Thea Foss and Wheeler-Osgood Waterways
2012 Source Control and WY2012 Stormwater Monitoring Report

Appendix A – Drain-by-Drain Analysis of Source Control Activities

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Prepared for
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U.S. Environmental Protection Agency

Prepared by
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A.1 SOURCE CONTROL SUMMARY

This appendix presents the source control summary for the seven major outfalls discharging to the waterways. For each of the seven outfalls, the following Sections A.2 through A.8 provide a review of current and completed source control investigations, major actions and other studies performed under the program. Information presented in this appendix includes a description of the action, end results of the action, status of actions that are still underway and identification of any follow-up needed. These actions are summarized in Section 2.1 and Table 2-1 of the 2012 Report.

Based on the review of the source control investigations performed to date and evaluation of whole-water and SSPM data, additional source control activities and a prioritized work plan for 2013 have been developed and are presented in Section 5 of the 2012 report.

A.2 OUTFALL 230

A.2.1 OUTFALL 230 DRAINAGE BASIN

The OF230 drainage basin is located on the mid-portion of the west side of the Thea Foss Waterway. The basin boundaries are shown on Figure 1-3 of the 2012 Report. The area is approximately 557 acres and discharges to the waterway through a 60-inch outfall pipe (see Appendix B, Table B2-1) located at South 15th Street and Dock Street in the right of way just south of Johnny's Seafood (retail). The general basin boundaries are S. 8th Street to the north, S. 17th Street to the south, S. Ainsworth Avenue to the west, and Dock Street to the east. Most of the storm drainage is channeled to S. 15th Street via a main trunk line along Market Street. Because of the steep downhill grade, overflow pipes exist in manholes along Market Street directing excess water to downstream trunk lines. Trunk lines along Dock Street are susceptible to saltwater intrusion from high tides.

The OF230 drainage basin is heavily developed throughout with primarily commercial land use and some residential use on the west side of the basin. The northern portion of the University of Washington–Tacoma (UWT) discharges to OF230. The drainage area for UWT is bounded by Pacific Avenue, South 21st Street, Tacoma Avenue and South 17th Street. Also included in the basin is Tacoma Link light rail, Greater Tacoma Convention and Trade Center, downtown revitalization (condos and retail), Dock Street redevelopment, and the Foss Waterway Public Esplanade from South 17th Street to South 11th Street.

Baseflow at the OF230 monitoring location is continuous and approximately 0.12 cubic feet per second (see Appendix B, Table B2-1). Sources of baseflow are discussed in Appendix B.

A.2.2 WY2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF230 drainage basin including intense business inspections, complete line cleaning, and identification and removal of point sources (see Table A.1-1). A discussion of specific major source control activities is provided in the following paragraphs.

Major source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 85 significant actions have occurred within the OF230 drainage basin. A breakdown of the types of actions taken in the basin is presented in Table A.1-1.

By the end of 2011, 100% of businesses and multi-family residential facilities had been inspected in the OF230 drainage basin. As part of the City-wide business inspections program, 29 additional business inspections were conducted in this basin in 2012. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater.

Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemical from stormwater. The locations of private onsite stormwater treatment devices in the OF230 drainage basin are shown on Figure A.1-1. In 2012, media filter BMPs were installed at two locations at one site in this basin (see Table A.1-2). With future redevelopment in the OF230 drainage basin, more of these onsite treatment systems will be installed and over time they will help to decrease the solids load and the associated particulate chemical load to the waterway.

Mercury and PCBs Source Tracing Investigation. The FD3a branch was video inspected and cleaned in June 2006 (Tacoma 2007b). The FD3a branch was one of the oldest stormwater lines in the City of Tacoma (75-100 years old). It is not believed to have ever been cleaned prior to 2006. Since the stormwater lines had never been cleaned, one of the possible sources of COCs in past sampling is residual accumulated storm sediments from historical sources. The video inspection revealed that the pipe along Court A from S. 15th to S. 13th Streets was in disrepair. This pipe section was abandoned and filled with CDF. The stormwater was redirected to a new pipe on A Street (summer 2007).

In response to high concentrations of mercury found in up-line sediment traps in 2006, mercury samples were collected from all branches in FD3a, FD18 and FD18b. A point source of mercury was found in a private catch basin (associated with a private parking area by Bates Technical College) near S. 11th Street and Yakima Avenue in July 2006. The catch basin and private system were subsequently cleaned in 2006. Post-cleaning samples confirmed that the mercury source appeared to have been removed.

In 2010, concentrations of mercury in SSPM increased back to the medium range in FD3a and FD18, indicating the potential of a recurring or new source. In addition PCB concentrations increased from low to high range in FD3a in 2010. On June 24, 2011, up-line from FD3a, a source control inspector collected dry weather water samples for mercury and PCB analysis. These water samples were grab samples and collected after a 5 day dry period. Moving up-line from FD3a, samples were collected where water was present. Most of the water present in the FD3a branch (11th Street storm line), 90% or more, originated from one catch basin (SAP #6502144). Mercury and PCBs were not detected in any of the samples. Therefore, it was determined that the source of mercury and PCBs is unlikely to be from dry weather water discharges.

Mercury concentrations in FD3a decreased from medium to low levels in WY2012, but increased from low to high levels in FD3-New. In addition, PCB concentrations at FD3a increased from low to high levels in WY2010 and WY2011, but decreased back to low levels in WY2012. PCB concentrations increased from low to high levels in FD16b in WY2012.

Due to the likely presence of a remaining source or sources in this drainage basin, a source tracing investigation was launched in 2012 to further investigate potential sources of mercury and PCBs. A copy of the source tracing report is included as Attachment A.2. Initial data obtained from the investigation have narrowed the areas from which the source appears to emanate. Additional investigation is currently underway to further target the source. It is expected that this investigation will be completed in 2013.

CHB Auto Care PIE Grant. In 2006, Citizen's for a Healthy Bay (CHB) conducted a public education program in the OF230 drainage basin (City of Tacoma 2007). The program was completed as part of a PIE Grant and included a survey, working with school children, meeting with neighborhood organizations and providing residents with material on proper automobile care with coupons for neighborhood services. Curb marking with "drains to stream" labels was also completed by CHB and the City in the basin. Public surveys showed some improvement in public awareness. However, there was no measurable difference in stormwater data between OF230 and the OF235 control basin where no public education was offered.

Storm System Cleaning. At a cost of $300,000, the entire municipal storm drainages for OF235 and OF230 were cleaned and video inspected by the City's Transmission Maintenance crews in 2007. One-hundred years of accumulated historical stormwater particulate matter in the trunk lines and laterals (totaling approximately 220 cubic yards) was removed. Eighty-

thousand feet of 8 to 56-inch lines were cleaned between March 12, 2007 and June 25, 2007. Throughout the duration of the project, standardized cleaning practices were used (i.e., plugs downstream of vactor truck) to prevent any mobilized materials from entering the Thea Foss Waterway. The decant water from the vactor trucks was diverted to settling tanks prior to discharge to the sanitary sewer.

Since the time of the complete cleaning of the OF230 drainage basin, additional cleaning has been performed in isolated areas. These cleaning and video inspection activities have been done for a variety of reasons, including: areas identified as needing maintenance through the STRAP program, complaints, business inspection follow-ups, etc. A summary of pipe maintenance activities completed during 2012 in the OF230 drainage basin is provided in Table A.2-1 in Attachment A.2.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

2010 Stormwater Pipe Retrofit Project. From June 2010 to November 2010, 13,500 linear feet of existing storm sewer main was structurally rehabilitated in the downtown district. The main segments targeted were tributary to OF230. Defects (cracks, holes, etc.) in the aging system could allow groundwater and soil (potentially contaminated from historic "hot spots") to enter the system and ultimately discharge to the Thea Foss Waterway. Rehabilitation of the existing main segments was accomplished by means of Cured-In-Place Pipe (CIPP) construction technologies. Resin impregnated liners were inserted into the main segments through existing manholes and the liner was then pressurized causing it to expand and form to the inside of the existing main segment. A source of heat was then applied which caused the resins to catalyze. The end result was a new pipe within the existing pipe that has similar strength and durability characteristics of PVC pipe. It is anticipated that these projects will also result in improvements in water and SSPM quality

When properly installed, the CIPP liner results in continuous stormwater pipe segments with no joints (except for manhole connections), that are free of leaks associated with structural defects. The resulting reduction in inflow and infiltration may reduce the contaminant load to waters of the state if contaminated groundwater is present. Final project costs are estimated to be $575,624. This project was funded by a $1,000,000 Ecology grant.

Another extensive CIPP relining project, which includes pipes in portions of the OF230, OF235, and OF237A drainage basin is planned for construction in 2013.

Sauro's Cleanerama Site Remediation. The Sauro's Cleanerama, which is now closed, released dry cleaning solvents into the environment. Under Ecology oversight, the Sauro Property Interim Action cleanup was completed during December 2009. During the Interim Action, Tacoma removed and disposed of 12,010 tons of contaminated soil, 3,493 tons of which was designated as hazardous waste and 8,517 tons that were considered non-hazardous waste. This completed the site Interim Action under the Agreed Order with Ecology.

Following removal of the soils, the City installed groundwater monitoring wells and expected to complete monitoring in April 2012. Initial results were inconclusive, so the monitoring program duration was extended. The City is currently monitoring the groundwater at the Sauro property quarterly to determine whether monitored natural attenuation will be suitable for final site cleanup. Groundwater monitoring will continue during 2013. After completion of the monitoring program, the City will submit an RI/FS with the final cleanup action recommendations.

March 2011 Sanitary Sewer Discharge. A sanitary sewer main in the vicinity of South 15th and Market Streets collapsed on March 15, 2011. The pipe in this area was originally installed in 1906. The City replaced both the sanitary and storm pipes in this intersection as a result of the failure. It was estimated that 18,000 gallons of sewage discharged to the storm sewer and eventually to the Thea Foss Waterway over a two hour period (8:15-10:15 AM). The sanitary sewer overflow was reported to Ecology.

Pacific Avenue Construction. The Pacific Avenue Streetscape project includes beautification in addition to innovative stormwater improvements. The project area includes the Pacific Avenue right-of-way from South 7th to South 17th Street and includes new sidewalks, street lighting, paving, bike lanes, and green stormwater infrastructure. The stormwater features include 14 new rain gardens, and new landscaping with over 3,000 new plants. Construction began in late 2012 and is expected to be completed in 2013.

'A' Street Treatment System. Design of the 'A' street regional treatment system is underway with construction scheduled for 2013. The project is located in an area with historically higher levels of PCBs and mercury, along with lower levels of PAHs and phthalates. The project consists of replacement of approximately 2,250 feet of pipe and construction of an underground treatment vault sized to treat the water quality design storm for the 34-acre tributary area. The investigation into the source of PCBs and mercury to this system, along with PAHs and phthalates will continue, but the relining and treatment project will help to ensure that this potential source of contaminants to the waterway is controlled. The treatment system is funded from a $1M fiscal year Statewide Stormwater Grant from Ecology.

UST Removal. The TPCHD is overseeing the removal of USTs at several sites including (see Attachment A.1):

- First Baptist Church at 902 Market Street. This action was completed on January 9, 2012. Contaminated soils were removed and disposed of during this project.
- Site at 1701 Court C. A permit for this site was issued on August 9, 2012.
- A garage at 732 Commerce Street. A permit for this site was issued on August 2, 2012.

Warning Letter. A warning letter was issued to Sheer Vision due to the discharge of soapy water to the storm drainage system during a roof cleaning operation at the Greater Tacoma Convention and Trade Center. A copy of this letter is included in Attachment A.2.

A.3 OUTFALL 235

A.3.1 OUTFALL 235 DRAINAGE BASIN

The OF235 drainage basin is the fourth largest basin in the Foss Waterway Watershed. The drainage basin encompasses a section of downtown between the OF230 and OF237A drainage basins (see 2012 Report, Figure 1-3). The OF235 drainage basin is heavily developed and covers an area of approximately 156 acres which drains through a 42-inch outfall pipe located on the west bank of the Thea Foss Waterway at South 21st and Dock Streets under the SR509 bridge. The general basin boundaries are South 18th Street to the north, South 23rd Street to the south, South "L" Street to the west and Dock Street to the east.

Commercial land use accounts for the majority of the area in this basin, with a small residential area on the western side (see 2012 Report, Figure 1-3). A small portion of freeway right-of-way is in the lower part of this basin including I-705 and the entire I-705 and I-509 interchange. Most of the stormwater runoff from the freeways discharges to an infiltration pond and not to the City-owned storm drains.

The southern portion of the University of Washington–Tacoma (UWT) and a portion of the St. Joseph Medical Complex discharges to OF235. The drainage area for UWT is bounded by Pacific Avenue, South 21st Street, Tacoma Avenue and South 17th Street. Also included in the basin is Tacoma Link Light Rail, downtown revitalization, Dock Street redevelopment and the Foss Waterway Public Esplanade from South 21st Street to South 17th Street.

Baseflow in OF235 is continuous at approximately 0.4 cubic feet per second (see Appendix B, Table B2-1). Sources of baseflow are discussed in Appendix B.

A.3.2 2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF235 drainage basin including intense business inspections, complete line cleaning, and identification and removal of point sources (see Table A.1-1). A discussion of specific major source control activities is provided in the following paragraphs.

Major source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 59 significant actions have occurred within the OF235 drainage basin. A breakdown of the types of actions taken in the basin is provided in Table A.1-1.

By the end of 2011, 100% of businesses and multi-family residential facilities in the OF235 drainage basin had been inspected. As part of the City-wide business inspections program, 30 additional business inspections were conducted in this basin in 2012. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater.

Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemicals from stormwater. The locations of private onsite stormwater treatment devices in the OF235 drainage basin are shown on Figure A.1-1. In 2012, there were three new media filter BMPs installed and inspected in this basin (see Table A.1-2). With future redevelopment in the OF235 drainage basin, more of these onsite treatment systems will be

installed and over time they will help to decrease the solids load and the associated particulate-bound chemical load to the waterway.

2006 Turbid Water Discharge. On June 14, 2006, June 27, 2006 and July 31, 2006, turbid water was observed discharging from OF235 (City of Tacoma 2006). This corresponds to the highest chemical concentrations in baseflow which were observed in WY2006 (Year 5), (see Table 3-2, Figure 5-1b and boxplots in Appendix G in the 2012 Report). A follow-up inspection on July 31, 2006 found that the discharge was not associated with a sanitary sewer cross-connection. The source of the discharge was not located. These outliers appear to be relatively isolated occurrences.

Storm System Cleaning. At a cost of $300,000, the entire municipal storm drainages for OF230 and OF235 were cleaned and video inspected by the City's Transmission Maintenance crews during 2007. One-hundred years of accumulated historical stormwater particulate matter in the trunk lines and laterals, 220 cubic yards, was removed. Eighty-thousand feet of 8 to 56-inch lines were cleaned between March 12, 2007 and June 25, 2007. Throughout the duration of the project, standardized cleaning practices were used (i.e., plugs downstream of vactor truck) to prevent any mobilized materials from entering the Thea Foss Waterway. The decant water from the vactor trucks was diverted to settling tanks prior to discharge to the sanitary sewer.

The 2007 video inspection revealed eroded pipe segments and other pipe drilled through the storm lines in some areas. The 2007 video inspections and resulting pipe conditions are tracked as part of the City's STRAP program and the results are publically available on the City's GovMe website (http://www.govme.org/govME/Admin/Inter/StartPage/default.aspx). This map based database helps to guide our capital improvement program.

To date STRAP numbers for areas of the Thea Foss basins shown on Figure 2-2 are included on Table 2-3 of the 2012 Report. A number of relining or replacement projects have been added the City's list of Capital Improvement Projects (CIP) from the STRAP. One of the relining projects, which includes pipes in portions of the OF230, OF235, and OF237A drainage basins will be constructed in 2013.

Since the time of the complete cleaning of the OF235 basin, additional cleaning has been performed in the basin in isolated areas. These cleaning and video inspection activities have been done for a variety of reasons, including: areas identified as needing maintenance through the STRAP program, complaints, business inspection follow-ups, etc. A summary of pipe cleaning projects completed in the OF235 drainage basin during 2012 is provided in Attachment A.3.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical

sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

Hood Street Treatment Retrofit Project. The City of Tacoma was awarded a $1M FY 2011 Stormwater Retrofit and LID Competitive Grant from Ecology for a $1.54M regional stormwater treatment facility in the Hood Street Corridor through the Brewery District (South 23rd Street through South 21st Street). An urban bioinfiltration swale will provide regional treatment for stormwater runoff discharged from 21 acres of the OF235 drainage basin in Tacoma's downtown area. The project is currently under design and construction is expected to begin in 2013 or 2014. The Hood Street Treatment Retrofit project is proposed in cooperation with the development of the Prairie Line Trail. The project is a rail-to-trail conversion of Tacoma's historic freight corridor through the heart of downtown. The Prairie Line Trail has been planned to develop a landmark urban trail for pedestrians and bicyclists.

