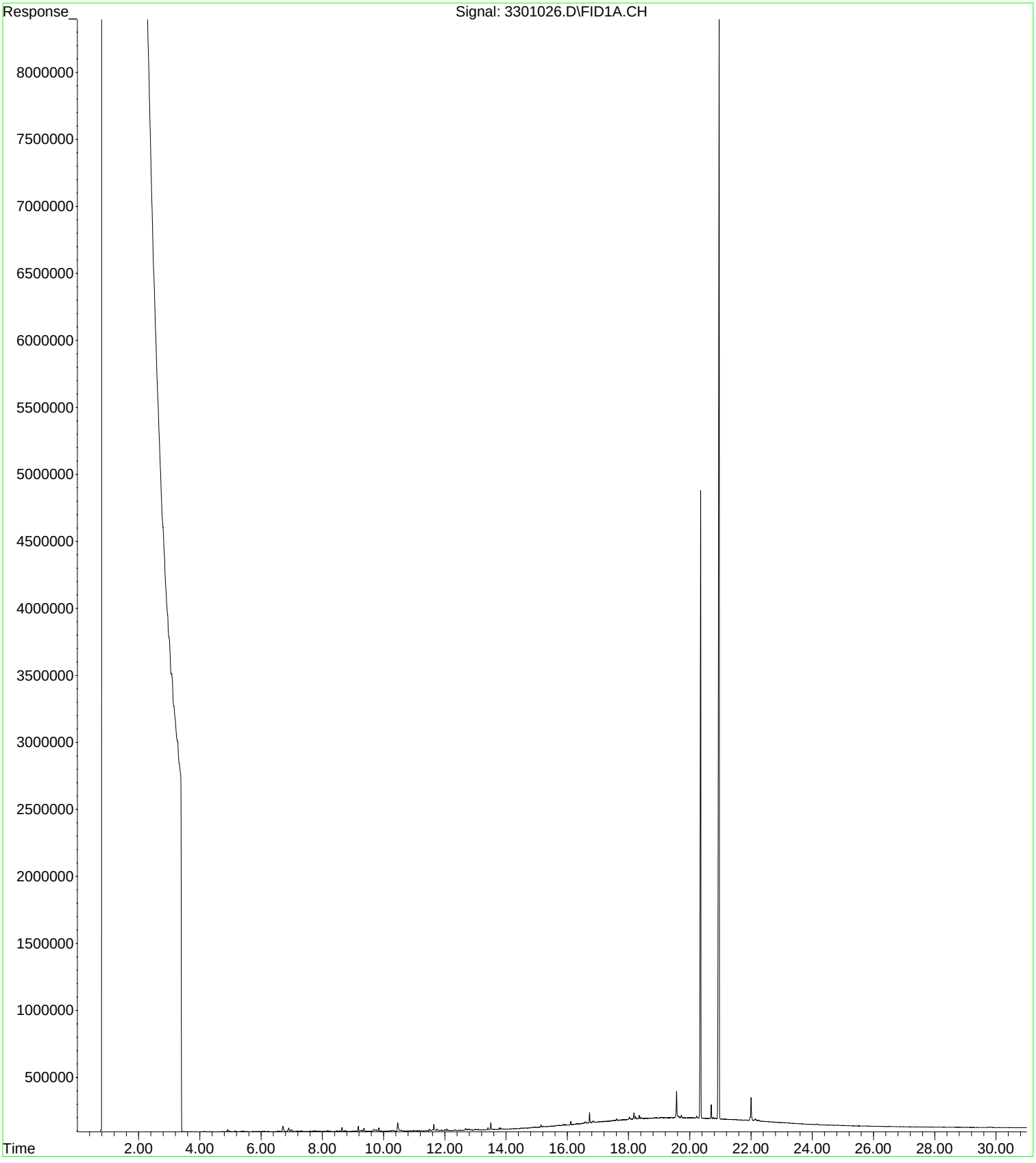
MW12 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3201025.D
Operator :
Acquired : 31 Dec 2009 6:34 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221002-004
Misc Info : WATER
Vial Number: 32



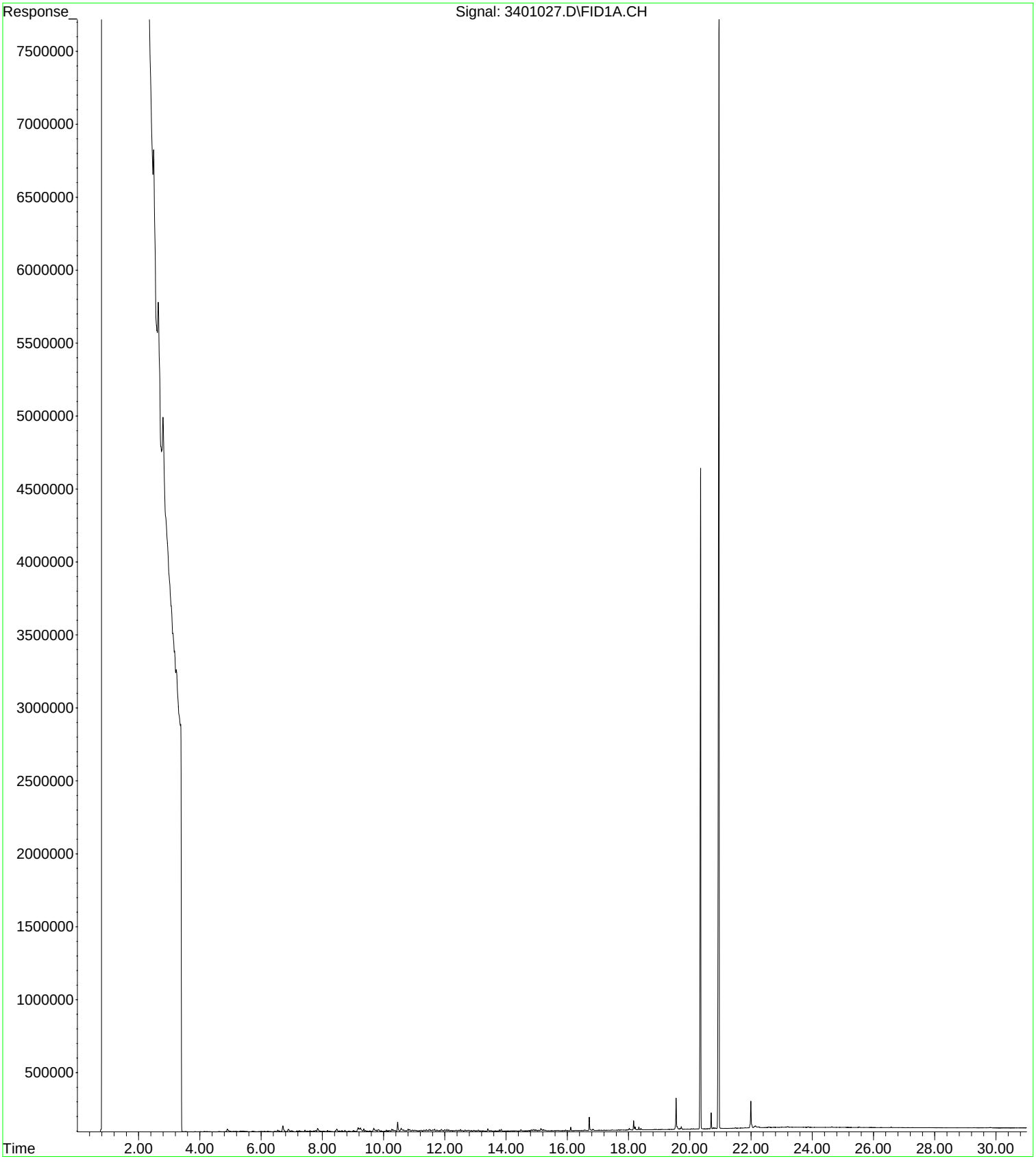
MW24S TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3301026.D
Operator :
Acquired : 31 Dec 2009 7:13 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221002-005
Misc Info : WATER
Vial Number: 33