Former Heidelberg Brewery USTs. In January 2012, five USTs were located on the Former Heidelberg Brewery site (2012 South "C" Street). Four of the five were uncovered and removed in January 2012, and two areas were found to be contaminated with possible diesel and/or heavy oil. TPCHD has been working with the property owner to remove the tanks and complete the remediation of the contamination. Final documentation of the site actions were recently presented to TPCHD and are currently under review to determine whether additional actions are needed.

UW Joy Building UST Removal. A UST removal action being overseen by TPCHD occurred at the University of Washington-Tacoma Joy Building at 1720 Pacific Avenue. This action was completed on February 3, 2012. Contaminated soils were removed and disposed of during this project.

Warning Letter. A second warning letter was issued to IHD, LLC for failure to properly implement Best Management Practices during construction activities for the Holiday Inn Express Hotel & Suites. A copy of this letter is included in Attachment A.3.

A.4 OUTFALL 237A

A.4.1 OUTFALL 237A DRAINAGE BASIN

The OF237A drainage basin is approximately 2,823 acres and drains to the Thea Foss Waterway through the west 96-inch outfall located in the 2300 block of East Dock Street at the head of the waterway. As shown in Figure 1-3 of the 2012 Report, the drainage basin generally extends in the south and west directions from the outfall. The general boundaries are South 19th Street on the north, South 40th Street on the south, Lawrence Street on the west, and Tacoma Avenue on the east.

The OF237A drainage basin contains residential, commercial and industrial land uses. In addition, freeway rights-of-way for I-5, SR-16, the entire I-5/SR-16 interchange, and a portion of the I-5/I-705 interchange are located within this drainage basin.

Baseflow in OF237A is continuous at approximately 4.4 cubic feet per second (see Appendix B, Table B2-1) and consists primarily of former creeks that were piped. Sources of baseflow are discussed in more detail in Appendix B.

During periods of increased precipitation, the Leach Creek Holding Basin located to the west of the drainage basin is pumped to the OF237A storm drainage system. The Leach Creek Holding Basin is located within the city limits of Fircrest (west of Tacoma) and has functioned as a stormwater facility since 1961, when a dike was constructed along the southern edge of the current site. Several storm pipelines feed the holding basin draining approximately 2,450 acres of residential, commercial, highways, and other high use developed properties in Tacoma and Fircrest. The primary outflow from the holding basin is a gated 42-inch outlet pipe which conveys stormwater to Leach Creek.

The pump station was constructed in 1991 and consists of four pumps, each with a capacity of 24 cubic feet per second (cfs) and maximum combined capacity of 96 cfs. During more intense rain events, stormwater from the Leach Creek Holding Basin is pumped through a 42-inch pipe to the Nalley Valley trunk line and discharged into the Thea Foss Waterway through OF237A. The number of pumps operating depends on the intensity of a given storm event; with any number of the four pumps potentially operating at a given time. At low levels of precipitation, no pumps operate and the water discharges to Leach Creek. At increased levels of precipitation[1], pumps sequentially engage up to a maximum of four pumps. The range of flow to the Nalley Valley system from the Leach Creek Holding Basin is from 0 to 96 cfs. Emergency overflow from the holding basin is provided by a 40-foot wide emergency spillway which discharges to Leach Creek.

In 2005, 60 feet of the OF237A outfall pipe was replaced by Burlington Northern Railroad as part of their rail track realignment project. Construction included extending the outfall, constructing a new manhole structure and replacing pipe from the City's sanitary pump station yard (known as Dock Street) to the outfall. The new manhole was constructed downstream of the current stormwater sampling location and FD2 and FD2a. The 23rd Street lateral (FD2a) was rerouted to the new manhole structure in the 237A main trunk line. The new manhole is

[1] According to the City's best estimation, this occurs when greater than ¾-inch of precipitation falls within a 24-hour period.

used as the new end-of-pipe sampling location for OF237A New, baseflow and stormwater. The new manhole represents discharge from the entire drainage basin.

A.4.2 2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF237A drainage basin including intense business inspections, complete line cleaning in many sub-basins, and identification and removal of point sources (see Table A.1-1). A discussion of specific major source control activities is provided in the following paragraphs.

Major source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 97 significant actions have occurred within the OF237A drainage basin. A breakdown of the types of actions taken in this basin is presented in Table A.1-1.

By the end of 2011, 100% of businesses and multi-family residential facilities have been inspected at least once in this drainage basin. As part of the City-wide business inspections program, 76 business inspections were conducted in the OF237A drainage basin in 2012. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater.

Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemicals from stormwater. The locations of private onsite stormwater treatment devices in the OF237A drainage basin are shown on Figure A.1-1. In 2012, infiltration (bioswales and porous asphalt) and media filter BMPs were installed on six sites in this drainage basin (see Table A.1-2). With future redevelopment in the OF237A drainage basin, more of these onsite treatment systems will be installed and over time will help to decrease the solids load and the associated particulate-bound chemical load to the waterway.

Targeted Business Inspections. From 2003 to 2011, targeted business inspections were conducted in this basin. These inspections include (see Table A.1-1):

- 2003-2004 and 2009 in the South Tacoma Groundwater Protection District and FD10 sub-basins,
- 2003-2004 and 2009-2010 in the FD13 sub-basin,
- 2005 and 2008 in the South Tacoma Trunkline,
- 2010 – 2011 in the FD13 and FD13b sub-basins including requiring a property owner to implement corrections to drainages from a fueling island and cooling tower maintenance.

Because the South Tacoma Groundwater Protection District falls within this basin, Ecology and TPCHD also conduct construction and industrial/business inspections in this basin. As part of their inspection programs, stormwater treatment devices and other on-site BMPs are inspected for proper installation, maintenance and operations. Improvements to stormwater quality discharging from these sites may be realized with proper maintenance and implementation of these BMPs. As part of these inspections, PetroCard on Lawrence Street was required to re-route their oil/water separator from the storm to sanitary sewer; this work was completed in 2011.

Storm Line Cleaning. Between April 28, 2008 and August 8, 2008, targeted areas of the storm sewer system including trunk lines, laterals and CBs were cleaned and video inspected at a cost of $374,000. Approximately 320 cubic yards of historical SSPM which had accumulated over 100 years was removed from 157,200 feet of lines and 754 catch basins using Tacoma's standardized cleaning practices (i.e., plugs downstream of vactor truck). The video inspections revealed a large void in the pipe at the intersection of South 26th Street and Jefferson Avenue. The City's Sewer Transmission Maintenance section and Streets and Grounds Division repaired the storm pipe at this location.

The City's STRAP program is designed to visually inspect and rank the entire City of Tacoma storm conveyance system. The STRAP assessment totals for the Foss drainage basins completed to date are shown in Table 2-3 of the 2012 Report and are publically available on the City's GovMe website (http://www.govme.org/govME/Admin/Inter/StartPage/default.aspx). This map-based database helps guide our capital improvement program. The video inspections revealed eroded pipe segments, root intrusion and poorly constructed tap-in connections. A number of relining or replacement projects have been added the City's list of Capital Improvement Projects from the STRAP. One of these projects is in the headwaters of FS01 which is shown on Figure 2-2 of the 2012 Report and is currently in design and slated to begin construction in 2013. Another relining project, which includes pipes in portions of the OF230, OF235, and OF237A drainage basins, will be constructed in 2013.

Since the time of the cleaning project in the OF237A basin, additional cleaning has been performed in the basin in isolated areas. These cleaning and video inspection activities have been done for a variety of reasons, including: areas identified as needing maintenance through the STRAP program, complaints, business inspection follow-ups, etc. A summary of pipe cleaning projects completed in the OF237A drainage basin during 2012 is provided in Table A.4-1 of Attachment A.4.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

DA-1 Line Cleanup. During construction of I-705, WSDOT installed a french drain to pick up surfacing groundwater that was affecting their construction of a road near South 23rd Street and South "A" Street. In 1992, it was determined that this drain was picking up coal tar contaminated groundwater and conveying it to the storm drain system, and subsequently to the waterway. The DA-1 line was thus believed to be a source of PAHs discharging to OF237A in the FD2a branch (City of Tacoma 2005). The line was immediately plugged, and the site was partially remediated in May 2003. As part of this remediation in February and March 2003,

WSDOT removed and sealed the DA-1 line french drain system that crossed through the Standard Chemical Site and its underlying coal tar deposits.

Key Bank LUST Removal. Following identification of a LUST, the owner of this site completed a voluntary cleanup under Ecology oversight in 2007. A return fuel line from a back-up generator had ruptured and leaked diesel into surrounding soils and eventually seeped into a catch basin that drains to FD13b.

UST Removal. The TPCHD is currently overseeing the removal of USTs at several sites including (see Table A.4-1 in Attachment A.4):

- The Elks Club at 1965 South Union Avenue. The permit for this action was issued on August 10, 2012.
- Apartment Complex at 3831 S. Yakima Avenue. This action was completed on September 7, 2012.
- Cook's Concrete at 1521 S. Grant Avenue. The permit for this action was initially issued on September 12, 2012. Subsequently, this tank was determined to be a LUST and is being cleaned up as an independent action.

Media Filtration System Installation. In 2010, the City installed a media filtration system that treats stormwater from the FD13 sub-basin, which is approximately 50 acres in size. This Capital Improvement Project was funded by an Ecology Grant. When initially installed, this media filtration system appeared to remove almost all of the SSPM from the stormwater as evidenced by the fact that a sample was not obtained from FD13 in WY2011. In WY2012, an SSPM sample was obtained, and results were in the low range (see 2012 Report, Figures 2-1a-d). The media filtration system will be inspected annually to determine the maintenance cycle for the system.

Notice of Violation. A warning letter and a subsequent Notice of Violation were issued to Mid-Mountain Construction for discharge of turbid water during construction of the Sound Transit D to M Streets Track and Signal Project near South Tacoma Way. Copies of these letters are included in Attachment A.4.

A.5 OUTFALL 237B

A.5.1 OUTFALL 237B DRAINAGE BASIN

The OF237B drainage basin encompasses 1,991 acres of south and east Tacoma. This area drains to the Thea Foss Waterway through a 96-inch outfall pipe located on East Dock Street at the head of the waterway. The general basin boundaries are East 23rd Street and East Dock Street to the north, East 84th Street to the south, South Fawcett Avenue to the west, and McKinley Avenue to the east. Most of the storm drainage is channeled to the main trunk line, which flows south to north along East "D" Street.

Primary land use in this drainage basin is residential with some commercial and a very small amount of industrial (see 2012 Report, Figure 1-3). Commercial areas are mostly linear and spread out in strips along Pacific Avenue and McKinley Avenue with some areas around I-5 to the Thea Foss Waterway. Freeway right-of-way makes up a small percentage of this basin, and includes a portion of the I-5, I-705, Highway 7 interchange and Highway 7. This right-of-way area may increase slightly with the expansions and HOV lanes on I-5. Streets, parks, and open or undeveloped property account for the remaining land use in the basin.

Baseflow from OF237B is continuous at approximately 8.3 cubic feet per second (see Appendix B, Table B2-1) and originates primarily from former creeks that were piped. Sources of baseflow are discussed in more detail in Appendix B.

As part of the BNSF railroad realignment project, OF237B was reconstructed between July and September 2005. This work included installation of a new manhole structure downstream of the whole-water and SSPM (FD1) sampling location and included extension of the outfall pipe through installation of 60 feet of new concrete pipe. The SSPM and the whole-water monitoring station remained at the same location since that location captures contributions from the entire basin.

A.5.2 2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF237B drainage basin including intense business inspections, targeted line cleaning, and identification and removal of a point source (see Table A.1-1). A discussion of specific major source control activities is provided in the following paragraphs.

Source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 40 significant actions have occurred within the drainage basin. A breakdown of the types of actions taken in the OF237B drainage basin is provided in Table A.1-1.

By the end of 2010, 100% of businesses and multi-family residential facilities had been inspected at least once in this drainage basin. As part of the 2012 City-wide business inspections program, 20 business inspections were conducted in the OF237B drainage basin. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater.

Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemicals from stormwater. The locations of private onsite stormwater treatment devices in the OF237B drainage basin are shown on Figure A.1-1. In 2012, a media

filter BMP was installed at one site in this drainage basin (see Table A.1-2). With future redevelopment in the OF237B drainage basin, more of these onsite treatment systems will be installed and over time they will help to decrease the solids load and the associated particulate-bound chemical load to the waterway.

FD31 PAH Investigation. HPAHs were found in baseflow in WY2004 (see 2012 Report, Figures G-19a and 39a). As shown in Figure 2-1b of the 2012 Report, FD31 PAH concentrations in SSPM in WY2003 were considered to be in the medium range (yellow). In 2004-2005, source control inspectors performed a source tracing investigation and identified two sources of PAHs in the FD31 branch of the OF237B drainage: an existing 1950s underground storage tank (UST) for heating fuels at Tacoma Public Schools Willard Staff School; and a neighborhood fueling station which had recently closed. The City cleaned and video inspected the FD31 branch as part of the PAH source tracing investigation. Source control inspectors worked with the school district's maintenance staff on proper BMPs for the site.

Because of these efforts, PAH concentrations decreased in FD31 to the low range of concentrations in WY2005 (see 2012 Report, Figure 2-1b). However, PAH concentrations at FD31 increased back to medium range starting in WY2008 and to the high range in WY2010. As a result of the known presence of USTs, these sites were referred to TPCHD for follow up.

In December 2011, the UST at Tacoma Public Schools Willard Staff School was removed in accordance with a TPCHD permit. TPCHD considered the work completed and closed on October 22, 2012. In response to the elevated PAH concentrations at the former fueling station at 3402 Pacific Avenue (EZ Food Mart) TPCHD initiated a Phase I/II assessment in 2011. TPCHD determined that the site has improperly abandoned USTs which need to be removed and is continuing to work with the property owner to address these USTs. The City is continuing to monitor the TPCHD work and will provide assistance as needed. Additional source tracing efforts for PAHs in this sub-basin may be required pending the results of the TPCHD work. Concentrations were in the medium range at this location in WY2012.

PCB Source Tracing in FD34 and FD35. Since 2005, PCBs have been found intermittently at high range concentrations in the south central portion of the OF237B drainage basin at FD34 and FD35 (see 2012 Report, Figure 2-1d). In WY2011, concentrations in both sediment traps dropped to below levels of concern. In WY2012, however, the concentrations in FD34 increased back to high levels, while the concentration in FD35 remained low. These SSPM concentrations indicate that there is an ongoing intermittent source(s) of PCBs in this area above and beyond those found throughout the Foss Waterway Watershed.

In the summer of 2011, source control inspectors conducted an investigation to isolate possible source(s) of PCBs. The inspection focused on the small industrial area tributary to the FD35 and FD34 sediment traps. Inspectors looked for sediment in the storm lines, but the system was clean except for one small deposit. Thus, only one sample was collected from the system. Sediment and soil samples were also collected from a catch basin and from the ground adjacent to a transformer on the property of the former Globe Ticket Facility. PCBs were not detected in any of these samples.

Another source tracing investigation to try to narrow the source of PCBs in this area was initiated in 2012. Initial results have narrowed the source to one leg of the drainage system leading to FD34 and additional source tracing is currently underway. A report on the current status of this investigation is included in Attachment A.5. The source tracing investigation will continue in 2013.

Storm System Cleaning. At a cost of $274,200, the entire municipal storm drainage basin for OF237B was cleaned and video inspected by the City's Transmission Maintenance crews between November 7, 2010 and February 24, 2011. Fifty to 100 years of accumulated historical stormwater particulate matter was present in the trunk lines and laterals. During the cleaning project 175 cubic yards were removed from 144,199 feet of lines and laterals and 1,072 catch basins. The cleaning was performed using Tacoma's standardized cleaning practices (i.e., plugs downstream of vactor truck).

The 2011 video inspection also revealed eroded pipe segments and other pipe drilled through the storm lines in some areas. Relining or replacement of some pipe section have been added the City's list of Capital Improvement Projects. At this time, it is unknown when these repair projects will be completed.

Since the time of the complete cleaning of the OF237B basin, additional cleaning has been performed in the basin in isolated areas. These cleaning and video inspection activities have been done for a variety of reasons, including: areas identified as needing maintenance through the STRAP program, complaints, and business inspection follow-ups. A summary of pipe cleaning projects completed in the OF237B drainage basin during 2012 is provided in Table A.5-1 in Attachment A.5.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

A.6 OUTFALL 243

A.6.1 OUTFALL 243 DRAINAGE BASIN

The OF243 drainage basin is 59 acres and discharges to the east side of the waterway at East 21st Street through a 42-inch outfall (see 2012 Report, Figure 1-3). The storm drainage is carried in two main laterals, one south to north on East "D" Street from East 26th Street to East 21st Street and second east to west on East 21st Street. The majority of runoff in this basin is from Burlington Northern-Santa Fe Railway property and the portion of SR-509 between Portland Avenue and the Thea Foss Waterway. Land uses in the basin are primarily industrial, with some commercial at the west side of the basin and some highway with SR-509.