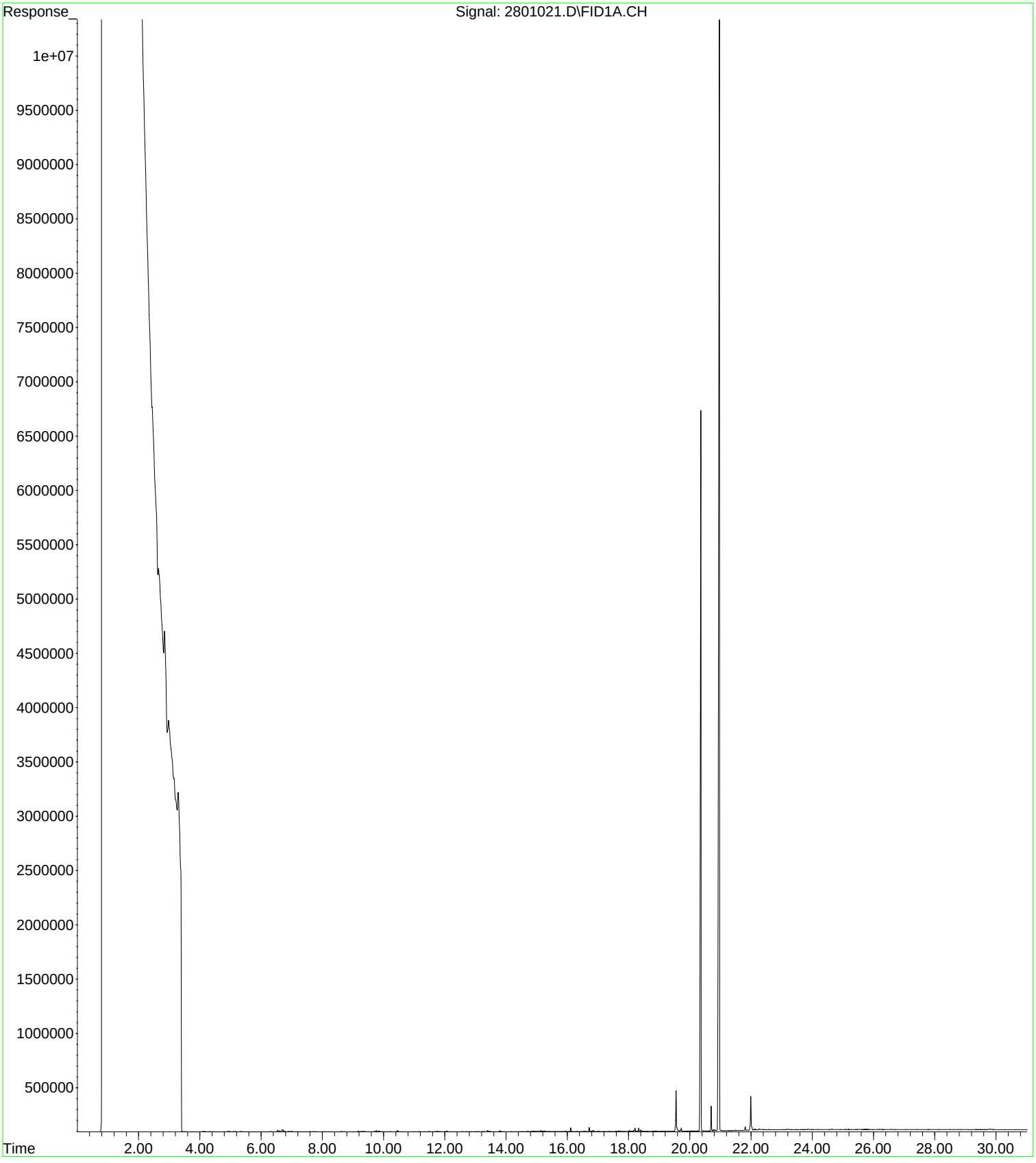
MW11 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3401027.D
Operator :
Acquired : 31 Dec 2009 7:51 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221002-006
Misc Info : WATER
Vial Number: 34



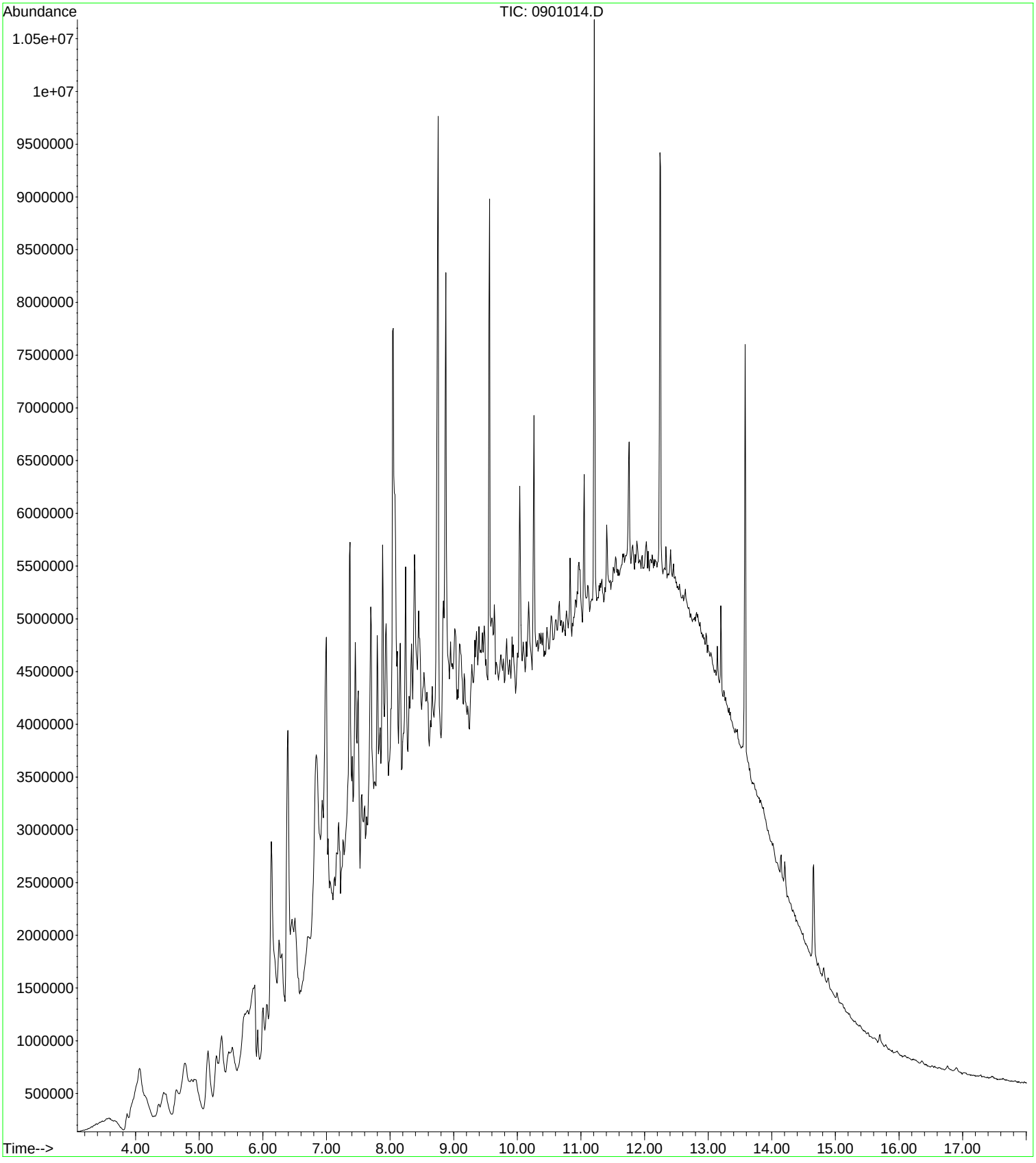
blank TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\2801021.D
Operator :
Acquired : 31 Dec 2009 4:00 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: BLK
Misc Info : WATER
Vial Number: 28



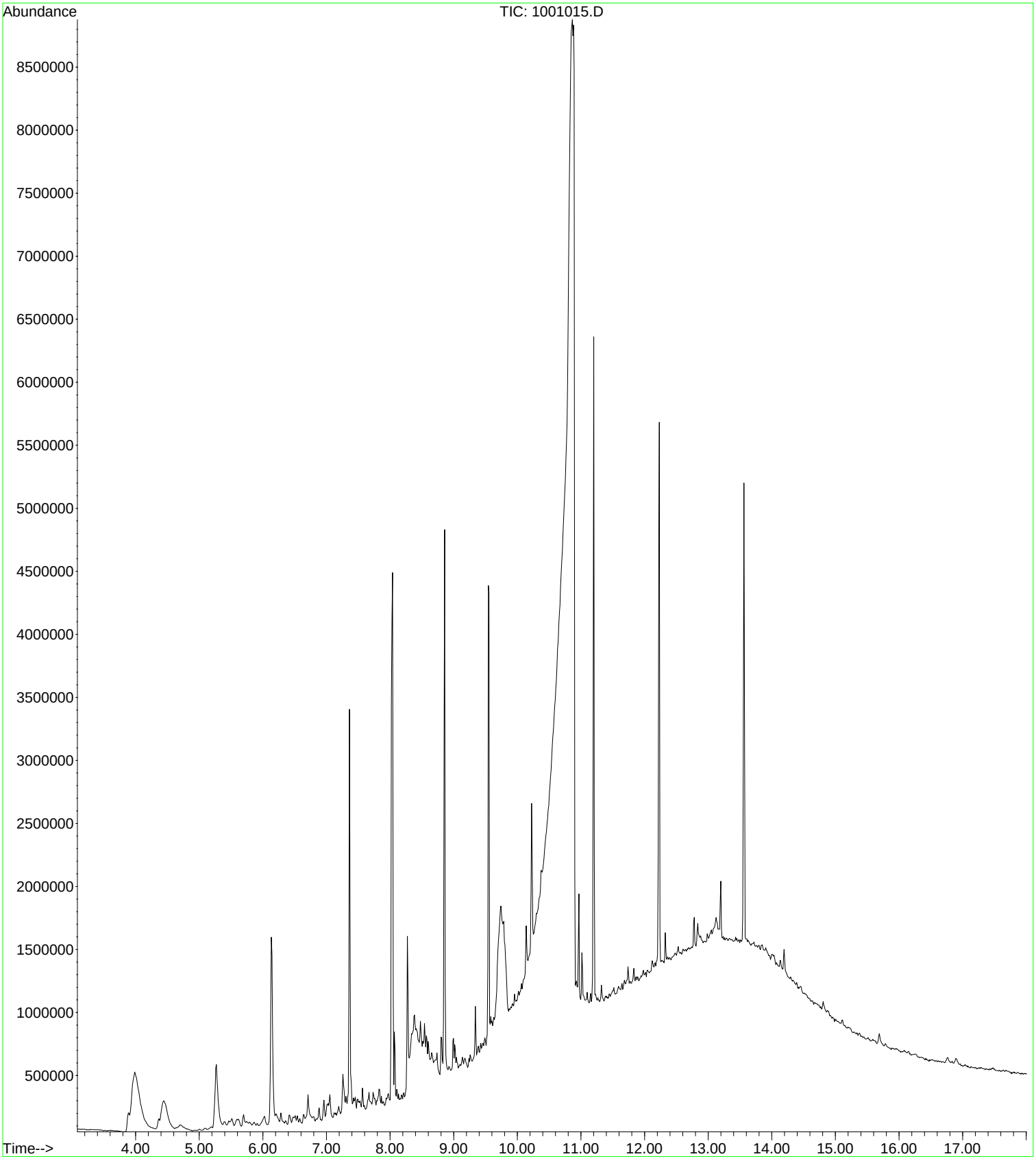
MW18 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\0901014.D
Operator : EMP
Acquired : 28 Dec 2009 2:44 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221002-001
Misc Info :
Vial Number: 9



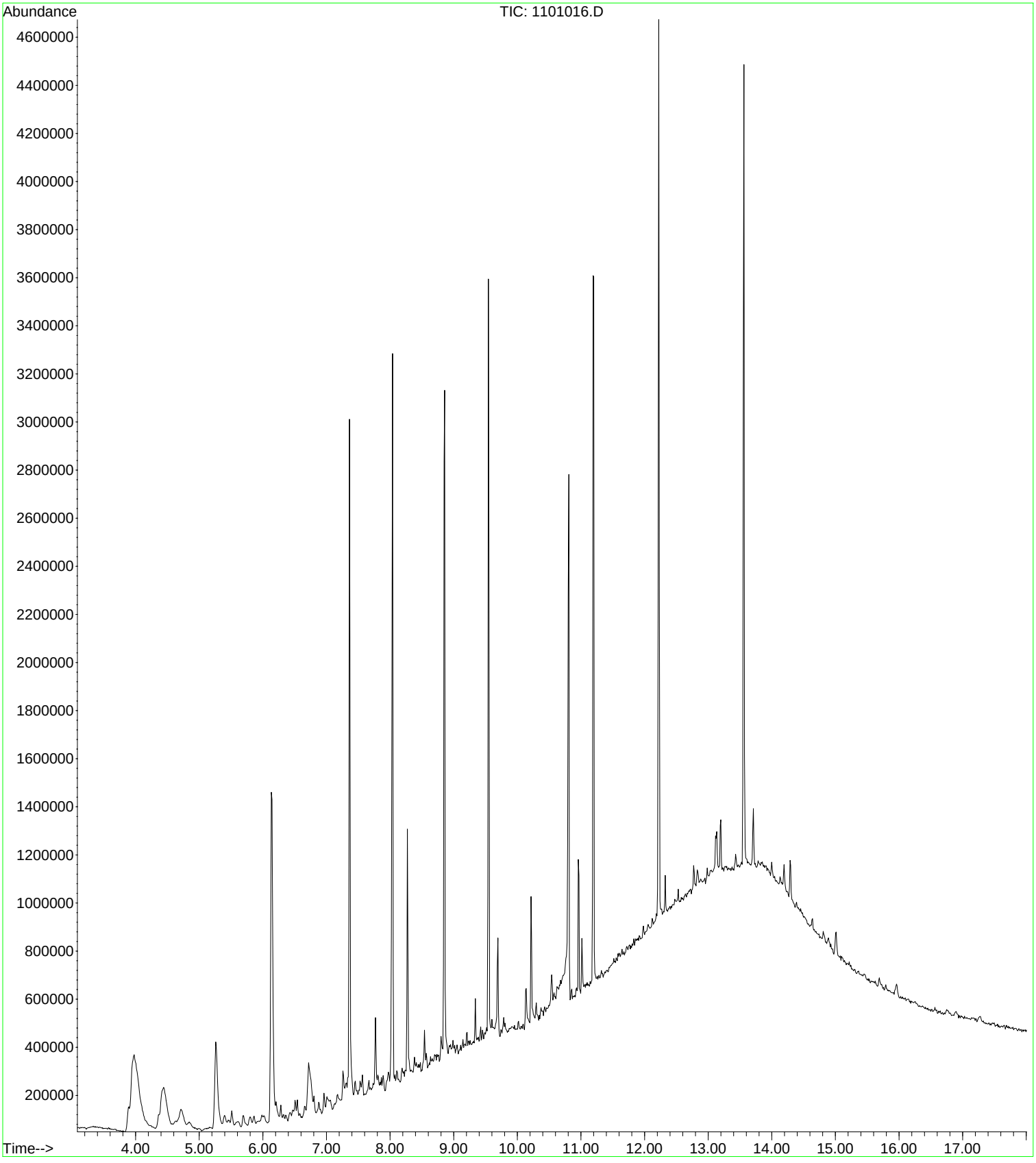
MW16 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1001015.D
Operator : EMP
Acquired : 28 Dec 2009 3:08 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221002-002
Misc Info :
Vial Number: 10