The outfall has a tide valve which was originally installed in 1999 then reinstalled in 2001 when the outfall pipe was extended. In 2008, "D" Street was raised over the BNSF main line increasing the drainage area by ½ acre. The stormwater runoff from the new ½ acre is treated through a VortFilter unit which then discharges to OF243 through a new 15 inch pipe.

A.6.2 2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF243 drainage basin including removal of significant sources (see Table A.1-1). A discussion of specific major source control activities is provided in the following paragraphs.

Source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 29 significant actions have occurred within the OF243 drainage basin. A breakdown of the types of actions taken in the basin is provided in Table A.1-1.

As part of the City-wide business inspections program, five additional business inspections were conducted in the OF243 drainage basin in 2012. All of the businesses in the basin have been inspected three or more times since 2001, with the exception of the BNSF yard which is discussed in more detail below. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater.

Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemicals from stormwater. The locations of private onsite stormwater treatment devices in the OF243 drainage basin are shown on Figure A.1-1. In 2012, media filter BMPs were installed at one site in this drainage basin (see Table A.1-2). With future redevelopment in the OF243 drainage basin, more of these onsite treatment systems will be installed and over time they will help to decrease the solids load and the associated particulate-bound chemical load to the waterway.

Redevelopment of the Area. In 2002 and 2003, Pick's Cove Marina (now Foss Landing Marina) and American Plating were remediated. These sites were sources of mercury and DEHP (Pick's Cove) and metals (American Plating) (City of Tacoma 2005). In addition, the "D" Street Grade separation/bridge was completed in 2008 and stormwater from the new impervious surfaces (0.49 acres) were routed through a treatment system.

SR509 WSDOT Pond Black Oil/Tar Releases. Historically black oil/tar emanating from the old Northern Pacific Rail yard oil pipeline was found in the SR-509 WSDOT stormwater treatment pond located within this drainage basin. In 2002, the pond was rebuilt to remediate the black

oil/tar. In 2009, the pond was again remediated as directed by Ecology when the entire length of the Northern Pacific Rail yard oil pipeline along East "D" Street and East 19th Street was cleaned up (see Table A.1-1).

Outfall 243 Mercury Source Tracing. Mercury has been found in the medium to high range of concentrations in all samples analyzed from FD23 since WY2002 (see 2012 Report, Figure 2-1a). In 2008, stormwater sediment samples were collected at several locations in the basin and analyzed for Foss parameters. On May 28, 2009, four sediment samples were collected from portions of the system that represent independent and comingled branches of the storm sewer system. Mercury (0.129-0.54 mg/kg) concentrations found in these samples are comparatively similar to the mid-range of concentrations (yellow in color) as represented in Figure 2-1a with no likely point-source of mercury for any one of the branches.

After working with BNSF in 2009-2010 to gain access to the BNSF yard, City Environmental Compliance staff completed focused business inspections for most of the yard. An updated drainage map was also completed in September 2011. A follow up inspection, including the inspection of onsite ditches and swales, was conducted in 2012. Mercury concentrations in WY2011 and WY2012 remain in the mid-range of concentrations as represented in Figure 2-1a in the 2012 Report and source control investigations will continue in 2013 to evaluate this area for mercury.

Acenaphthene in Baseflow. In OF243, acenaphthene was detected in 95% of the baseflow samples and at concentrations higher than those found in stormwater. The average and median concentrations of acenaphthene were 0.030 and 0.028 µg/L in baseflow and both at 0.007 µg/L in stormwater. These results indicate that there may be a source(s) of acenaphthene which is diluted by stormwater. The source of these acenaphthene during baseflow conditions is unknown in this basin.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

A.7 OUTFALL 245

A.7.1 OUTFALL 245 DRAINAGE BASIN

The OF245 drainage basin is located in the tideflats of Tacoma on the southern portion of the east side of the waterway. Basin boundaries are shown on Figure 1-3 in the 2012 Report. The outfall is located at East 19th Street, just south of Johnny's Dock Restaurant. The drainage area is approximately 39 acres in size and the main trunkline of the storm drainage system extends east from the Thea Foss Waterway, down East 19th Street to East "I" Street. Because of the low basin elevation, the entire storm system is influenced by saltwater at high tide.

Land use in this basin is primarily industrial with the restaurant providing a small commercial area at the west side of the basin. Most facilities in the drainage basin are engaged in storage, transloading and warehousing of materials and products, and manufacturing.

Directly upstream of the outfall is a deep bottom sump manhole known as MH390 (see Appendix B, Figure B2-5). MH390 is 60 inches inside diameter and approximately 18 feet in depth with the inlet pipe and outlet pipe at 55.5 inches above the bottom. A plastic tide gate (swing valve) is located on the inlet pipe. The tide gate does not securely seal and some tidal water does get into the upper reaches of the system. In fall 2004, the last 24 feet of pipe from MH390 to the waterway was replaced with HPDE. Drainage from MH390 was improved with the new slope of the outfall pipe, which replaced the old line that had a sag in it.

In August 2004, Tacoma replaced a 300-foot segment of the stormwater line and associated laterals in East 19th Street. This action sealed this segment from groundwater, sediment and product migration from the surrounding contaminated soil that remained in-place after an interim action remediation project was completed in this area.

Several of the businesses in the area not only discharge stormwater to OF245, but also discharge stormwater to adjacent outfalls, OF248 and OF249. Source control activities for all of these basins are discussed in the following subsections.

A.7.2 2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF245 drainage basin including removal of significant sources (see Table A.1-1). A discussion of major source control activities associated with these areas is provided in the following paragraphs.

Source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 31 significant actions have occurred within Basin 245. A breakdown of the types of actions taken in the OF245 drainage basin is provided in Table A.1-1.

As part of the City-wide business inspections program, four additional business inspections were conducted in the OF245 drainage basin in 2012. All of the businesses in the basin have been inspected at least three times if not more since 2001. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater. Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemicals from stormwater. The locations of private onsite stormwater treatment devices in Basins 245/248/249 are shown on Figure A.1-1. In 2012, there were no additional BMPs installed in the basin. With future redevelopment in the OF245 drainage basin, more of these onsite treatment systems will be

installed and over time they will help to decrease the solids load and the associated particulate-bound chemical load to the waterway.

MH390/Outfall 245 Black Oil/Tar Releases. At the beginning of the monitoring program, black oil and tar-blobs were observed seeping into the storm drains through joints and cracks. Before the extent of the contamination was understood, Tacoma completed three maintenance projects (two line replacements and one relining) to alleviate this issue. After these projects were complete, seeps continued to leak into the storm drain system. Further investigations found contamination along the entire length of the old Northern Pacific Rail yard oil pipeline area along East "D" Street and East 19th Street. Ecology ordered remediation of the pipeline in 2008 and 2009. During this period, five UST/LUSTs were also removed or filled.

After completion of all of these activities, oil absorbent snares placed in the storm lines remained clean. Use of the oil snares in this basin was discontinued in 2010.

Former MPS Site Investigation. OF245 exhibits notably different phthalate compositions that are dominated by butylbenzylphthalate. Butylbenzylphthalate concentrations in OF245 were among the highest of any reported phthalates in the monitoring program (see Tables 3-2, 3-3 and 3-9 and boxplots in Appendix F, 2012 Report). Although WY2012 SSPM results show that phthalates were in the low range, no specific actions were taken on site that would lead to confidence in removal of this source. DEHP and total phthalates (butylbenzylphthalate included) concentrations in SSPM indicate the likelihood of an ongoing significant source of phthalates from a former bulk liquid phthalate transloading facility, MPS site (see 2012 Report, Figure 2-1c).

The site is now operating under the name of Quality Transport, Inc. Quality Transport, Inc. cleaned a majority of their system in 1997 and in 2000 with no effect on the sediment trap phthalate concentrations downstream of their facility (City of Tacoma 2009b). Average total phthalate concentrations show a peak in WY2003 with a decline in stormwater and baseflow chemistry in WY2004 and WY2005 (see 2012 Report, Figure 5-1f). Baseflow concentrations appear to have remained stable since WY2005; however, stormwater concentrations have decreased.

Because of the intermittent medium to high SSPM concentrations, this site was referred to Ecology and TPCHD for follow-up. The City is continuing to monitor the site for wastewater discharges. The site was re-mapped in 2012 as a result of that work. Through that mapping and inspection effort, the presence of a dry well was identified on-site (see Attachment A.7). Additional follow up from all involved agencies is needed to fully assess the operations and site conditions at this property.

Petroleum Spills in Basins 245, 248 and 249. One of the trucking warehouses in the basin, SuperValu, was fined for repeated petroleum spills to the waterway in 2007 through OF245, OF248 and OF249. As a result they are under an order from Ecology to implement BMPs. In 2010, SuperValu installed three oil/water separators and have implemented spill response BMPs as required by Ecology. Another oil/water separator was installed in 2011. These actions should reduce contributions of TPH and other petroleum related chemicals from this facility.

Acenaphthene in Baseflow. In OF245, acenaphthene was detected in 86% of the baseflow samples and at concentrations about four times higher than those found in stormwater. It appears that a source is ongoing since acenaphthene was detected at the same levels in the

WY2004-WY2011 baseflow events. The source of acenaphthene during baseflow conditions is unknown in this basin.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

A.8 OUTFALL 254

A.8.1 OUTFALL 254 DRAINAGE BASIN

The OF254 drainage basin is located on the tideflats and is the fifth largest basin in the Foss Waterway Watershed (see 2012 Report, Figure 1-3). It is approximately 119 acres and drains through a 42-inch outfall pipe located at the head of Wheeler-Osgood Waterway on East "F" Street just north of East 15th Street. The drainage area includes East 15th Street from East "D" Street to St. Paul Avenue, East "J" Street from East 15th Street to the 1600 block, and St. Paul Avenue from East 11th Street to Portland Avenue.

The majority of the OF254 drainage basin is zoned for industrial use, but small commercial areas are present near the shoreline.

A.8.2 2002-2012 SOURCE CONTROL ACTIVITIES

Since 2002, significant work has been accomplished in the OF254 drainage basin including intense business inspections, complete line cleaning and identification and removal of point sources. A discussion of specific major source control activities is provided in the following paragraphs.

Source control activities completed through 2012 are listed in Table A.1-1. From August 2001 through 2012, approximately 49 significant actions have occurred within the OF254 drainage basin. A breakdown of the types of actions taken in the basin is presented in Table A.1-1.

As part of the City-wide business inspections program, nine additional business inspections were conducted in the OF254 drainage basin in 2012. All of the businesses in the basin have been inspected at least three or more times since 2001. These business inspections provide source control through education and through implementation of nonstructural BMPs. These actions help prevent materials from coming into contact with stormwater and help promote activities that reduce pollutants in stormwater.

Stormwater treatment devices currently in place also remove solids and the associated particulate-bound chemical from stormwater. The locations of private onsite stormwater treatment devices in the OF254 drainage basin are shown on Figure A.1-1. In 2012, one new BMP was installed in the basin (see Table A.1-1). With future redevelopment in the basin, more of these onsite treatment systems will be installed and over time they will help to decrease the solids load and the associated particulate chemical load to the waterway.

Storm System Cleaning. Between January and June 2006, the entire storm sewer system in the OF254 drainage basin was cleaned, including laterals and CBs. Sweeping and installation of onsite treatment systems are expected to reduce the solids load and associated PAHs load to the waterway.

Since the time of the complete cleaning of the OF254 basin, additional cleaning has been performed in the basin in isolated areas. These cleaning and video inspection activities have been done for a variety of reasons, including: areas identified as needing maintenance through the STRAP program, complaints, and business inspection follow-ups. A summary of pipe cleaning projects completed during 2012 is provided in Table A.8-1.

Northern Pacific Rail Yard Oil Pipeline and Standard Oil Site Cleanup. A possible source of PAHs in the OF254 drainage basin may have been associated with the Northern Pacific Rail yard

oil pipeline area along East "D" Street to the old Standard Oil site. In 2009, the Northern Pacific Rail yard oil pipeline area along East "D" Street and East 19th Street was remediated as directed by Ecology. In 2010, the final phase of this cleanup within the OF254 drainage basin was completed. Ecology provided oversight of this remediation project.

Northwest Detention Center DEHP Investigation. The Northwest Detention Center (NWDC, formerly known as INS), a private immigration-related prison, was constructed at the former Hygrade Meat site. Previous sediment results collected from the City's storm system showed that NWDC was a point source of DEHP (City of Tacoma 2009b). In WY2006 through WY2008, DEHP was found in the inlet pipe to the stormwater pond at concentrations up to 790,000 µg/kg.

In 2009, NWDC was remodeled and media filtration stormwater treatment devices were installed. In 2010, Tacoma confirmed that the DEHP-laden sediments were retained in the stormwater treatment devices. DEHP was less than 1,500 µg/kg immediately downstream in the City system. However, DEHP-laden sediment remained at levels up to 2.7M µg/kg in one part of the private drainage. Further sampling and source tracing identified one source of the DEHP to be laundry lint that accumulated on the open ground and eventually washed into the private storm drain system. Filters were placed in the catch basins, and Environmental Compliance required the property owner to provide regular maintenance of these devices. In 2012, inspectors returned to the facility for the annual inspection and found the filters to be impacted. The City submitted a corrective action letter and subsequently confirmed compliance during a follow-up inspection. These inspection reports are provided in Attachment A.8. This site will require continued inspection and monitoring to ensure that proper maintenance of the treatment devices is being performed.

Baseflow Quality in WY2007 and WY2008. In two different years for several different chemicals, baseflow quality was above average. In WY2008 (Year 7), TSS and DEHP were detected at higher concentrations in the dry weather events, well above all the other years (see boxplots in Appendix G). In WY2007 (Year 6), lead was detected at higher concentrations in the dry weather events, well above all the other years (see boxplots in Appendix G). The dry weather DEHP and lead concentrations for those years were at the same levels as the average stormwater concentrations for OF254. In contrast, these TSS baseflow concentrations were well below TSS stormwater concentrations. The source of the dry weather concentrations is unknown. These concentrations were not repeated in the following baseflow monitoring years, WY2009 through WY2011.

Enhanced Street Sweeping. In January 2007, the City's street sweeping program was transferred from the Streets and Grounds division to the Sewer Transmission Maintenance section for continued implementation. The program was enhanced at that time in an attempt to reduce sediment buildup in the storm sewer system. The schedule was set to sweep all areas of the City twice per year, with more frequent sweeping in the business districts and on major arterials. The 12 primary business districts in the City are swept at night two to three times per week and major arterials are swept on a three week rotation. The City also increased communications with residents, which helped raise awareness of the importance of the street sweeping program.

In 2007, when the work was transferred over, sweeping was done with a combination of mechanical and vacuum sweepers. In 2008, the City started the transition from mechanical sweepers to regenerative air machines. The City currently uses four regenerative air sweepers. GPS is used to track the number of miles swept and the amount of material removed is recorded.

Notice of Violation. A second warning letter and a subsequent Notice of Violation were issued to First Student, Inc. for discharge of diesel fuel during their operations. The City had responded to numerous reports of spills at the site due to employee failing to properly secure fuel tank caps leading to releases of diesel on to the roadway. Copies of these enforcement letters are included in Attachment A.8.

ATTACHMENT A.1 - CITYWIDE

Table A.1-1
Source Control Actions by Outfall - 2001 to 2012

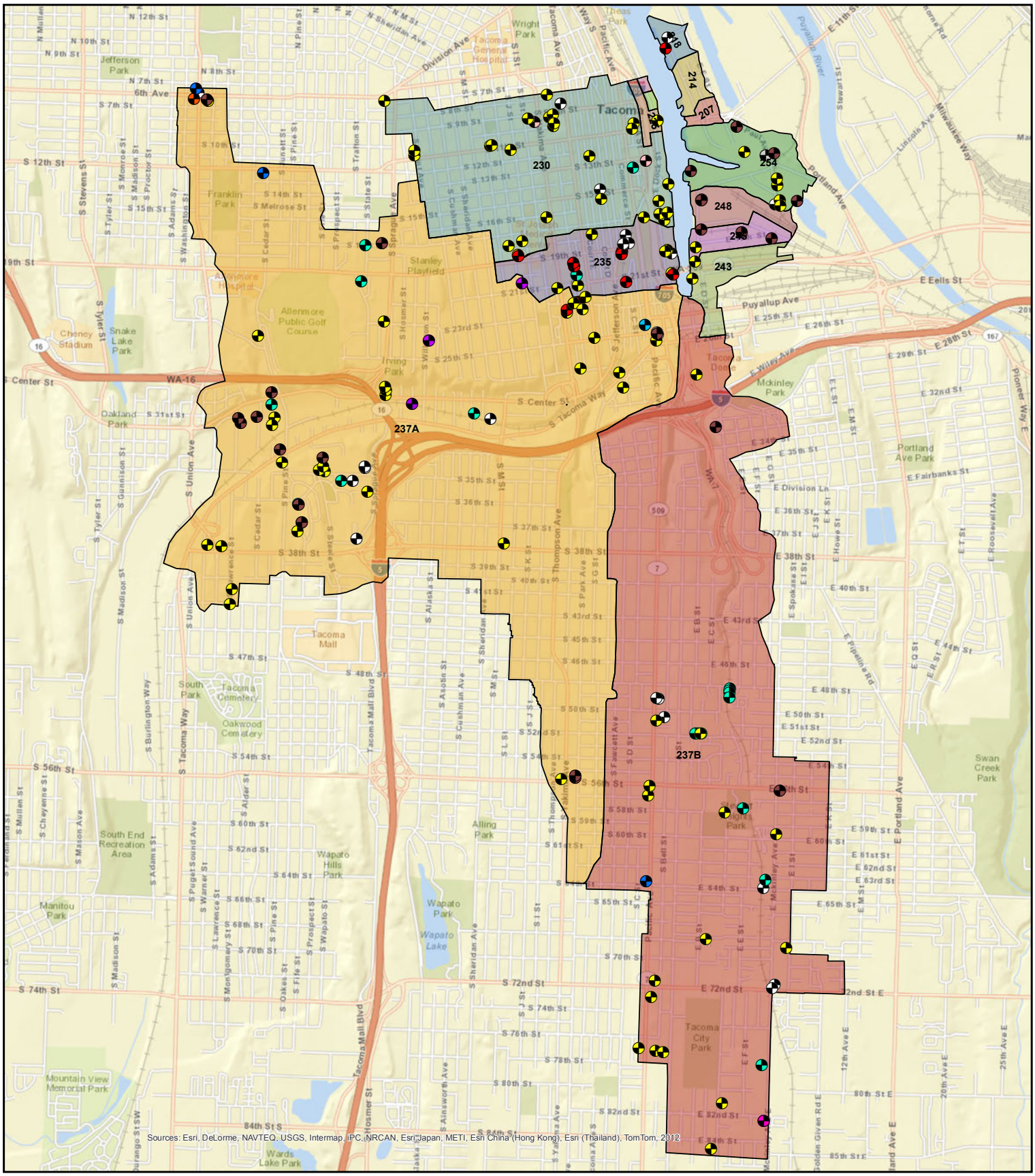
Action	Thea Foss	230	235	237A	237B	243	245	254
Construction	76	29	17	18	4	2	--	6
Inspection[1]	92	14	15	24	9	7	7	16
Facilities	52	8	8	14	9	4	3	6
Maintenance	45	11	8	4	3	5	7	7
Point Sources	40	4	3	15	10	--	2	6
UST	30	10	4	7	4	2	3	--
Cleanup Actions	18	2	2	4	--	6	2	2
Spill[1]	21	2	--	7	1	3	5	3
Fines[1]	11	1	1	4	--	--	2	3
Education	5	4	1	--	--	--	--	--
Total	**390**	**85**	**59**	**97**	**40**	**29**	**31**	**49**

[1]The number reported includes notable actions only. The total numbers of inspections and spills are provided in Section 2.2.2.

Table A.1-2
2012 Thea Foss Waterway New Treatment Device Information by Outfall

Outfall	Date	Approved Permits	Parcel #	Facility Name	Address	Treatment Device	Inspection #
207	12/20/2012	PW-10-0128	Near 8950000910	11th St Bridge Rain Garden	Near 501 East 11th St	200 foot Rain Garden	12-BI-1487
225	12/20/2012	400001888164	8950002101	11th St Bridge	1025 Dock Street	Contech Stormfilter Vault with 8 filters	
230	6/4/2012	60000030505	N/A	Franciscan Parking Garage	Corner of MLK & 16th Corner of MLK & 17th	2 Contech Stormfilters Contech Stormfilters 2	12-BI-0551
235	9/4/2012	40000146321	2021060013	Holiday Inn Express	2102 S C ST	CB with 2 Stormfilters	12-BI-0925
	10/16/2012	40000163788	2890000160	Vintage	4023 S. Lawrence	Vault with 17 Contech Stormfilters	12-BI-1142
	5/21/2012	40000155071	2019060011	Tioga Library	1905 Jefferson Avenue	CB with 4 Contech Stormfilters	12-BI-0457
237A	11/28/2012	40000182961	5004510040	SFR	205 E. 52nd St	50 foot Bioswale	12-BI-1363
	9/19/2012	40000179195	5004510050	SFR	203 E. 52nd St	50 foot Bioswale	12-BI-0991
	8/14/2012	40000162493	320331268	Cambodian Buddist Temple	8208 McKinley Ave	Porous Asphalt	12-BI-0851
	7/26/2012	40000175082	5004510010	SFR	211 E. 52nd St	50 foot Bioswale	12-BI-0778
	1/24/2012	40000146239	320073069	Goodwill	3102 S. Pine St	8' x 16' Vault with 28 Contech Stormfilters	12-BI-0034
	9/13/2012	60000017385	N/A	Vintage	Corner of S. 43rd & Lawrence	72 inch MH with 3 Contech Stormfilters	12-BI-0964
237B	5/15/2012	40000172256	20761500040	Tacoma Platinum Parking	109 E. 26th St	1 CB with 2 Contech Stormfilters	12-BI-0444
243	10/1/2012	40000179032	8950001761	American Plating	2110 E. D St	72-inch MH with 6 Stormfilters CB with 3 Stormfilters 1	12-BI-1061
254	8/28/2012	400000163583	320041044	Kleen Blast	1448 St. Paul St	Above Ground Settling Tank	12-BI-0901

Figure A.1-1
Water Quality Devices in theThea Foss Basin (2012)



Legend

- Vortechs System
- CB/Sump
- Sock Filter
- Above Ground Settling Tank
- CB Filter
- Oil/Water Separator
- Fossil Filter
- Stormceptor
- Stormfilter
- Bioswale
- Infiltration Pond
- Porous Asphalt

N

0 0.25 0.5 1 Miles

Map Date: March 20, 2013
Source: Environmental Services Division,
Public Works Department City of Tacoma

Center for Urban Waters
326 East D Street, Tacoma WA 98421
(253) 591-5588

Tacoma

Datarequest/MHenley/Thea Foss Monitoring Program/Figure A-1

March 25, 2013

Memorandum

To: Mary Henley

From: John Sunich

Date: February 1, 2013

Re: Foss Business Inspections and Spills/Complaints from 2012

Mary,

Here are some tables of the 2012 Business Inspections and Spills/Complaints that took place in the Thea Foss drainage basin.

Total Business Inspections & Follow Ups Completed in The Foss Drainage Basin	199
Total Spills/Complaints in the Foss Drainage Basin	322

2012 Foss Spills/Complaints Break down	
Water	36
Sewage	71
Petroleum	94
Mud	51
Paint	4
Soap	8
Chemical	9
Concrete	4
Garbage	25
FOG	6
Unknown	14
Total	322

Outfall	**# of Inspections**
OF237A	76
OF237B	20
OF230	29
OF254	9
OF207	0
OF214	0
OF222	1
OF223	1
OF225	0
OF235	30
OF243	5
OF245	4
OF248	0
Total Foss Inspections	**175**
Total Including Follow Ups	**199**

2011 Citywide Business Inspections and Spills/Complaints

Total Inspections	1045
Total Spills/Complaints	932

Memorandum

To: Mary Henley

CC: Mike Kennedy, Lorna Mauren, Shauna Hansen

From: John Sunich

Date: 3/25/2013

Re: 2012 Year end Complaints/Spills and Inspections data for Thea Foss Watershed

---

I have gathered the following information detailing the amount of work performed by the Source Control Representatives for the Surface Water and Wastewater Source Control units. Please keep in mind that these numbers only reflect a portion of our overall program. Citizens for a Healthy Bay called in 16 spills/complaints within the Foss Drainage during 2012. City of Tacoma Employees called in 147 spills/complaints within the Foss Drainage.

Complaints and Spills – 11 years of database records (2002-2012)**

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Water	11	25	13	21	29	15	19	13	22	23	36	227
Sewage	9	25	31	23	34	16	20	23	34	64	71	350
Petroleum	47	55	70	53	42	57	35	33	81	90	94	657
Mud	23	22	18	21	13	17	21	17	13	26	51	242
Paint	9	12	9	9	3	7	4	3	4	4	4	68
Soap	18	22	9	4	11	1	4	16	9	5	8	107
Chemical	17	13	20	11	6	3	13	6	8	11	9	117
Concrete	3	6	6	6	4	9	9	3	3	5	4	58
Garbage						12	0	14	25	10	25	86
FOG						9	4	5	2	6	6	32
Unknown	15	17	6	28	77	12	15	14	11	18	14	227
Total	152	197	182	176	219	158	144	147	212	262	322	2171

****Numbers are based on sorting of database and may not include items entered incorrectly.**

Thea Foss Spills and Complaints

Top 4 complaints for eleven years are (corresponding number of received calls):

- Petroleum products (657)
- Sewage (350)
- Mud/Silt/Muddy water (242)
- Water (Flooding/Standing/Drainage) (227)

Business Inspections

- For 2012 we had 1045 business inspections or follow ups for all of the City of Tacoma, with 199 inspections or follow ups in the Thea Foss watershed.

March 15, 2013

Memorandum

To: Mary Henley

From: Kurt Fremont

Date: March 14, 2013

Re: 2012 Enforcement Actions, Warnings and NOVs - Stormwater

Mary,
Here's a list of Warning Letters and Notices of Violation issued in 2012 for stormwater code violations. Noted are discharges that originated in the Thea Foss Basin.

Warning Letters	Recipient	Violation	Foss Discharge
Oct. 5, 2012	Big Whisky Saloon	Illicit Discharge; Garbage	Yes, 223
Jan. 14, 2012	Ceccanti Construction	Illicit Discharge; Slurry	Yes, 222
April 25, 2012	First Student, Inc.	Illicit Discharge; Fuel	Yes, 254
Feb. 14, 2012	Holiday Inn Express	Illicit Discharge; Const.	Yes, 235
June 26, 2013	Mid Mountain Contractors	Illicit Discharge; Const.	Yes, 237A
Nov. 15, 2013	R. L. Alia Construction	Illicit Discharge; Const.	No
July 6, 2013	Sheer Vision Company	Illicit Discharge; Cleaner	Yes, 230

Notices of Violation	Recipient	Violation	Foss Discharge
July 9, 2012	Mid Mountain Contractors	Illicit Discharge; Const.	Yes, 237A
Nov. 7, 2012	Puget Paving	Illicit Discharge; Sewage	No
Dec. 21, 2012	R. L. Alia Construction	Illicit Discharge; Const.	No.
Sept. 18, 2012	First Student, Inc.	Illicit Discharge; Fuel	Yes, 254

Kurt Fremont
City of Tacoma
Environmental Services
Work: (253) 502-2238 ~Mobile: (253) 377-5920
kfremont@cityoftacoma.org

City of Tacoma
Environmental Services Department

January 14, 2012

SENT VIA CERTIFIED MAIL

Brian DeCapp
Project Manager
4116 Brookdale Road East
Tacoma, WA 98446

Subject: Stadium Way Construction Project Warning Letter
Discharges to City Stormwater System

Dear Mr. DeCapp:

The City of Tacoma Environmental Services witnessed the discharge of drilling slurry into the City's stormwater system from your Stadium Way job site. The City has an obligation, under permits issued by the Washington State Department of Ecology, to monitor and protect its municipal storm and sanitary sewer systems. Local requirements for stormwater and wastewater discharges to the municipal sewer system are established in the Tacoma Municipal Code Chapter 12.08.

Storm Drainage System
All waters entering Tacoma's storm drainage system ultimately discharge into the Puget Sound by direct piping or via lakes, creeks, streams or ponds without treatment. The City of Tacoma is obligated to maintain water quality by preventing pollutants from entering waters of the state such as those just mentioned. Therefore, inspections are conducted to ensure that private facilities such as yours, are operated properly and do not adversely affect Tacoma's storm drainage system. The stormwater drainage from this area discharges to Puget Sound without the benefit of treatment.

Corrective Action Required
Based on field observations documented in the enclosed inspection report, the following concern was noted and requires your timely corrective action:

1. Immediately cease discharging drilling slurry waste and associated pollutants to the City's stormwater system.

Tacoma Municipal Code (TMC) 12.08 prohibits the discharge of pollutants, including sediments, into the City system. Environmental Services has responded to previous TMC 12.08 violations from your company's activities and continues to request your voluntary compliance. Please be advised, future violations of this nature will result in escalating enforcement actions, including but not limited to, cost recovery and/or Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

Thank you for your time and attention to this aspect of your business operations. We look forward to your commitment to protect our waterways. Should you have any questions regarding the contents of this letter, please contact Kurt Fremont at (253) 502-2238 or kfremont@cityoftacoma.org.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:cfp
Enclosures: Complaint response form

By First Class and Certified Mail: 7003 1010 0004 3560 9458
\\fs005\group\envirocompliance\enforcement\ceccanti letter-.docx

13-0003 Environmental Services Spill Response / Complaint Form

Recorder: PTOLLEFS
Date: 1/7/2013
Anonymous ☐
Reported by: Paul Tollefson
Address:
Home Phone: Paul Tollefson
Work Phone:
Best Call Time:

COMPLAINT

Material: Mud / Muddy Water
Source: Construction Site
Receiving Waters: Puget Sound
Drainage Basin:
Incident Date: 1/3/2013
Activity: Unknown / Other
Quantity: Unknown Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Stadium Way construction site discharging turbid & high pH water to municipal storm system,
Business: Ceccanti Inc.
Address:
Parcel No.:
Contact: Brian DeCapp (Ceccanti)
Phone: (253) 377-7358
Comments: Site visit made in order to address ongoing issues with discharging turbid & high pH waters to the City's municipal storm drainage system from the Stadium Way Arterial project.

NOTIFICATIONS / ACTIONS

Investigator: Paul Tollefson
☑ **Site Visit & Date:** 1/7/2013

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☑ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☐ Photos Taken
☐ No Action	☑ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments: The purpose of this site visit was to meet with all concerned parties to address ongoing problems of discharging turbid, high pH water(s) from the Stadium Way Arterial project to the City's municipal storm drainage system. DBM is the drilling contractor, who is a subcontractor to Ceccanti Inc. During the site visit, we noted sediment that could easily be carried away by surface (rain) water. Also, Mark Schuler had previously tested water entering a municipal catch basin which indicated a pH of 11.0 which exceeds Water Quality regulations. We espressed to both Brian DeCapp (project manager) and Jack Campbell (Superintendent) that subcontractors actions are the responsibility of the prime contractor, in this case Ceccanti Inc. During the meeting, I stated that a letter to Ceccanti would be forthcoming to address all issues. This letter has been developed and is in for finalizing now.

FOLLOW UP ACTION(S):

☑ Owner Notified In Person	☑ Cleanup Required	☐ Transmission Notified
☑ Caller Notified 1/3/2013	☐ Cost Recovery	☐ Streets & Grounds Notified
☑ BMPs	☑ Inspection Required	☑ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☐ Completed

City of Tacoma
Environmental Services Department

October 5, 2012

SENT VIA CERTIFIED MAIL

Paul Muller
Big Whisky Saloon
100 South 9th Street
Tacoma, WA 98402

Warning Letter – Big Whisky Saloon
Illicit Discharge of Solid Waste to the City Stormwater System

Mr. Paul Muller:

City of Tacoma Environmental Compliance staff documented the discharge of solid waste (bar debris) to the City's stormwater system from cleaning activity at the Big Whiskey Saloon at 100 South 9th Street on three separate occasions. Big Whisky Saloon must cease the discharge of solid waste and associated pollutants to the City's stormwater system.

Discharges of pollutants to the City stormwater system are prohibited by Tacoma Municipal Code Chapter (TMC) 12.08.080. No person shall throw, drain, spill, or otherwise discharge, cause, or allow others under its control to throw, drain, spill, or otherwise discharge in the municipal storm drain system and/or surface and ground waters any materials other than stormwater. Surface water from this area drains to the Thea Foss Waterway without the benefit of treatment.

The City of Tacoma is required to implement an enforcement strategy under Washington State Department of Ecology permit requirements. Future prohibited discharges to the stormwater system may result in escalating enforcement actions including, but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

If you have any questions, please contact Environmental Compliance Source Control Representative Mark Schuler at mschuler@cityoftacoma.org or (253) 502-2174.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:MDS:cfp
Enclosures: TMC 12.08.080, Drainage map, Spill/Complaint Reports

Sent by First Class and Certified Mail: 7003 1010 0004 3560 8130
\\fs005\group\EnviroCompliance\Enforcement\Warning Letters\Big Whisky Saloon Warning Letter 2012.docx

12-0595 Environmental Services Spill Response / Complaint Form

Recorder: MSCHULER
Date: 7/18/2012
Anonymous ☐
Reported by: L Nokes - COT
Address:
Home Phone: L Nokes - COT
Work Phone: 502-2274
Best Call Time:

COMPLAINT

Material: Debris / Garbage
Source: Business
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 7/12/2012
Activity: Unknown / Other
Quantity: Unknown Unknown / Other

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Dumping into CB at S. 9th and Court A
Business: Big Whisky
Address: 100 S. 9th
Parcel No.:
Contact: Paul Muller
Phone: 253-310-7939
Comments: While Laura and Tony were out sampling they encountered a bunch of beer bottle caps and the odor of cleaner coming from a catch basin outside above bar.