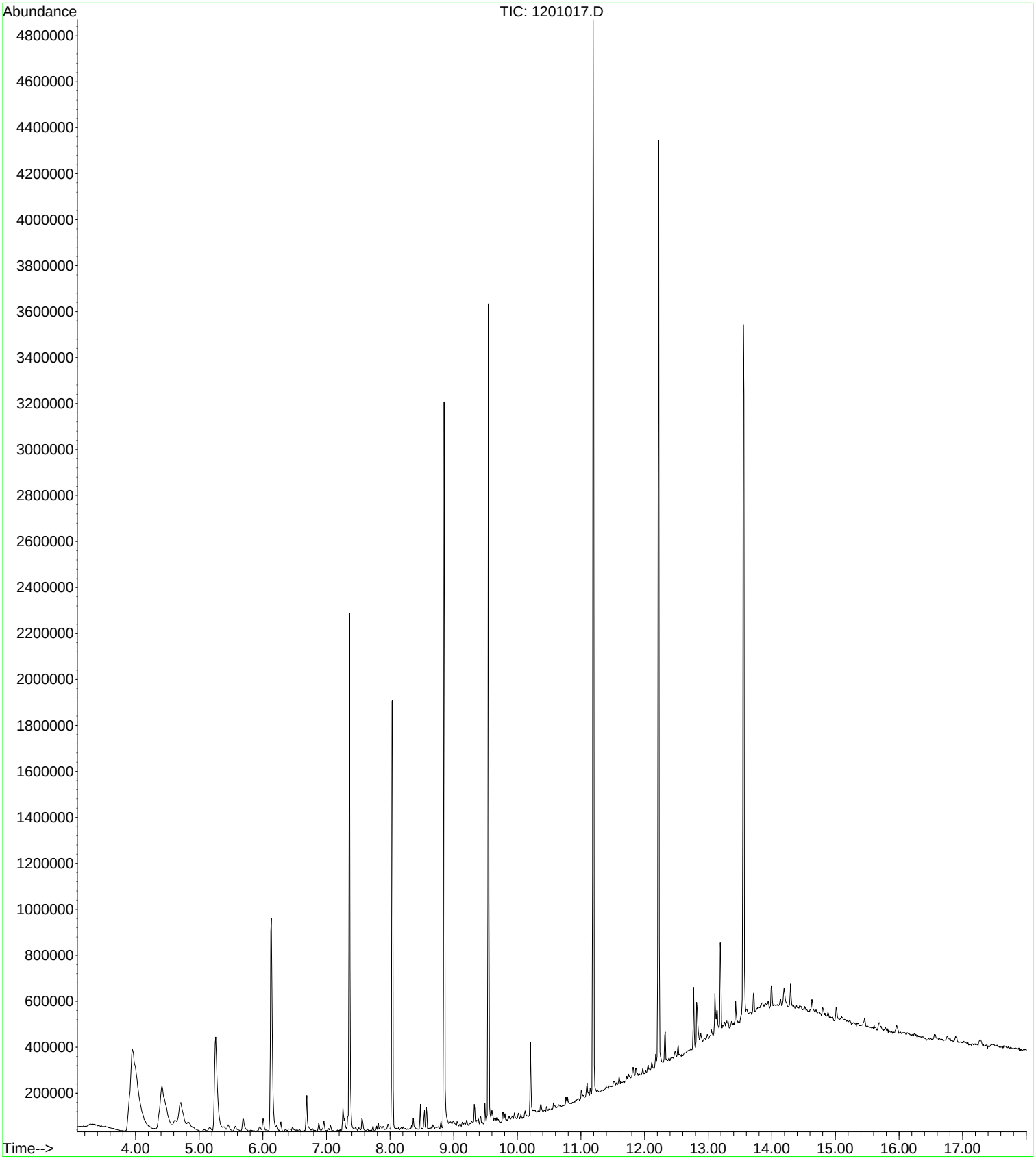
MW23S PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1101016.D
Operator : EMP
Acquired : 28 Dec 2009 3:31 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221002-003
Misc Info :
Vial Number: 11



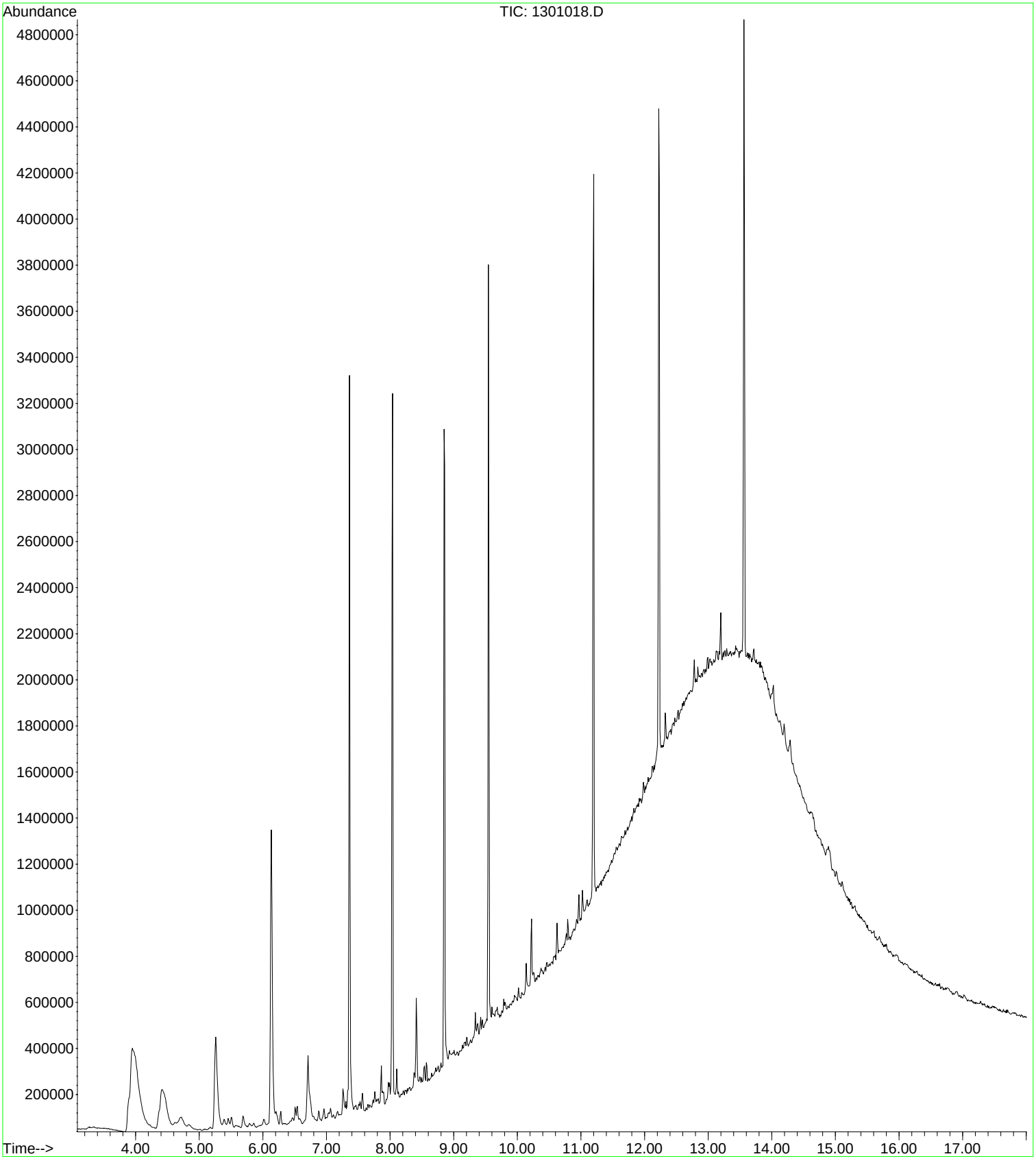
MW12 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1201017.D
Operator : EMP
Acquired : 28 Dec 2009 3:55 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221002-004
Misc Info :
Vial Number: 12



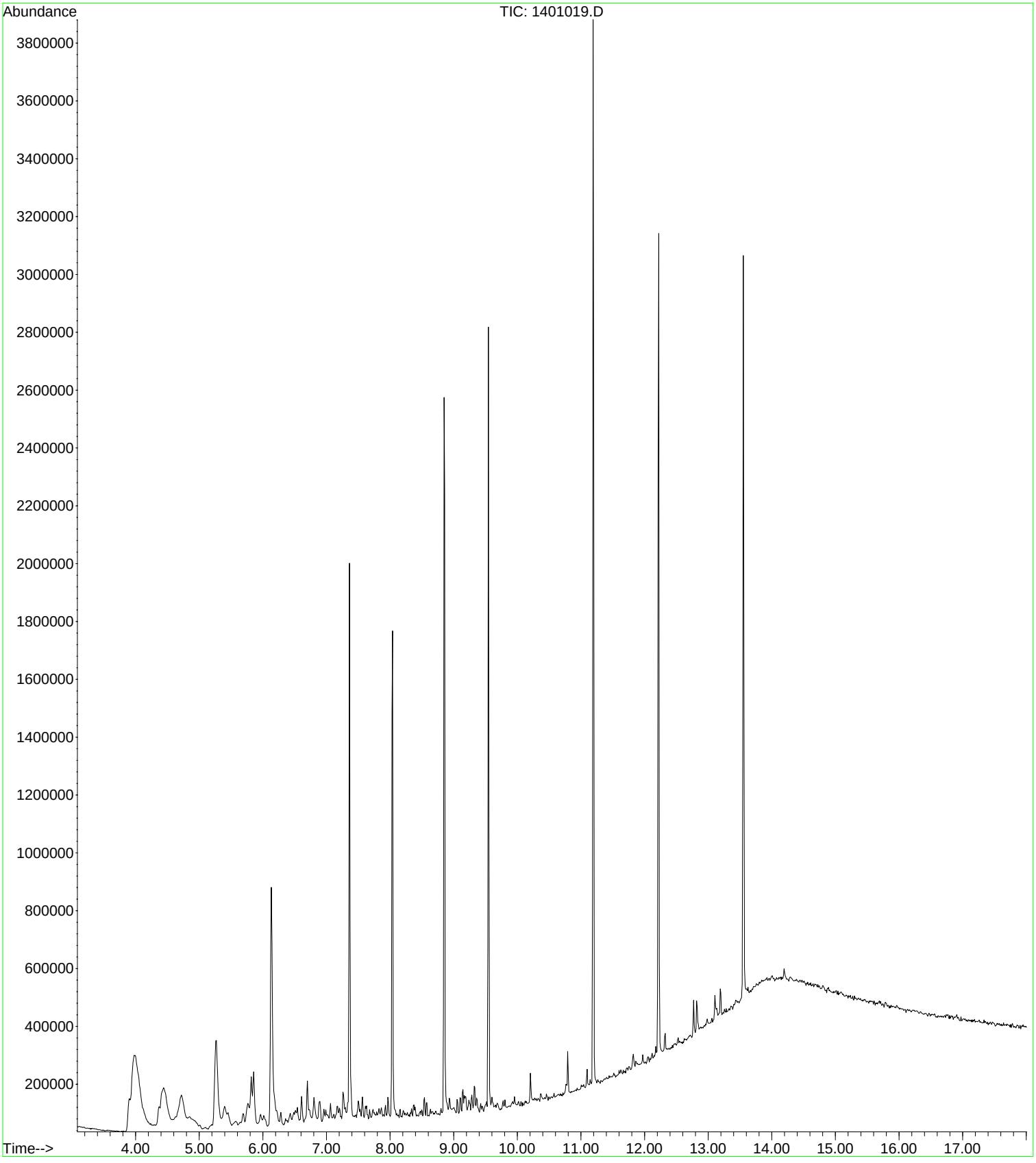
MW24S PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1301018.D
Operator : EMP
Acquired : 28 Dec 2009 4:18 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221002-005
Misc Info :
Vial Number: 13