NOTIFICATIONS / ACTIONS

Investigator: Mark Schuler
☑ **Site Visit & Date:** 7/18/2012

ACTION(S) TAKEN:

☐ Enforcement	☐ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:
7/18/2012 MDS - On site I checked the CB and found a wide assortment of bottle caps. No one was at the business.
7/19/2012 MDS - On site I spoke with owner Paul Muller and showed him the CB with the bottle caps. He was unaware of the dumping into the CB, apologized and said he would clean it out. He also said he would have a talk with his cleaning crew. I informed him that this drain discharges straight to the Thea Foss Waterway which is a Super Fund Cleanup Site. Paul was also getting ready to pressure wash the CBs. He had filter inserts for the CBs and I also told him about check dams and gave him a copy of the city's washing BMPs. I thanked him for his co-operation and told him to give me a call if he had any questions.

FOLLOW UP ACTION(S):

☑ Owner Notified	In Person	☑ Cleanup Required	☐ Transmission Notified
☑ Caller Notified	7/19/2012	☐ Cost Recovery	☐ Streets & Grounds Notified
☑ BMPs		☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date: 7/30/2012
☑ **Completed**

1

2

12-0665 Environmental Services Spill Response / Complaint Form

Recorder: MSCHULER
Date: 8/20/2012
Anonymous ☐
Reported by: M Schuler
Address:
Home Phone: M Schuler
Work Phone: 502-2174
Best Call Time:

COMPLAINT

Material: Debris / Garbage
Source: Business
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 8/20/2012
Activity: Cleaning / Disposing
Quantity: Unknown Unknown / Other

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Bar Garbage dumped in CB
Business: Big Whisky
Address: 100 S. 9th
Parcel No.:
Contact: Paul Muller
Phone: 253-310-7939
Comments: Driving my area I noticed that Big Whisky had a parking lot event over the weekend and decided to recheck the CB on the corner of 9th and Court A.

NOTIFICATIONS / ACTIONS

Investigator: Mark Schuler
☑ **Site Visit & Date:** 8/20/2012

ACTION(S) TAKEN:

☐ Enforcement	☐ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☐ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:
8/20/2012 MDS- Checked the CB which still had a construction sock in it, and it was full of bottle caps and bar straws. Made a call to Paul Miller (bar owner) and left a voicemail, stressing that this practice was unacceptable and to please give me a call.
9/4/2012 MDS- Stopped by and spoke with Paul in person and he explained that he was going to clean it out today and that he fired his old cleaning company.
9/5/2012 MDS- Drive by inspection and CB was cleaned out.

FOLLOW UP ACTION(S):

☑ Owner Notified In Person	☐ Cleanup Required	☐ Transmission Notified
☐ Caller Notified	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☑ **Completed**

1
3

2
4

12-0750 Environmental Services Spill Response / Complaint Form

Recorder: MSCHULER
Date: 9/27/2012
Anonymous ☐
Reported by: M Schuler
Address:
Home Phone: M Schuler
Work Phone: 502-2174
Best Call Time:

COMPLAINT

Material: Debris / Garbage
Source: Business
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 9/24/2012
Activity: Unknown / Other
Quantity: <5 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Bar debris in CB
Business: Big Whisky
Address: 100 S. 9th
Parcel No.:
Contact: Paul Muller
Phone: 253-310-7939
Comments: Driving my area I stopped by to check on CB following a weekend parking lot party.

NOTIFICATIONS / ACTIONS

Investigator: Mark Schuler
☑ **Site Visit & Date:** 9/24/2012

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☑ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments: 9/24/2012 MDS- Found more bar debris in the CB. Construction sock was was in CB and debris was captured in sock. 9/27/2012 MDS- Call bar owner Paul Muller and explained that debris was on CB.

FOLLOW UP ACTION(S):

☑ Owner Notified Phone Call	☑ Cleanup Required	☐ Transmission Notified
☐ Caller Notified	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO

Approved By:
Date:

☐ Completed

1

2

LOWER EAST 11TH STREET
EAST 11TH STREET

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Paul Muller
Big Whiskey Saloon
100 South 9th Street
Tacoma, WA 98402

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X

☒ Agent
☐ Addressee

B. Received by (*Printed Name*) PAUL MULLER

C. Date of Delivery 10-9-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number
(*Transfer from service label*) 7003 1010 0004 3560 8130

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

City of Tacoma
326 East D Street
Tacoma, WA 98421
Attn: Schuler

City of Tacoma
Environmental Services Department

November 7, 2012

Gunnor Gehring
Puget Paving
10817 26th Avenue South
Tacoma, WA 98499

Hand Delivered
11/15/12
Received by Date

Subject: **Notice of Violation and Supplemental Charges**

Dear Mr. Gehring:

On September 4, 2012, City of Tacoma (City) Environmental Service's staff documented wastewater management code violations at 84th and J Street. The City's Municipal Sanitary Sewer System had been impacted with asphalt debris from Puget Paving's operations, which caused untreated wastewater to overflow from the conveyance system.

Notice of Violation – Illicit Discharge to Municipal Storm Drain

Enclosed you will find a Notice of Violation describing Puget Paving's failure to control the discharge of material from paving operations at 8204 South "J" Street to the Municipal Sanitary Sewer System causing a Sanitary Sewer Overflow. This discharge violated the Tacoma Municipal Code (TMC) 12.08 which prohibits:

- Discharging a solid substance to the Municipal Sanitary Sewer System which may cause obstruction,
- Causing the Municipal Sanitary Sewer System to become overloaded,
- Causing the City to violate the terms of its National Pollutant Discharge Elimination System Permit.

This Notice of Violation also assesses a charge of **$7,489.21** for the City to recover expenses incurred as a result of the violations, in accordance with TMC 12.08.610 *Property owner liability-Supplemental charges.*

Appeal Process

This Notice of Violation represents a determination by the Director that a violation of TMC 12.08 has occurred, which is final unless you appeal this Notice of Violation to the City Hearing Examiner and request a hearing. If you decide to file an appeal, you must do so within 30 days from your receipt of this Notice. (Pursuant to TMC 12.08.675.C, "Proof of service [receipt by you] shall be established by the date and signature of the addressee on the certified mail "return receipt" form, or upon the third day following the date upon which the Notice of Violation was placed in the mail, unless the third day falls on a Saturday, Sunday, or legal holiday, in which event service shall be deemed complete on the end of the next day which is neither Saturday, Sunday, or a legal holiday.") The procedures for filing an appeal are set forth in TMC 12.08.675 and TMC 12.08.678.
Appeals must be directed to:

326 East D Street ▮ Tacoma, Washington 98421-1801
Phone (253) 591-5588 ▮ http://cityoftacoma.org ▮ Fax (253) 591-2295

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

Sincerely,

John O'Loughlin, P.E.
Division Manager, Science and Engineering

JO:AA:cfp

Enclosures: Notice of Violation

cc: Michael Kennedy, City of Tacoma
Eun Joo Ebenhoh, City of Tacoma

File: \\fs005\group\EnviroCompliance\Enforcement\NOV\Puget Paving NOV Cover Letter.docx

CITY OF TACOMA
Environmental Services Department

IN THE MATTER OF NOTICE OF VIOLATION with SUPPLEMENTAL CHARGES	)))	No. 12-005

Gunnor Gehring
Puget Paving
10817 26th Avenue South
Tacoma, WA 98499

I. Legal Authority and Notice of Violations.

A. In accordance with Tacoma Municipal Code (TMC) 12.08.200, the City of Tacoma (City) Environmental Services Department is issuing this Notice of Violation with Supplemental Charges ("Notice") to Puget Paving, 10817 26th Avenue South, Tacoma, WA 98499 for causing a Sanitary Sewer Overflow on September 4, 2012, resulting from:

- The discharge of solid substance into the City's Municipal Sanitary Sewer System in violation of TMC 12.08.020.B.4.
- The discharge of a substance that caused the City's Municipal Sanitary Sewer System to become overloaded resulting in excessive City collection or treatment costs in violation of TMC 12.08.020.B.14.
- TMC 12.08.610 authorizes the City to assess supplemental charges to recover the costs of responding to violations of Chapter 12.08 TMC from owners of the property where the discharge originates, and from persons otherwise responsible for such discharges.

II. Background Facts.

A. On September 4, 2012, City Environmental Services staff responded to a notification that a Sanitary Sewer Overflow was occurring at 84th and J Street. Approximately 150 gallons per minute of untreated sewage was overflowing from a manhole above the City's sanitary sewer mainline and flowing into the nearby stormwater conveyance system which discharges to the Hosmer Holding Basin and Ward's Lake.

B. At about 21:00hrs, City Transmission crews began working to clear a blockage in the City's sanitary sewer mainline, which was causing the Sanitary Sewer Overflow. City crews installed a temporary pumping system and were able to re-route the sanitary flow, ceasing the Sanitary Sewer Overflow approximately four hours later at around 23:45hrs.

C. City Transmission crews were unable to clear the blockage using conventional methods and returned the morning of September 5, 2012, to perform confined space entry to clear the sanitary sewer mainline. City Transmission crews removed approximately one yard of asphalt rubble and debris from the sanitary sewer mainline on this date and

determined that such materials caused the blockage leading to the Sanitary Sewer Overflow.

D. On September 4, 2012, Puget Paving placed approximately 700 lineal-feet of asphalt on South J Street at the location of that evening's Sanitary Sewer Overflow. City Environmental Services staff investigating the incident determined that the blockage leading to the Sanitary Sewer Overflow was caused by Puget Paving when it displaced a manhole cover during its paving operation on September 4, 2012, which allowed un-compacted hot mix asphalt to be discharged into the manhole structure and sanitary sewer mainline.

III. Assessment of Supplemental Charges.

A. TMC 12.08.610 A. *Property owner liability – Supplemental charges* states in pertinent part:

"The owner(s) of property, whether inside or outside the City, from which a material in violation of this chapter is discharged into the Municipal Sewer System shall be liable to pay any supplemental charges the City incurs to respond to such violation. Liability for supplemental charges under this section shall also apply to any person responsible for discharging a material in violation of this chapter into the Municipal Sewer System, regardless whether they own the property from which the prohibited discharge originates."

B. The City hereby assesses **$7,489.21** in supplemental charges against Puget Paving for the expenses the City incurred responding to the unlawful discharge of solid substances into the City's Municipal Sanitary Sewer System caused by Puget Paving on September 4, 2012. A description of these expenses are included in Exhibit A to this Notice.

C. Under TMC 12.08.610 2, these supplemental charges become due and payable to the City within thirty (30) calendar days of your receipt of this Notice or, if appealed and affirmed, within 30 calendar days of receipt of the City Hearing Examiner's decision. Please submit your payment to City of Tacoma at:

Department of Financial Services
Tacoma Public Utilities
3628 South 35th Street
Tacoma, WA 98409
Attn: Eun Joo Ebenhoh

IV. Appeal Process.

This Notice of Violation with Supplemental Charges represents a final determination by the Director that violations of Chapter 12.08 TMC have occurred. If you decide to contest this Notice you may do so by filing an appeal to the City of Tacoma Hearing Examiner and request a hearing within thirty (30) days from the date of receipt of this Notice. (Pursuant to TMC 12.08.675.C, "Proof of service [receipt by you] shall be established by the date and signature of the addressee on the certified mail "return receipt" form, or upon the third day following the date upon which the notice of violation was placed in the mail, unless the third day falls on a Saturday, Sunday, or legal holiday, in which event service shall be deemed

complete on the end of the next day which is neither Saturday, Sunday, or a legal holiday.") The procedures for filing an appeal are set forth in TMC 12.08.675 and TMC 12.08.678.

Appeals must be directed to:

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

If you file an appeal, any hearing scheduled as a result of your appeal may be canceled if the Director finds that Puget Paving has complied with the actions required by this Notice of Violation.

Signed this 5 day of November, 2012, at Tacoma Washington.

Michael P. Slevin III, P.E.
Interim Environmental Services Director

Exhibit A

Layout SCHMIDTCE-PO ORDERS by CE - PO TEXT @4G@Active
Order 61000061081 8204 S J ST - Asphalt in MH ca
Report currency USD US Dollar

Cost elem.	Cost element name	Val in RC	Quantity	PUM	PTy	Partner obj	Source object name	Name	Purch.Doc.	PO text	DKFAc.name	Item	Posting Date	Order
5195000	Act-Labor Regular	112.28	2.500	H	ATY	521100/L50100	Sur Water Trans / Sewer Worker	Keith C Meyer					09/07/2012	61000061081
5195000	Act-Labor Regular	412.00	8	H	ATY	521100/L50120	Sur Water Trans / Sewer Equipment Oper	Gene D Beckstead					09/07/2012	61000061081
5195000	Act-Labor Regular	309.00	6	H	ATY	521100/L50120	Sur Water Trans / Sewer Equipment Oper	Gary R Nylund					09/07/2012	61000061081
5195000	Act-Labor Regular	412.00	8	H	ATY	521100/L50120	Sur Water Trans / Sewer Equipment Oper	William M Albers					09/07/2012	61000061081
5195000	Act-Labor Regular	91.00	2	H	ATY	524200/L05040	Wstwtr Transmission / Financial Asst	Linda Stimer					09/07/2012	61000061081
5195000	Act-Labor Regular	359.04	8	H	ATY	524200/L50100	Wstwtr Transmission / Sewer Worker	Craig Carter					09/07/2012	61000061081
5195000	Act-Labor Regular	359.04	8	H	ATY	524200/L50100	Wstwtr Transmission / Sewer Worker	Rodney Loos					09/07/2012	61000061081
5195000	Act-Labor Regular	269.28	6	H	ATY	524200/L50100	Wstwtr Transmission / Sewer Worker	Jeffrey Dale					09/07/2012	61000061081
5195000	Act-Labor Regular	269.28	6	H	ATY	524200/L50100	Wstwtr Transmission / Sewer Worker	Douglas A Goodspeed					09/07/2012	61000061081
5195000	Act-Labor Regular	359.04	8	H	ATY	524200/L50100	Wstwtr Transmission / Sewer Worker	Daniel Schroeder					09/07/2012	61000061081
5195000	Act-Labor Regular	359.04	8	H	ATY	524200/L50100	Wstwtr Transmission / Sewer Worker	Dennis J Murphy					09/07/2012	61000061081
5195000	Act-Labor Regular	149.30	2.500	H	ATY	524200/L50110	Wstwtr Transmission / Sewer Worker Sr	William M Roper					09/07/2012	61000061081
5195000	Act-Labor Regular	101.48	2	H	ATY	524200/L50120	Wstwtr Transmission / Sewer Equipment Oper	Douglas A Goodspeed					09/07/2012	61000061081
* 5195000	Act-Labor Regular	3,561.78												
5195001	Act-Labor Time&half	65.07	1.500	H	ATY	521100/T50100	Sur Water Trans / Sewer Worker	Keith C Meyer					09/07/2012	61000061081
5195001	Act-Labor Time&half	173.52	4	H	ATY	521100/T50100	Sur Water Trans / Sewer Worker	Keith C Meyer					09/07/2012	61000061081
5195001	Act-Labor Time&half	65.07	1.500	H	ATY	521100/T50100	Sur Water Trans / Sewer Worker	Chinda Nhem					09/07/2012	61000061081
5195001	Act-Labor Time&half	173.52	4	H	ATY	521100/T50100	Sur Water Trans / Sewer Worker	Chinda Nhem					09/07/2012	61000061081
5195001	Act-Labor Time&half	62.16	1.250	H	ATY	521100/T50120	Sur Water Trans / Sewer Equipment Oper	Gordon C Felt					09/07/2012	61000061081
5195001	Act-Labor Time&half	186.49	3.750	H	ATY	521100/T50120	Sur Water Trans / Sewer Equipment Oper	Gordon C Felt					09/07/2012	61000061081
5195001	Act-Labor Time&half	303.38	7	H	ATY	524200/T50100	Wstwtr Transmission / Sewer Worker	Dennis J Murphy					09/07/2012	61000061081
5195001	Act-Labor Time&half	43.34	1	H	ATY	524200/T50100	Wstwtr Transmission / Sewer Worker	Dennis J Murphy					09/07/2012	61000061081
5195001	Act-Labor Time&half	49.01	1	H	ATY	524200/T50120	Wstwtr Transmission / Sewer Equipment Oper	Douglas A Goodspeed					09/07/2012	61000061081
5195001	Act-Labor Time&half	147.03	3	H	ATY	524200/T50120	Wstwtr Transmission / Sewer Equipment Oper	Douglas A Goodspeed					09/07/2012	61000061081
5195001	Act-Labor Time&half	196.04	4	H	ATY	524200/T50120	Wstwtr Transmission / Sewer Equipment Oper	Douglas A Goodspeed					09/07/2012	61000061081
* 5195001	Act-Labor Time&half	1,464.63												
5295000	Act-Equipment	**234.64**	**8**	H	**ATY**	524200/E00045	Wstwtr Transmission / Truck Rodder						**09/07/2012**	**61000061081**
5295000	Act-Equipment	**154.10**	**2**	H	**ATY**	524200/E00050	Wstwtr Transmission / Truck Vactor/Combo						**09/07/2012**	**61000061081**
5295000	Act-Equipment	**616.40**	**8**	H	**ATY**	524200/E00050	Wstwtr Transmission / Truck Vactor/Combo						**09/07/2012**	**61000061081**
* 5295000	Act-Equipment	1,005.14												
**		**6,031.55**												

WASTEWATER TRANSMISSION
2201 PORTLAND AVENUE
TACOMA, WA 98421-2711
253 502 2149

TACOMA PUBLIC UTILITIES

INVOICE

All incoming payments will be first applied against any existing late charges and penalties on this account.
A late fee of 1% ($3.00 minimum) may be assessed on delinquent accounts.

ZSD_SMF_SD103_INVOICE

FOR PAYMENT ARRANGEMENTS, PLEASE CALL 253.591.5856

Bill-To-Party

PUGET PAVING & CONST INC
10817 26TH AVE S
LAKEWOOD WA 98499-8880

Information

Invoice #	90473442 Date: 11/08/2012
PO #	
Payment Terms	**Due 12/08/2012**
Customer #	400071587
Account #	300013273
Service Order #	61000061081
Sales Doc #	40029133

Description	Quantity	UM	Net Price	Net Amount
LABOR - ENV SERV -WORK FOR OTHERS	1.000	0 /ST	0.00	5,026.41
EQUIPMENT - ENV SERV - WORK FOR OTHERS	1.000	0 /ST	0.00	1,005.14
Overhead Costs				1,457.66

Invoice Subtotal:	**$7,489.21**
Taxes:	**$0.00**
Amount Due:	**$7,489.21**

PLEASE RETURN THIS STUB AND PAYMENT TO:
CITY TREASURER - P.O. BOX 11367
TACOMA, WA 98411-0367

WASTEWATER TRANSMISSION
2201 PORTLAND AVENUE
TACOMA, WA 98421-2711
253 502 2149

Changes?
[ ] Name
[ ] Address
[ ] Telephone
Provide details on back of stub.

#0003000132730#
(984998880179)
PUGET PAVING & CONST INC
10817 26TH AVE S
LAKEWOOD WA 98499-8880

Account Number:
300013273

Amount Due:
$7,489.21

Amount Enclosed:
$_____

30 000300013273 000090473442 000000748921 0

City of Tacoma
Environmental Services Department

November 15, 2012

Rick Alia
R.L. Alia Company
107 Williams Avenue
Renton, WA 98057

Hand Delivered

11/15/12
Received by Date

Subject: **SECOND Warning Letter – R L Alia:**

- **Failure to Implement Stormwater Pollution Prevention Best Management Practices**
- **Polluted Discharges to the City of Tacoma Stormwater System**

Dear Mr. Alia:

The City of Tacoma Environmental Compliance Section, (a section of the Environmental Services Department) has determined that recent R.L. Alia construction activities within the City of Tacoma has resulted in numerous TMC 12.08 violations for discharging polluted stormwater to the City's municipal stormwater system. These violations include:

- **October 30, 2012:** Discharging polluted stormwater to the City's municipal stormwater system of 1,000 NTUs from a project construction site located at East 90th and "E" Street, Tacoma in violation of TMC 12.08.080.
- **October 30, 2012:** Failure to implement Best Management Practices (BMPs) in accordance with the City of Tacoma's Surface Water Management Manual (2012) from a project construction site located at East 90th and "E" Street, Tacoma, in violation of TMC 12.08.090.
- **October 23, 2012:** Discharging polluted stormwater to the City's municipal stormwater system of 780 NTUs from a project construction site located at North 50th and Frace Street, Tacoma, in violation of TMC 12.08.080.
- **October 23, 2012:** Failure to implement Best Management Practices (BMPs) in accordance with the City of Tacoma's Surface Water Management Manual (2012) from a project construction site located at North 50th and Frace Street, Tacoma, in violation of TMC 12.08.090.
- **October 15, 2012:** Discharging polluted stormwater to the City's municipal stormwater system and failure to implement appropriate BMPs at a project construction site located at Vassault Street and North 50th Street, in violation of TMC 12.08.080 and TMC 12.08.090.
- **July 20, 2012 thru August 13, 2012**: Discharging excavation pumping and street washing materials from a project construction site at North 50th and Frace Street to the City's municipal stormwater system in violation of TMC 12.08.080.

326 East D Street ▮ Tacoma, Washington 98421-1801
Phone (253) 591-5588 ▮ http://cityoftacoma.org ▮ Fax (253) 591-2295

Environmental Compliance staff has documented these and other TMC 12.08 violations. Also documented are multiple instances where Environmental Compliance staff has provided detailed technical assistance to R.L. Alia Company to clearly communicate TMC 12.08 stormwater management compliance requirements and expectations for persons undertaking construction activities within Tacoma.

As you know, this is the second Warning Letter issued to the R.L. Alia Company. The first Warning Letter was issued on November 22, 2010, for R.L. Alia's failure to take appropriate actions to prevent construction-related polluted stormwater from entering the City's municipal stormwater system, which we noted is a violation of TMC 12.08.080.

The Environmental Compliance Section is requesting that the R.L. Alia Company take immediate steps to implement appropriate Best Management Practices to prevent or reduce polluted discharges from its project construction sites from entering the City's municipal stormwater system. City staff is willing and prepared to offer technical assistance to help R.L. Alia Company comply with the requirements of TMC 12.08.

However, please be advised that given the fact that R.L. Alia Company has now received two Warning Letters from the City, which detail stormwater management-related violations of TMC 12.08, in the event the Environmental Compliance Section documents future violations of TMC 12.08 by the R.L. Alia Company, it will recommend the Environmental Services Department pursue escalated enforcement actions against R.L. Alia Company, including, but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

If you have any questions or need more information, please contact Environmental Compliance Regulatory Compliance and Enforcement Senior Environmental Specialist, Kurt Fremont at kfremont@cityoftacoma.org, or (253) 502-2238.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:cfp

cc: Deborah Cornett, WDOE
Gary Gates, City of Tacoma
Tim Peters, City of Tacoma

\\fs005\group\EnviroCompliance\Enforcement\Warning Letters\R L Alia Second Warning Letter (2) 11-5-12.docx

City of Tacoma
Environmental Services Department

December 26, 2012

Rick Alia
R.L. Alia Company
107 Williams Avenue
Renton, WA 98057

Subject: **Notice of Violation with Civil Penalties for $2,000**

Dear Mr. Alia:

On December 11, 2012, City of Tacoma Environmental Compliance (City)staff observed mud from R.L. Alia Company's temporary storage facility at 5001 Visscher Street North had been heavily tracked out into the City right-of-way and onto Visscher Street North. Stormwater contaminated with silt and sediments from the storage facility was flowing into City stormwater catch basins located in Visscher Street North. This incident happened less than one month after the City issued a second warning letter for similar violations.

Notice of Violation:

Enclosed you will find a Notice of Violation describing R.L. Alia Company's failure to implement appropriate Best Management Practices to prevent violations of Tacoma Municipal Code (TMC) 12.08 which prohibits:

- Discharging polluting matter into the City of Tacoma storm sewer system; and,
- Causing "track-out" material to be deposited on a paved public street.

The Notice of Violation assesses a civil penalty in the amount of $2,000 to be issued to the R.L. Alia Company, attention Rick Alia, owner, pursuant to TMC 12.08.200 (Enforcement Procedures) and TMC 12.08.675 (Notice of Violation – Civil Penalties).

Appeal Process

This Notice of Violation represents a final determination by the Director that violations of Chapter 12.08 TMC have occurred. If you decide to contest this Notice of Violation you may do so, in accordance with TMC 12.08.678, by filing an appeal with the City of Tacoma Hearing Examiner within thirty (30) days from the date of your receipt of this Notice and request a hearing. (The date of receipt shall be established according to the proof of service requirements set forth in TMC 12.08.675 C.) The procedures for filing an appeal are set forth in TMC 12.08.678. Information about the process used for "hearings" before the City's Hearing Examiner can be found at TMC 12.08.675 H - K.

326 East D Street ▮ Tacoma, Washington 98421-1801
Phone (253) 591-5588 ▮ http://cityoftacoma.org ▮ Fax (253) 591-2295

Appeals must be directed to:

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

Sincerely,

for

John O'Loughlin, P.E.
Environmental Services Division Manager
Science and Engineering

JO:KF:cfp
Enclosures: Notice of Violation with Civil Penalties

cc: Deborah Cornett, Department of Ecology
Michael Kennedy, City of Tacoma
Eun Joo Ebenhoh, City of Tacoma

\\fs005\group\EnviroCompliance\Enforcement\NOV\RL Alia NOV Penalty Final Cover Letter.docx

CITY OF TACOMA
Environmental Services Department

IN THE MATTER OF NOTICE OF VIOLATION with CIVIL PENALTIES	)))	No. 12-008

Rick Alia
R.L. Alia Company
107 Williams Avenue
Renton, WA 98057

I. Legal Authority and Notice of Violations.

In accordance with Tacoma Municipal Code (TMC) 12.08.675, the City of Tacoma (City) Environmental Services Department is issuing this Notice of Violation with Civil Penalties ("Notice") in the amount of $2,000 to R.L. Alia Company, 107 Williams Avenue, Renton, WA 98057 for the following violations of Chapter 12.08 TMC:

- Unlawfully discharging polluting matter into the City of Tacoma Municipal Storm Sewer System in violation of TMC 12.08.080.A; and,
- Causing "track out" material to be deposited at and around the 5000 block of Visscher Street North, a paved public street, in violation of TMC 12.08.080.F.

II. Background Facts.

A. On December 11, 2012, City of Tacoma Environmental Compliance staff observed mud from R.L. Alia Company's temporary storage facility at 5001 Visscher Street North had been heavily tracked out into the City right-of-way and onto Visscher Street North. Photographs documenting track-out conditions observed on December 11, 2012, are included as Exhibit A to this Notice.

B. Stormwater contaminated with silt and sediments from the storage facility was flowing into City stormwater catch basins located in Visscher Street North. Stormwater from this area discharges directly to Puget Sound.

C. This observation was made less than a month after City of Tacoma Environmental Compliance staff delivered, in person, a Second Warning Letter dated November 15, 2012, to Rick Alia, owner of R.L. Alia Company. The Second Warning Letter documented multiple occasions R.L. Alia Company failed to implement Best Management Practices and discharged polluted construction-related stormwater to the City's stormwater system during 2012 and warned R.L. Alia that future violations could result in civil penalties.

D. TMC 12.08.005 J. and TMC 12.08.090 B., authorize the City to regulate direct and indirect discharges to the municipal storm drain system.

E. The City is required by Special Condition S5.C.7 of its Phase I Municipal Stormwater National Pollutant Discharge Elimination System and State Waste Discharge Permit to administer a program to reduce pollutants in runoff from areas that discharge to its municipal storm drain system by requiring Best Management Practices, among other things, to control pollution generating sources.

F. City of Tacoma Environmental Compliance staff has provided ample technical assistance on multiple occasions to the owner and operators of R.L. Alia Company over the past six months to educate the R.L. Alia Company regarding the use of Best Management Practices to properly manage and control their stormwater discharges from its construction activities, including the temporary storage facility at 5001 Visscher Street North, to prevent polluting matter from entering the City's municipal storm drain system.

G. The City is authorized under TMC 12.08.675 D., to assess a civil penalty in an amount not to exceed $5,000 for each violation of Chapter 12.08 TMC.

III. Civil Penalties.

A. For the violations referenced in Section I above, the City is assessing a civil penalty in the amount of $2,000 to be issued to the R.L. Alia Company, attention Rick Alia, owner, pursuant to TMC 12.08.200 (Enforcement Procedures) and TMC 12.08.675 (Notice of Violation – Civil Penalties).

B. In accordance with TMC 12.08.675 F., the civil penalty assessed under this Notice shall be paid to the City of Tacoma within 30 calendar days of your receipt of such Notice or, if appealed, within 30 calendar days of receipt of the Hearing Examiner's decision that civil penalties are due. Please submit your payment to City of Tacoma at:

Department of Financial Services
Tacoma Public Utilities
3628 South 35th Street
Tacoma, WA 98409
Attn: Eun Joo Ebenhoh

IV. Appeal Process.

This Notice of Violation represents a final determination by the Director that violations of Chapter 12.08 TMC have occurred. If you decide to contest this Notice of Violation you may do so, in accordance with TMC 12.08.678, by filing an appeal with the City of Tacoma Hearing Examiner within thirty (30) days from the date of your receipt of this Notice and request a hearing. (The date of receipt shall be established according to the proof of service requirements set forth in TMC 12.08.675 C.) The procedures for filing an appeal are set forth in TMC 12.08.678. Information about the process used for "hearings" before the City's Hearing Examiner can be found at TMC 12.08.675 H - K.

Appeals must be directed to:

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

If you file an appeal, any hearing scheduled as a result of your appeal may be canceled if the Director finds that R.L. Alia Company has complied with the actions required by this Notice of Violation with Civil Penalties.

Signed this 24th day of December, 2012, at Tacoma Washington.

Michael P. Slevin III, P.E.
Environmental Services Department Interim Director

Exhibit A

Environmental Services Spill Response / Complaint Form 12-0898

12-0898 Environmental Services Spill Response / Complaint Form

Recorder: MSCHULER
Date: 12/12/2012
Anonymous ☐
Reported by: M Schuler- COT
Address:
Home Phone: M Schuler- COT
Work Phone: x2174
Best Call Time:

COMPLAINT

Material: Mud / Muddy Water
Source: Construction Site
Receiving Waters: Puget Sound
Drainage Basin:
Incident Date: 12/11/2012
Activity: Unknown / Other
Quantity: 5-500 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: RL ALIA Muddy Construction Site 5100 Block Visscher
Business: RL ALIA
Address:
Parcel No.:
Contact: Rick Alia
Phone:
Comments: MDS- Driving my area I came across the spoils yard for RL Alia that had trackout and muddy water running into the storm system.

NOTIFICATIONS / ACTIONS

Investigator: Mark Schuler
☑ **Site Visit & Date:** 12/11/2012

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☑ Samples Taken

Narrative Comments: 12/11/2012 MDS- Track out was coming from 5001 N Visscher, where RL Alia has a lay down yard for a sewer project a few blocks away. Check dams were present on the east side of Visscher, but appeared to be insufficient. No check dams were placed on the west side of Visscher and the construction sock that was placed in CB 6522227was not properly installed. Turbid water from track out was flowing into CB 6522227 and CB 6507336. Both CBs enter the storm line at MH 6751126. A sample was taken inside the city's municipal storm sewer MH 6751126, from the CB line from CB 6507336. I went and found the contractor and on site inspector and showed them my sample taken from the storm system and asked them to address the track out matter. I asked onsite supervisor Jason if the front loader was running in and out of that yard and he stated yes. I came back and submitted my sample to the city lab for a turbidity reading.