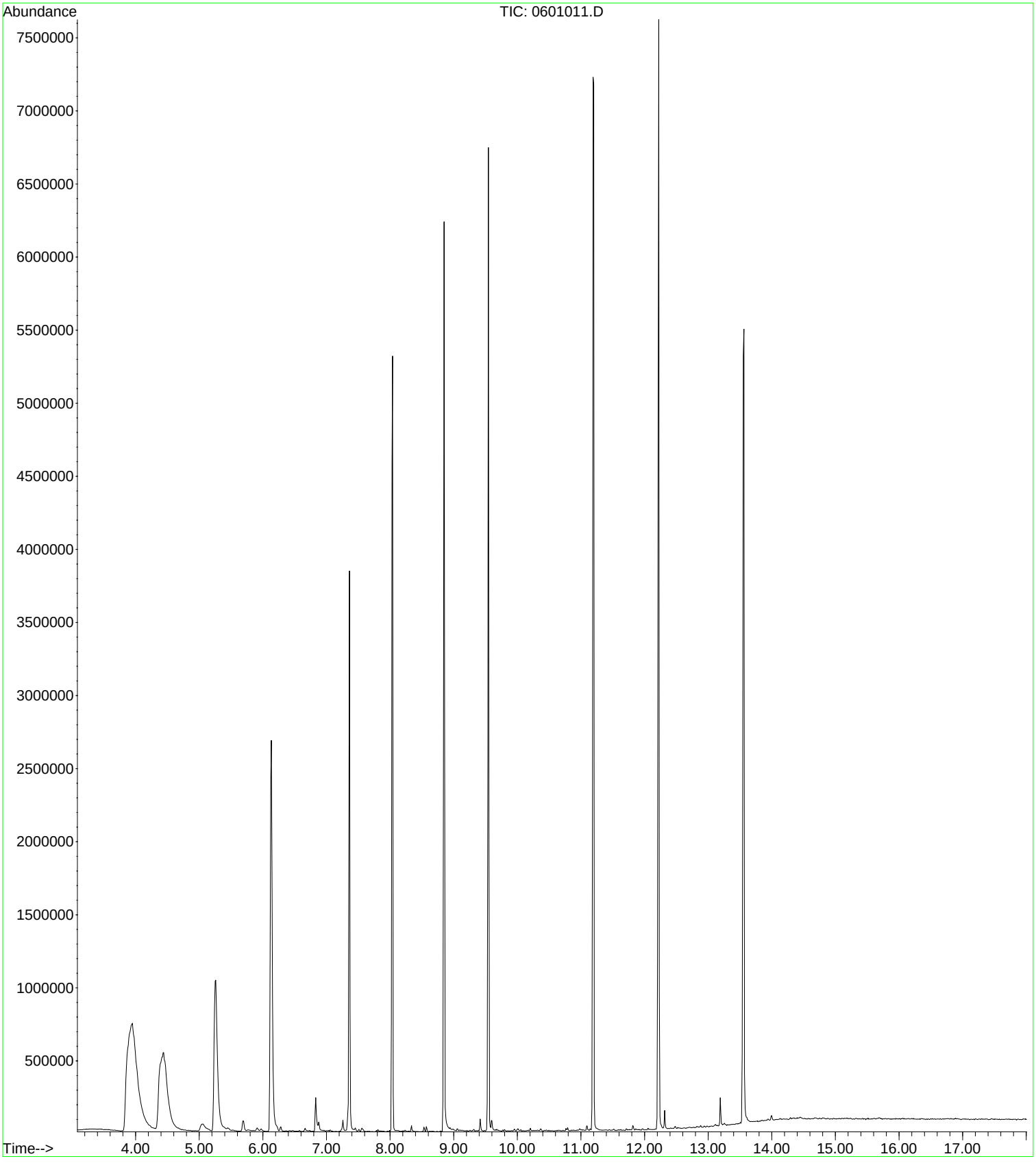
MW11 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\1401019.D
Operator : EMP
Acquired : 28 Dec 2009 4:42 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221002-006
Misc Info :
Vial Number: 14



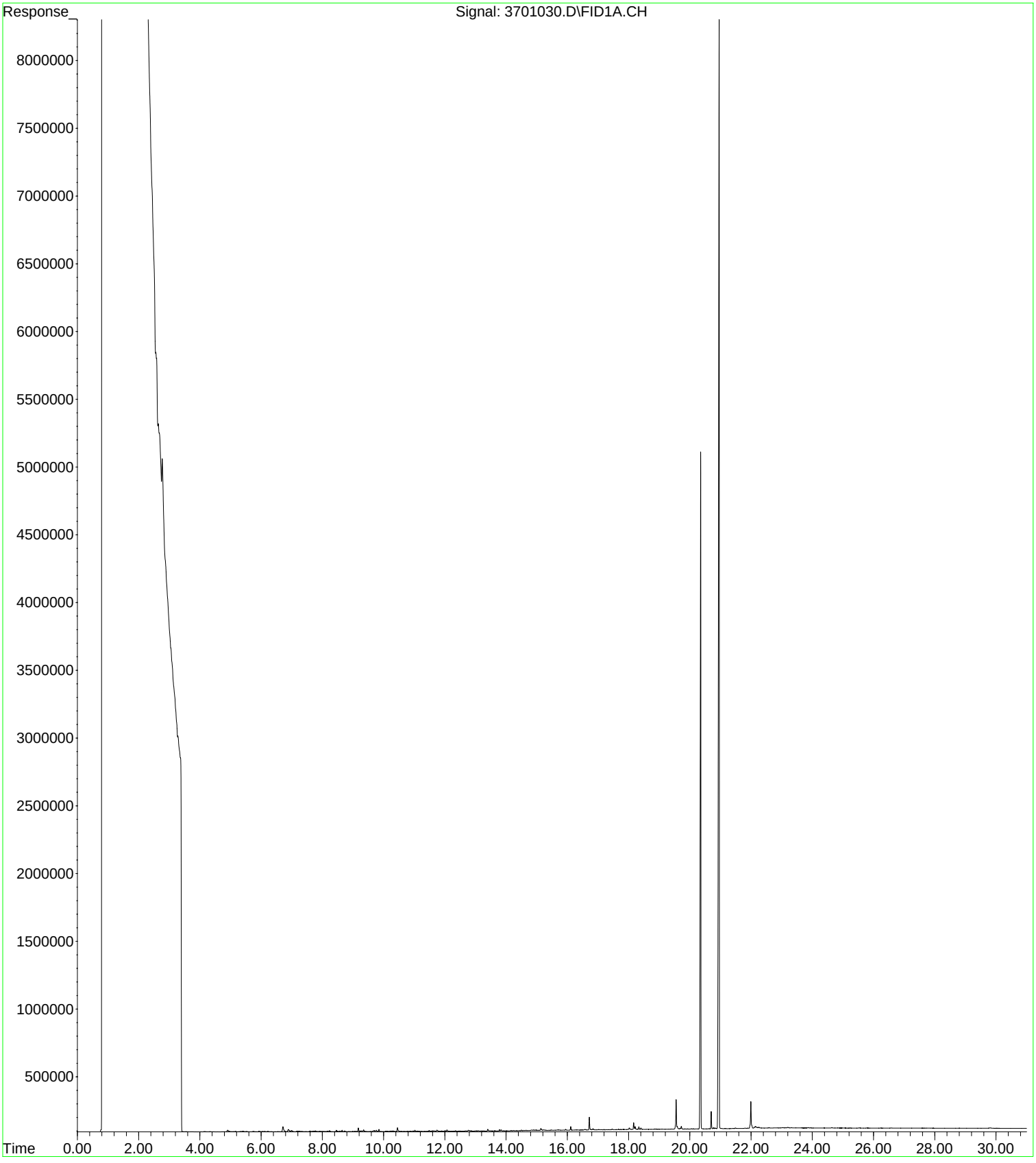
Blank PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\0601011.D
Operator : EMP
Acquired : 28 Dec 2009 1:34 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: MB Water 12/22
Misc Info :
Vial Number: 6



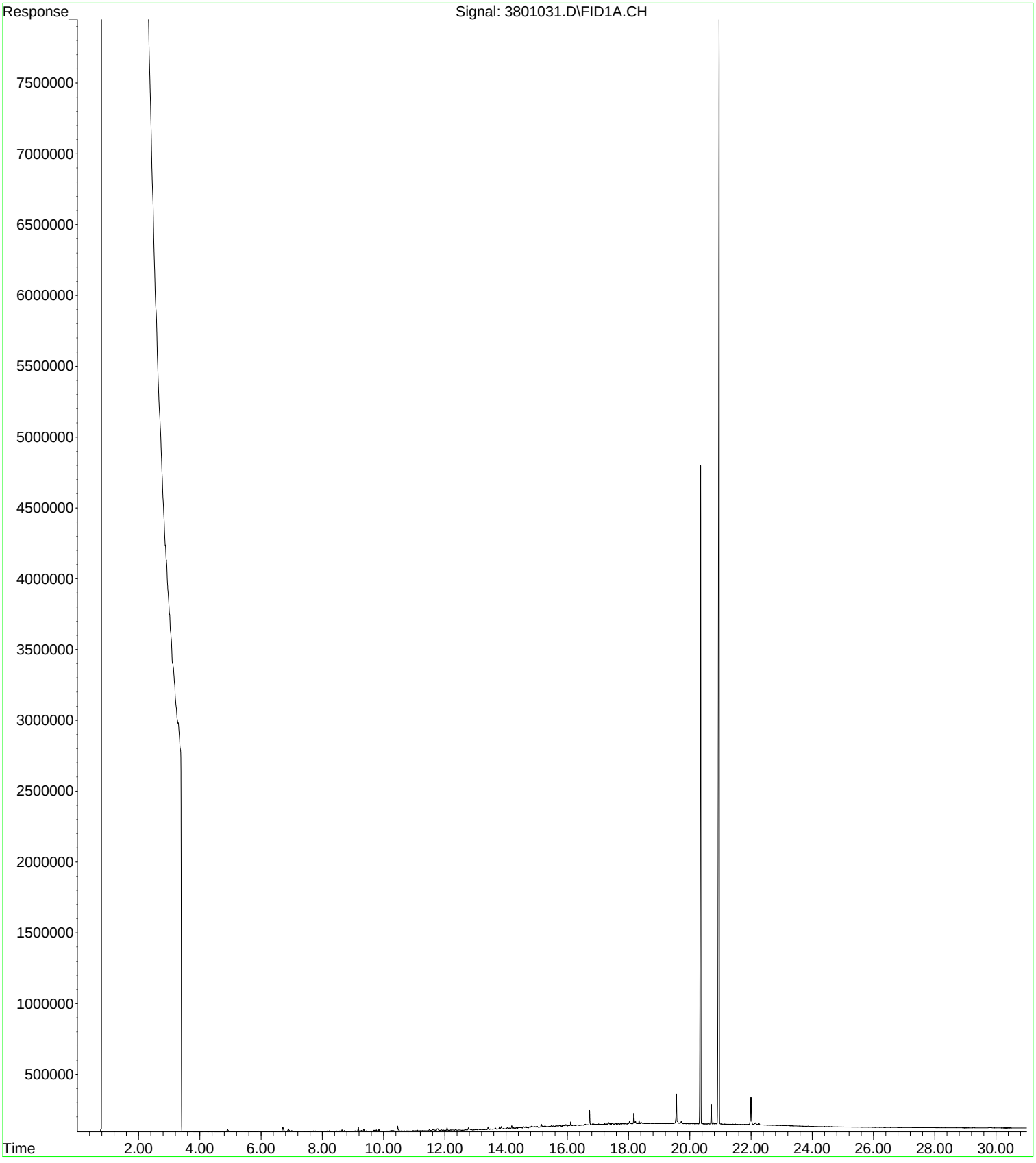
MW07 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3701030.D
Operator :
Acquired : 31 Dec 2009 9:46 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221022-001
Misc Info : WATER
Vial Number: 37



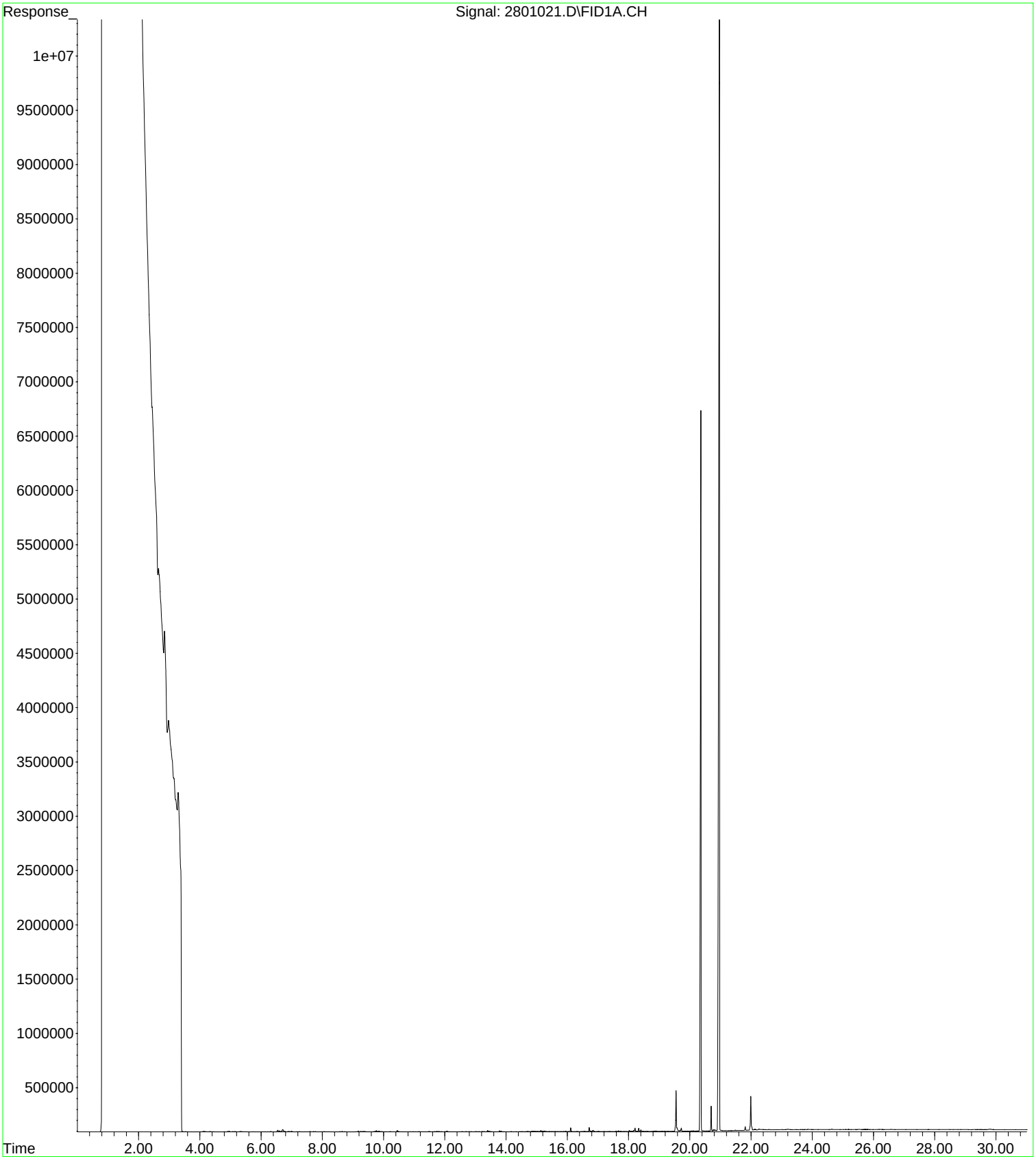
MW15 TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\3801031.D
Operator :
Acquired : 31 Dec 2009 10:25 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: 091221022-002
Misc Info : WATER
Vial Number: 38