FOLLOW UP ACTION(S):

☑ Owner Notified Voice Mail	☑ Cleanup Required	☐ Transmission Notified
☐ Caller Notified	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☐ Completed

1

2

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5
12/11/2012 14:03

6
12/11/2012 14:04

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12/11/2012 14:06

11

12

13

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

City of Tacoma
Environmental Services
326 East D Street
Tacoma, WA 98421-1801

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Greg Hersey
Superior Linen Service
1012 Center Street
Tacoma WA 98409

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Becky Reaves ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) BECKY REAVES C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7003 1010 0004 3560 9779

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

2012 UST List from TPCHD

Business	Site Address	Outfall	Permit Date	Permit Type	Contaminated Soil?	Soil Disposed	Groundwater Contminated?	Monitoring Wells?	# of Tanks Removed	Closed Date	Site Status
Elks	1965 S Union ST	237A	8/10/2012	Removal					1		
1st Baptist Church	902 Market ST	230	10/31/2011	Removal	Y	Y	N	N	1	1/9/2012	Closed
Willard Elementary School	3201 D ST S	237B	12/7/2011	Removal	N	N	N	N	1	10/22/2012	Closed
Apartment Complex	3831 S Yakima AVE	237A	7/30/2012	Removal	N		N	N	1	9/7/2012	Closed
UW Tacoma Joy Bldg	1720 Pacific AVE	235	9/17/2009	Removal	Y	Y			1	2/3/2012	Closed
Heidelberg Brewery	2120 S C ST	235	1/12/2012	Removal					2		Issued Permit
Cooks Concrete Co.	1521 S Grant AVE	237A	9/12/2012	Removal					2		Issued Permit
.	1701XXX COURT C	230	8/9/2012	Removal					3		Issued Permit
Garage	732 Commerce ST	230	8/2/2012	Removal					1		Issued Permit

2012 LUST List from TPCHD

Site Name	Address	Outfall	Cleanup Type	Process Type	Status	Status Date
Cooks Concrete Construction Co Inc	1521 S Grant Ave	237A	LUST	Independent Action	Awaiting Cleanup	11/29/2012

Foss Inspection Summary

ActivityID	ActivityDate	BusinessName	Address
12-BI-0222	27-Mar-12	FOSS LANDING MARINA & BOAT STORAGE	1940 E D ST
12-BI-0543	01-Jun-12	WSDOT POND I-5 & S 38TH ST	SB I-5 OFF RAMP TO S 38TH ST
12-BI-0300	12-Apr-12	FOSS HARBOR MARINA	821 DOCK ST
12-BI-1057	02-Oct-12	CLEANER PRESSURE WASHING	P. O. BOX 28
12-BI-0848	13-Aug-12	FOSS LANDING MARINA & BOAT STORAGE	1940 E D ST
12-BI-0559	06-Jun-12	SAD - SANITARY - AMERICAN PLATING	2110 E D ST
12-BI-0513	29-May-12	BRADKEN-ATLAS	3021 S WILKESON ST
12-BI-0346	24-Apr-12	SAD - SANITARY - AMERICAN PLATING	2110 E D ST
12-BI-0315	18-Apr-12	POWDER COATING SYSTEMS	109 S 25TH ST
12-BI-0226	28-Mar-12	SAD - SANITARY - AMERICAN PLATING	2110 E D ST
12-BI-0037	25-Jan-12	URBAN ACCESSORIES INC	465 E 15TH ST
12-BI-0206	22-Mar-12	COT 509 BRIDGE STORMFILTERS	1900 E D ST
12-BI-0122	16-Feb-12	HOLGATE UST SITE, FORMER TPU FACILITY	2340 S HOLGATE ST
12-BI-1435	12-Dec-12	WM. DICKSON COMPANY	SEE HISTORY BLOCK
12-BI-1426	26-Jul-12	APEX APARTMENTS-0331	2424 SOUTH 41ST ST
12-BI-1384	30-Nov-12	WM. DICKSON COMPANY	SEE HISTORY BLOCK
12-BI-1336	19-Nov-12	WSDOT HWY 16 NALLEY VALLEY PROJECT	HWY 16, CENTER & STW
12-BI-1258	08-Nov-12	WALSH TRUCKING CO LTD	2916 SOUTH TACOMA WAY
12-BI-1241	06-Nov-12	COT STREETS & GROUNDS JOB SITE	ADDRESS IN HISTORY
12-BI-1238	06-Nov-12	MOWAT CONSTRUCTION COMPANY	SITE ADDRESS IN HISTORY
12-BI-1225	05-Nov-12	ONEDURR INC	LOCATION IN FIRST BLOCK
12-BI-1075	03-Oct-12	SPRINT SWITCH CENTER FACILITY	2210 S 35TH ST
12-BI-0973	17-Sep-12	MR G'S AUTO BODY & SALES-0380	2905 M STREET SOUTH
12-BI-0910	29-Aug-12	KRISPY KREME	4302 TACOMA MALL BLVD
12-BI-0872	20-Aug-12	GRIOT'S GARAGE-0010	3333 S 38TH STREET
12-BI-0820	06-Aug-12	DAFFODIL STORAGE-1222	3501 S 38TH ST
12-BI-0797	30-Jul-12	AUTOMATED SYSTEMS OF TACOMA-0011	4110 S WASHINGTON ST
12-BI-0775	24-Jul-12	AIRGAS NOR PAC INC	2043 S 35TH ST
12-BI-0774	24-Jul-12	ALL TRANSMISSSIONS & AUTOMOTIVE	3113 S PINE ST
12-BI-0740	17-Jul-12	TACOMA DODGE INC	4101 SOUTH TACOMA WAY
12-BI-0475	21-May-12	WSDOT POND: UNION & HWY 16	2800 BLOCK, SOUTH UNION AVENUE
12-BI-0474	21-May-12	WSDOT POND: CENTER & HWY 16 OVERPASS	2200 BLOCK CENTER ST
12-BI-0418	08-May-12	TACOMA DODGE	3833 SOUTH TACOMA WAY
12-BI-0364	25-Apr-12	ARMSTRONG ROOFING	4330 S.UNION
12-BI-0083	26-Jan-12	PIERCE COUNTY EMERGENCY OPERATIONS CENTER	2501 S 35TH ST
12-BI-0060	06-Feb-12	CORSTONE CONTRACTORS LLC	SITE LOCATION IN HISTORY
12-BI-0059	03-Feb-12	ANTHONY TRUCK REPAIR	3202 36TH ST. S
12-BI-0057	02-Feb-12	TACOMA FIRE DEPARTMENT--FIRE RESPONSE	SITE LOCATION IN HISTORY
12-BI-0049	01-Feb-12	COT STORMWATER MH6775897	1900 BLOCK SOUTH TACOMA WAY
12-BI-0048	01-Feb-12	SOUND TRANSIT-D TO M ST PROJECT	323 EAST 26TH ST
12-BI-0045	31-Jan-12	SOUND TRANSIT-D TO M ST PROJECT	323 EAST 26TH ST
12-BI-0009	09-Jan-12	ARMSTRONG ROOFING	4330 S.UNION
12-BI-0006	06-Jan-12	SOUND TRANSIT-D TO M ST PROJECT	323 EAST 26TH ST
12-BI-0949	11-Sep-12	GOOD BODY SHOP	763 S 56TH ST
12-BI-0609	14-Jun-12	RITE AID #5271	7041 PACIFIC AVE
12-BI-0606	13-Jun-12	AUTOZONE	7001 PACIFIC AVENUE
12-BI-1132	15-Oct-12	TRUCK RAIL HANDLING, INC. TRH	457 E. 18TH ST.
12-BI-1120	10-Oct-12	JIMMY JOHNS	950 PACIFIC AVE
12-BI-0982	19-Sep-12	MURFS MARINE SERVICE	3202 S MASON AVE TACOMA WA
12-BI-0121	24-Feb-12	FAMOUS EZELL'S CHICKEN	1902 MLK JR. WAY
12-BI-0120	24-Feb-12	PAPA JONES BBQ	1901 MLK JR
12-BI-0999	20-Sep-12	COT C STREET CIP SEWER REPLACEMENT	
12-BI-0893	23-Aug-12	COT WATER DEPARTMENT JOB SITE	SITE ADDRESS IN HISTORY
12-BI-1262	08-Nov-12	APPTS AT 906 6TH AVE S	906 6TH AVE S
12-BI-0894	22-Aug-12	VILLAGIO II LLC	1328 MARKET ST
12-BI-1406	04-Dec-12	PHOENIX ENVIRONMENTAL SERVICES	1901 E D ST
12-BI-1125	10-Oct-12	BERRY PLASTICS	635 E. 15TH
12-BI-1101	08-Oct-12	QUINN'S BOATS LLC	1118 EAST D ST.
12-BI-1100	08-Oct-12	PETRICH MARINE DOCK	1118 EAST D ST SUITE 1

Foss Inspection Summary

ActivityID	ActivityDate	BusinessName	Address
12-BI-0570	07-Jun-12	JOHNNYS DOCK MARINA	1900 E D ST
12-BI-0481	22-May-12	JOHNNY'S DOCK	1900 E D ST
12-BI-0372	30-Apr-12	JOHNNYS DOCK MARINA	1900 E D ST
12-BI-0340	23-Apr-12	SPEED E MART	1722 MARTIN LUTHER KING JR. WAY
12-BI-0285	10-Apr-12	GOOFY GOOSE	3702 6TH AVE
12-BI-0250	02-Apr-12	WSDOT SR509/ E. D ST POND	EAST 'D' ST
12-BI-0237	29-Mar-12	SPEED E MART	1722 MARTIN LUTHER KING JR. WAY
12-BI-0154	08-Mar-12	JOHNNY'S DOCK	1900 E D ST
12-BI-0117	23-Feb-12	SPEED E MART	1722 MARTIN LUTHER KING JR. WAY
12-BI-1422	07-Dec-12	HEAVY METAL TECHNOLOGY CO	502 S 48TH ST
12-BI-1413	31-Oct-12	AUTUMN ORTHODONTIC LABORATORY	1309 S J ST
12-BI-1400	19-Oct-12	VINOSUS LLC	1741 S FIFE ST
12-BI-1399	13-Nov-12	LINDA DANFORTH DESIGNS	1901 JEFFERSON AVE, # 104
12-BI-1397	19-Oct-12	DEB HESTER & ASSOCIATES	4638 E C ST
12-BI-1393	19-Oct-12	CHRISTIAN CRAFTER	5028 S YAKIMA AVE
12-BI-1392	19-Oct-12	GAZELLE JEWLERY DESIGNS	3814 S K ST
12-BI-1381	23-Oct-12	CONSCIOUS MIND DESIGN	3133 S LAWRENCE ST
12-BI-1360	28-Nov-12	BARBOUR LAWN MOWERS REPAIR & SRVC	2338 S L ST
12-BI-1345	16-Oct-12	AMERICAN GOLD INC	15 OREGON AV #107A
12-BI-1343	04-Oct-12	GREEN HEALTH SOLUTIONS LLC	708 BROADWAY, # 201
12-BI-1337	21-Nov-12	NORTHWEST QUILT CROSSING	722 E 55TH ST
12-BI-1321	08-Oct-12	FAZER HILL CREATIONS	6003 S PARK AV
12-BI-1317	08-Oct-12	FIBERS ETC	705 COURT C
12-BI-1284	18-Oct-12	BIRKY'S	160 S 68TH ST
12-BI-1281	04-Oct-12	CUSTOM CRANKSHAFT	4319 A ST
12-BI-1250	07-Nov-12	KIM PHUOC JEWELER	759 S 38TH ST
12-BI-1233	05-Nov-12	KIM-VIET JEWELRY	756 S 38TH ST
12-BI-1215	31-Oct-12	US SHEET METAL, INC.	1325 SOUTH TACOMA WAY
12-BI-1214	31-Oct-12	NESTOR	1763 CENTER ST #A
12-BI-1213	30-Oct-12	THE HERBAL GARDENS	811 PACIFIC AVE #4
12-BI-1194	26-Oct-12	FLETT CREEK TREES	1118 E D ST
12-BI-1193	26-Oct-12	VOLKS SHOP	1118 E D ST
12-BI-1192	26-Oct-12	TECHNICAL TOOLING	1118 EAST D ST
12-BI-1141	16-Oct-12	ARCOM OIL	7515 MCKINLEY AVE #B-2
12-BI-1000	21-Sep-12	ALLENMORE GOLF COURSE	2125 S CEDAR ST
12-BI-0938	06-Sep-12	TOMLINSON LINEN SERVICE	2902 S 12TH ST
12-BI-0892	23-Aug-12	DIAMOND PARKING #431	1911 JEFFERSON AVE
12-BI-0864	16-Aug-12	ABSOLUTE APPLIANCE	1610 CENTER ST
12-BI-0796	30-Jul-12	IMPERIAL ASSOCIATES	1112 CENTER ST
12-BI-0741	20-Jul-12	WALMART	1965 S UNION AVE
12-BI-0735	19-Jul-12	PLY-TRIM WEST INC	2920 S CUSHMAN AVE
12-BI-0714	11-Jul-12	COOKS CONCRETE CONSTRUCTION CO., INC.	1521 S. GRANT
12-BI-0683	05-Jul-12	RSJ HOLDINGS LLC STORM POND	1908 S STATE ST
12-BI-0677	03-Jul-12	HWD LLC-0380	2905 S M ST
12-BI-0675	03-Jul-12	7-11 CONVENIENCE STORE	1901 S TRAFTON ST
12-BI-0614	14-Jun-12	OASIS APARTMENTS	2825 S. DELIN
12-BI-0613	14-Jun-12	WSDOT, 'M' STREET STORMWATER PONDS	S 'M' ST AND SOUTH TACOMA WAY
12-BI-0612	14-Jun-12	WSDOT I-5, YAKIMA-DELIN STORMWATER PONDS	DELIN-YAKIMA AVE. & I-5
12-BI-0563	06-Jun-12	ALLENMORE EAST CONDOMINIUMS	2440 S. STEELE ST
12-BI-0562	06-Jun-12	TACOMA SCREW PRODUCTS INC	2001 CENTER ST
12-BI-0528	30-May-12	ALLENMORE HOSPITAL (MULTICARE HEALTH SYSTEM)	1901 S UNION AV
12-BI-0527	30-May-12	ALLENMORE MEDICAL PLAZA	2202 CEDAR ST
12-BI-0526	30-May-12	ALLENMORE MEDICAL PLAZA PHASE 2	3209 S 23RD ST
12-BI-0512	25-May-12	UNIVERSITY OF WASHINGTON TACOMA PARKING LOT	1950 S. C ST
12-BI-0511	25-May-12	UNIVERSITY OF WASHINGTON - STORMCEPTOR	1711 JEFFERSON AVE
12-BI-0510	25-May-12	UNIVERSITY OF WASHINGTON, TACOMA	1900 COMMERCE ST
12-BI-0509	25-May-12	DIAMOND PARKING #431	1911 JEFFERSON AVE
12-BI-0492	22-May-12	23RD STREET HOA	1116 - 1126 S 23RD ST
12-BI-0480	22-May-12	TACOMA ART MUSEUM	1701 PACIFIC AVE

Foss Inspection Summary

ActivityID	ActivityDate	BusinessName	Address
12-BI-0463	18-May-12	TACOMA RESCUE MISSION STW-2034	425 SOUTH TACOMA WAY
12-BI-0455	17-May-12	HILLSIDE TERRACE - TACOMA HOUSING AUTHORITY	2330 S G ST
12-BI-0438	14-May-12	PAPA JONES BBQ	1902 MLK JR. WAY #A
12-BI-0437	14-May-12	EZELL'S FAMOUS CHICKEN	1902 MARTIN LUTHER KING JR WAY
12-BI-0435	14-May-12	YAKIMA VILLAS	2349 2351 YAKIMA AVE
12-BI-0432	14-May-12	19TH AND K LLC	1902 MARTIN LUTHER KING
12-BI-0416	08-May-12	GOODWILL INDUSTRIES PARKING LOT	611 S 27TH
12-BI-0414	08-May-12	GOODWILL INDUSTRIES	714 S 27TH ST
12-BI-0405	07-May-12	FINANCIER BUILDING	1517 FAWCETT AVE
12-BI-0404	07-May-12	VISION DEUCE LLC	1505 FAWCETT AVE
12-BI-0402	07-May-12	GREATER CHRIST TEMPLE CHURCH SCHOOL	1937 S G ST
12-BI-0400	07-May-12	RECALL	2365 S G ST
12-BI-0371	27-Apr-12	NATIVITY HOUSE INC	2304 JEFFERSON AVE
12-BI-0370	27-Apr-12	JOHNSTONE SUPPLY	2134 S TACOMA AVE
12-BI-0358	26-Apr-12	CITY STEPS CONDOMINIUMS	2102 - 2186 S YAKIMA AV & 2104 -2188 YAKIMA
12-BI-0357	26-Apr-12	GAS LAMP TERRACES HOA	2101-2121 S. G ST & 2101-2119 TACOMA CT
12-BI-0331	19-Apr-12	ST. JOSEPH STAFF PARKING LOTS 6 & 7	1912 S J ST
12-BI-0330	19-Apr-12	ST. JOSEPH STAFF PARKING LOT 5	1911 S J ST
12-BI-0329	19-Apr-12	ST. JOSEPH STAFF PARKING LOT 4	1908 S I ST
12-BI-0328	19-Apr-12	ST. JOSEPH MEDICAL PAVILION PAID PARKING AREAS	1802 S YAKIMA AV
12-BI-0327	19-Apr-12	ST. JOSEPH PHYSICIAN MEDICAL CENTER STAFF PARKING LOT	822 S 16TH ST
12-BI-0326	19-Apr-12	ST. JOSEPH PATIENT/VISTIOR PARKING LOT PV1	1521 S J ST
12-BI-0324	19-Apr-12	HILLSIDE GARDENS - MULTIFAMILY	1708 S G ST
12-BI-0322	18-Apr-12	ST. JOSEPH MEDICAL STAFF PARKING LOT 2	1722 S J ST
12-BI-0321	18-Apr-12	NW MEDICAL PLAZA PARKING LOT	1812 S J ST
12-BI-0320	18-Apr-12	ST. JOSEPH VALET PARKING LOT	1524 S I ST
12-BI-0310	17-Apr-12	ST. JOSEPH STAFF PARKING LOTS 3 & 3A	1602 S YAKIMA AV
12-BI-0308	17-Apr-12	ST. JOSEPH PHYSICIAN MEDICAL & OUTPATIENT CENTERS	1624 S I ST
12-BI-0307	17-Apr-12	ST. JOSEPH STAFF PARKING LOT S8	1020 S 17TH ST
12-BI-0301	12-Apr-12	2125-2135 COURT G MULTIFAM	2125-2135 COURT G ST
12-BI-0299	12-Apr-12	LEXINGTON SQUARE	602 S 23RD ST
12-BI-0298	12-Apr-12	701-709 S 23RD MUILTFAM	701-709 S 23RD ST.
12-BI-0297	12-Apr-12	ELIZA MCCABE	2315 S. YAKIMA AVENUE
12-BI-0287	10-Apr-12	TEMCO TACOMA EXPORT MARKETING CO	11 N SCHUSTER PKWY
12-BI-0269	04-Apr-12	DOCK STREET SANDWICH COMPANY	1701 DOCK ST
12-BI-0268	04-Apr-12	THEA'S LANDING	1705 DOCK ST
12-BI-0267	04-Apr-12	SOCIAL RESTAURANT	1715 DOCK ST
12-BI-0252	03-Apr-12	THE ESPLANADE	1515 DOCK ST
12-BI-0235	29-Mar-12	UNION BANK	1501 COMMERCE ST
12-BI-0231	27-Mar-12	COURTYARD BY MARRIOTT	1515 COMMERCE ST
12-BI-0230	28-Mar-12	MCCARVER VILLAGE	2434 YAKIMA COURT
12-BI-0228	28-Mar-12	VUE 25	2368 YAKIMA AVE
12-BI-0217	26-Mar-12	MUSEUM OF GLASS	1801 E DOCK ST
12-BI-0203	23-Mar-12	TRISTATE EXTERIORS-0460	1901 CENTER ST
12-BI-0200	22-Mar-12	ALBERS'S MILLS	1821 DOCK ST
12-BI-0193	21-Mar-12	UNITED WAY OF PIERCE CTY	1501 PACIFIC AVE
12-BI-0167	13-Mar-12	REGENCE BLUE SHIELD	1148 BROADWAY PLAZA
12-BI-0076	08-Feb-12	REGENCE BLUE SHIELD PARKING LOT	1502 S MARKET ST
12-BI-0022	13-Jan-12	THE NEWS TRIBUNE	1950 S STATE ST
12-BI-0017	11-Jan-12	WSDOT, POND, (SR 509/705 JUNCTION) S. 21ST & PACIFIC AVE.	
12-BI-1472	06-Sep-12	TOMLINSON LINEN SERVICE	2902 S 12TH ST
12-BI-1303	15-Nov-12	COT FIRE STATION #9	3502 6TH AVENUE
12-BI-1152	17-Oct-12	K & J FOOD MART	6405 MCKINLEY AVENUE EAST
12-BI-0799	30-Jul-12	AT&T	955 BROADWAY
12-BI-0398	03-May-12	COUNSELL, MURPHY & BOTTIGER, PS	8849 PACIFIC AVE
12-BI-0375	30-Apr-12	CITY OF TACOMA FLEET SERVICES	3639 S PINE ST
12-BI-0067	31-Jan-12	JOHNNYS DOCK MARINA	1900 E D ST