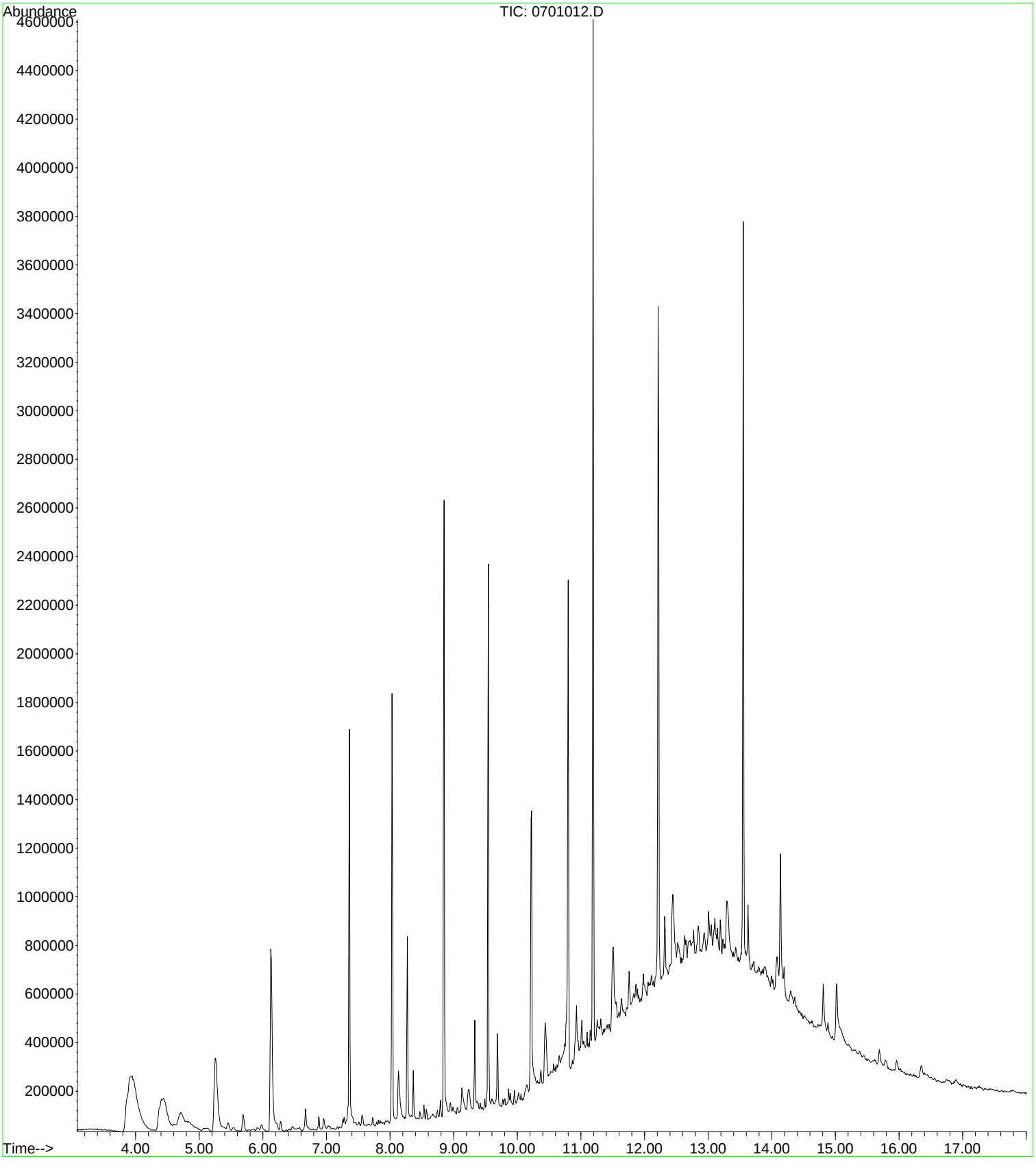
Blank TPH

File : T:\DATA3\FID2\2009DATA\DEC\DEC30\2801021.D
Operator :
Acquired : 31 Dec 2009 4:00 am using AcqMethod HCIDTT.M
Instrument : FID2
Sample Name: BLK
Misc Info : WATER
Vial Number: 28



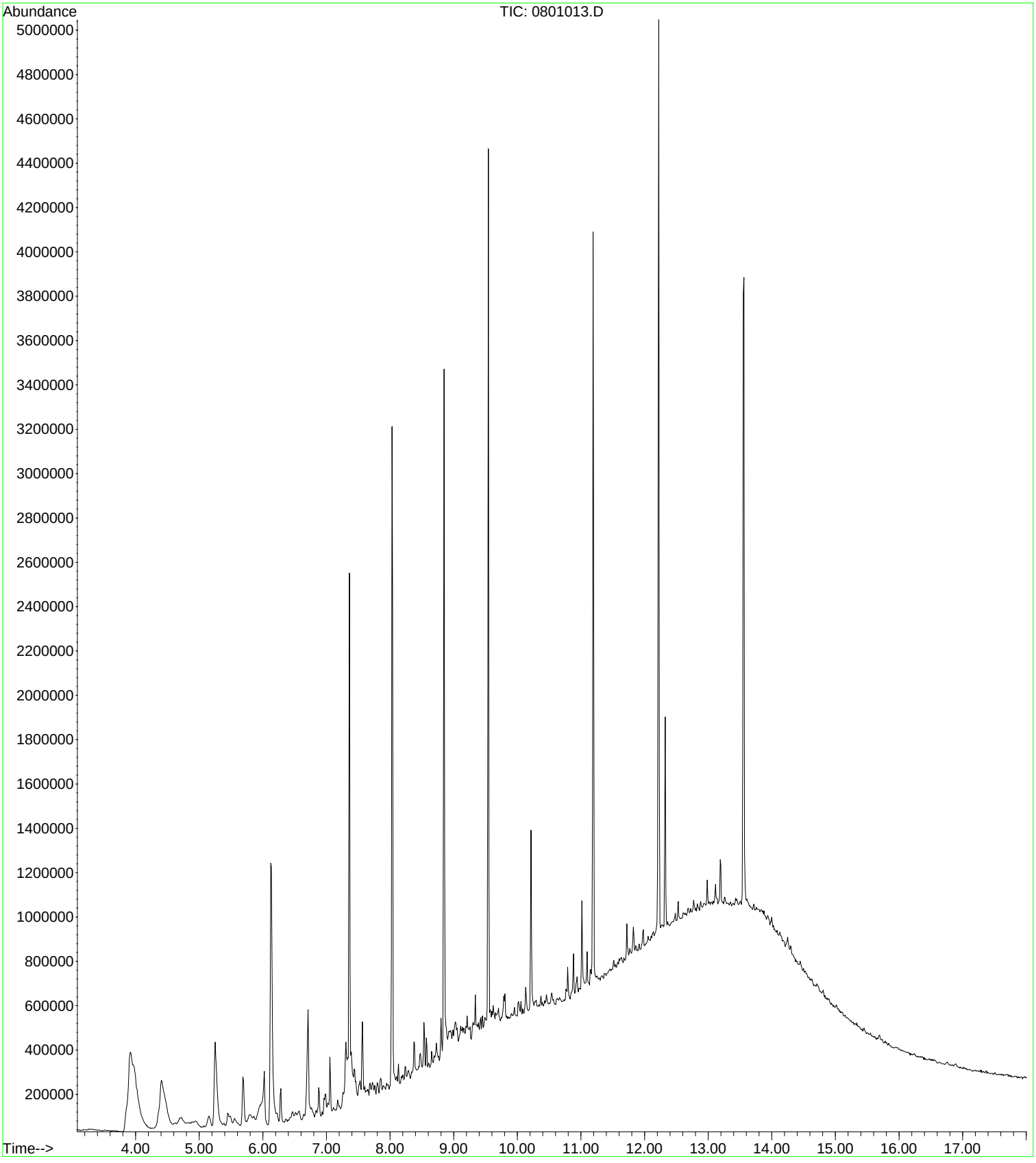
MW07 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\0701012.D
Operator : EMP
Acquired : 28 Dec 2009 1:57 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221022-001
Misc Info :
Vial Number: 7



MW15 PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\0801013.D
Operator : EMP
Acquired : 28 Dec 2009 2:21 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: 091221022-002
Misc Info :
Vial Number: 8



Blank PAH

File : T:\DATA1\SEMIVOC2\2009SVOC\DEC\1228PAH\0601011.D
Operator : EMP
Acquired : 28 Dec 2009 1:34 pm using AcqMethod TRIAZSV2
Instrument : MSD2
Sample Name: MB Water 12/22
Misc Info :
Vial Number: 6