Lights & Sirens

Go behind the yellow tape with The News Tribune

Boat leaking fluids sinks in Foss Marina

Post by Stacia Glenn / The News Tribune on July 25, 2012 at 1:06 pm |

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DNR diver presumed dead off Bainbridge Island is from Puyallup

NEXT »

Tacoma receives $105,000 grant for gang reduction and intervention program

LOWDOWN ON THE SLOWDOWN TRAFFIC BLOG

CLEARED: Accident near Puyallup Fairgrounds blocking lane on SR 512

UPDATED: One seriously injured in three-car crash that blocked I-5 in Lakewood

Crash blocking lane of eastbound SR 512 in Puyallup

SEAN ROBINSON'S POLICE BEAT: TALES FROM THE GRITTY CITY

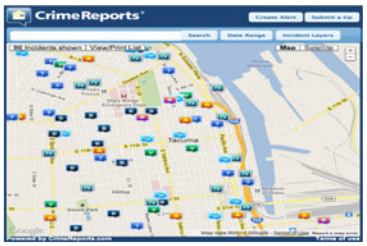
Police Beat: Party starts in borrowed house, ends in jail

Police Beat: His memory's fading, not his feelings for his 'wife'

Police Beat: No Valentine's love for shoplifting couple, dreadful woman

Police Beat: Man's bluff crumbles on mom's testimony

CRIME AND SEX OFFENDER MAP



CrimeReports.com - Interactive Crime and Sex Offender Map

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HELP OUR HABITAT Regional stewardship projects ▸▸

EPA deadline drives state to boost air rules

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Summer here today, gone Friday

KAREN MILLER
LAST UPDATED: JUNE 20TH, 2012 10:33 AM (PDT)

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Tons of storm Debris filling county's dumps

pierce county: Homeowners lining up at landfills to get rid of storm-related yard waste

LAST UPDATED: FEBRUARY 3RD, 2012 02:58 AM (PST)

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Rain records fell Thursday

Weather: Another such storm due Monday, experts say

LAST UPDATED: MARCH 31ST, 2012 12:20 AM (PDT)

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LOCAL GOVERNMENT

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Rocky road ahead for Tacoma's clean-up effort after storm

ROB CARSON
LAST UPDATED: JANUARY 20TH, 2012 09:14 PM (PST)

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Signs of slow growth recovery emerge on Thea Foss Waterway

JOHN GILLIE

LAST UPDATED: JULY 29TH, 2012 11:29 AM (PDT)

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STORM UPDATES

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Governor’s pen strokes launch $1 billion in public works projects

Capital budget: Revamping center for disabled gets funds

LAST UPDATED: APRIL 24TH, 2012 12:17 AM (PDT)

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Jordan Schrader and Brad Shannon, staff writers

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Learn more about upcoming projects in Tacoma at sessions

KATHLEEN COOPER
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KITS MERRYMAN

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For Sea Scouts of Tacoma, their ship has come in

CELEBRATION: Tacoma Youth Marine Center marks grand opening today on Foss Waterway

KATHLEEN MERRYMAN
LAST UPDATED: JUNE 16TH, 2012 01:26 PM (PDT)

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New welcome for Thea Foss Waterway

Sign: Agency hopes boaters will have easier time knowing where they are

C.R. ROBERTS
LAST UPDATED: MAY 21ST, 2012 12:14 AM (PDT)

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c.r.roberts@thenewstribune.com 253-597-8535

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NEW TODAY ON BIZ BUZZ
• Alaska Air Group announces second quarter record income
• TrueBlue's revenues, earnings increase in second quarter
• Waste Management recycling and yard waste drivers striking

REAL ESTATE
Open House: Fed rate cut helping few in South Sound

SPECIAL PROJECT: SOUTH TACOMA WAY SERIES

Foss hotel project moves closer to groundbreaking, site could be open next year

JOHN GILLIE
LAST UPDATED: JULY 17TH, 2012 06:45 AM (PDT)

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The Biz Buzz

Get the most up-to-date news, insights and analysis of Tacoma, Pierce County and South Puget Sound business.

Foss Hotel still on track to ground-breaking

Post by John Gillie / The News Tribune on Aug. 31, 2012 at 11:33 am |

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Our experienced group of journalists unearth news and offer in-depth analysis in order to discover what's really going on with businesses in Washington.

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Powr1 on Cascadia sold to San Diego developer

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Foss lot could become 3rd park along waterway

A vacant lot on the Thea Foss Waterway, once the site of a steam plant that supplied heat to downtown Tacoma, could become downtown Tacoma's newest park.

JOHN GILLIE; STAFF WRITER

Published: Nov. 27, 2012 at 12:05 a.m. PST

9 Comments

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Pirates enliven Maritime Fest as Foss Waterway Seaport shows off nearly completed renovation

The Foss Waterway Seaport and Thea's Park were bustling with pirates and port-enthusiasts Saturday and Sunday for the 20th annual Maritime Fest.

ALEXIS KRELL; STAFF WRITER

Published: Aug. 26, 2012 at 8:45 p.m. PDT — **Updated:** Aug. 27, 2012 at 7:21 a.m. PDT

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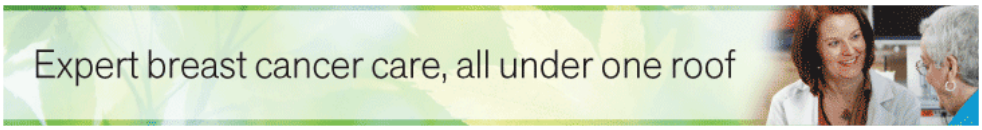

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Foss Waterway Authority acquiring land for new Dock Street park

Post by John Gillie / The News Tribune on Nov. 26, 2012 at 4:12 pm |

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Deal to buy property from Foss Waterway would keep Johnny's Seafood from moving, add bistro

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JOHN GILLIE; STAFF WRITER

Published: Nov. 29, 2012 at 7:15 p.m. PST — **Updated:** Nov. 29, 2012 at 7:18 p.m. PST

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Millwright Bradken - Tacoma Foundry is looking to expand it's Maintenance department. We are currently seeking a Millwright. Individual will be responsible for constructing, and testing mechanical and electrical equipment, installation and replacement of machinery and components, welding and fabricating per work instructions. Must have 5yrs. experience as Maintenance Millwright, ability to troubleshoot electrical equipment problems, stong electrical experience previous experience in, pneumatics, hydraulics, welding and fabrication,

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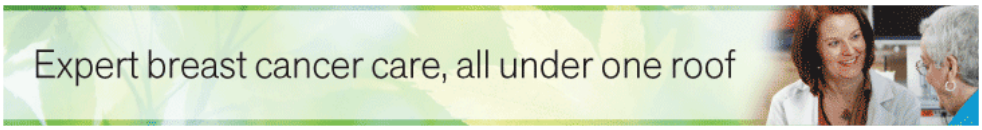
Foss waterfront site sparks developers' interest

Fresh interest from developers could put a key Tacoma downtown waterfront site back in play soon



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The recession's silver lining: bargain price for new waterway park land

Post by John Gillie / The News Tribune on Dec. 3, 2012 at 11:29 am |

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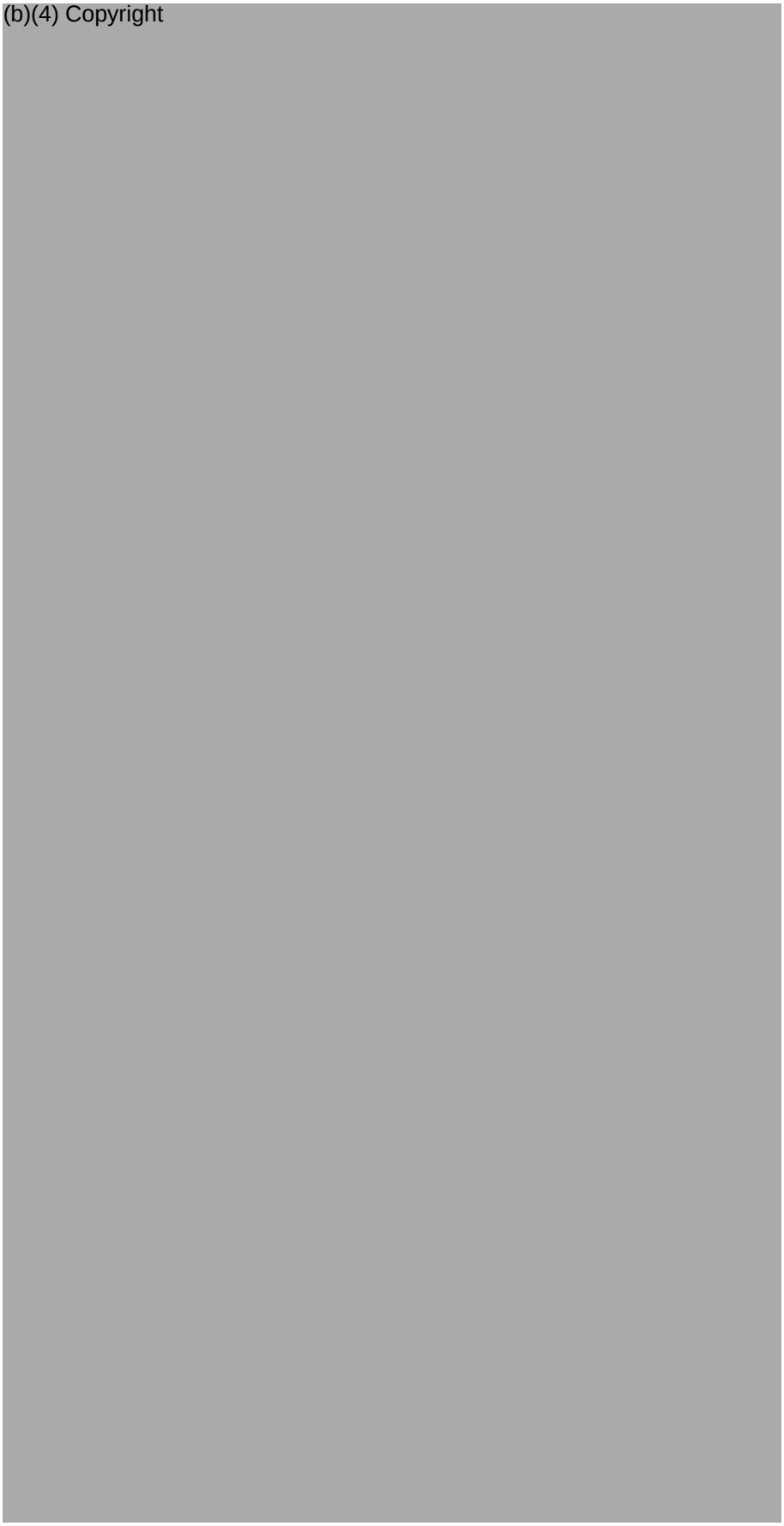
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Letter brings end to project next to Elks

No new apartment, parking garage: McMenamins presses on with its own renovation

LAST UPDATED: MARCH 27TH, 2012 06:22 AM (PDT)

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Thursday, January 12, 2012

New plans for site near McMenamins?

NEGOTIATION: Developers eye scaled-down project near old Elks Temple

BY KATHLEEN COOPER
Staff writer

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Overhaul of sagging Stadium Way set to begin by next month

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BUSINESS

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Stadium Way work won't delay McMenamins renovation

KATHLEEN COOPER
LAST UPDATED: JUNE 6TH, 2012 06:37 AM (PDT)

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State court's decision may clear way for Foss Waterway hotel

JOHN GILLIE
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Council moves to fund long list of projects

TACOMA: It includes remodel of Hillside Terrace, repair of People's Pool, 2 walkways

BY JORDAN SCHRADER
Staff writer

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See COUNCIL, *Page A4*

Wednesday, April 18, 2012 •

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Grants arrive to help Tacoma fix its 'front porch' on Pacific Avenue

Downtown: Paving, bike lanes coming

LEWIS KAMB
LAST UPDATED: JUNE 13TH, 2012 06:21 AM (PDT)

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New life for downtown Tacoma's Old City Hall annex

Post by Kathleen Cooper / The News Tribune on Feb. 17, 2012 at 10:37 am | View all 7 comments

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Yacht owners sue City of Tacoma, companies for damage

A Tacoma couple are suing the city and three construction-related businesses, contending sandblasting debris blew off the Murray Morgan Bridge during a 2011 windstorm and damaged their 56-foot yacht.

ADAM LYNN; STAFF WRITER

Published: Oct. 1, 2012 at 6:39 a.m. PDT — **Updated:** Oct. 1, 2012 at 6:39 a.m. PDT

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First food cart feeds plaza

T-TOWN DOGS: Father-son pair take over Tollefson with affordable, simple hot dogs

BY KATHLEEN COOPER
Staff writer

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250
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Campaign pays off for a bridge, a city

An uncooperative economy has stymied many a big plan for Tacoma's Foss Waterway. But there's something to be said for holding your own.

THE NEWS TRIBUNE

Published: Dec. 6, 2012 at 12:05 a.m. PST

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PETER CALLAGHAN

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‘New’ name not only progress for UWT trail

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Foss

New round in Foss hotel fight

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MURANO VS. MARRIOTT:
Shoreline permit expected to go to state's high court

BY JOHN GILLIE
Staff writer

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THURSDAY · February 2, 2012

Occupy Tacoma may face eviction

PUGNETTI PARK: DOT assessing situation after complaints by residents, nearby business owners

BY ROB CARSON
Staff writer

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OCCUPY

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Preserve park honoring one of Tacoma's civic leaders

Post by TNT Editorial Board / The News Tribune on March 25, 2012 at 3:37 pm with 3 Comments »

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TNT Diner

Good eats and drinks around Tacoma, Pierce County and South Puget Sound

One year and going strong: Social Bar and Grill on the Foss waterway

Post by Sue Kidd / The News Tribune on Sep. 21, 2012 at 12:01 am |

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TNT DINER TWITTER FEED

tntdiner @tntdiner 44m

@MuseumofGlass I don't attend public events, but thank you for the invite. Would love to let my readers know about it- send me a release!

tntdiner @tntdiner 13h

A Tacoma icon: After half a century, a remodel for Harbor Lights | TNT Diner - The News Tribune http://t.co/4kh4gBlOwc

tntdiner @tntdiner 28 Feb.

Opening in Tacoma – Hilltop Kitchen, a second cocktail lounge from the owner of 1022 South http://t.co/P2u27qdFBY

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State wants to sell downtown Tacoma park

Green space : Occupy Tacoma's 4 months at site prompted DOT decision

LAST UPDATED: MARCH 15TH, 2012 04:36 AM (PDT)

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News Tribune staff writer Lewis Kamb contributed to this report.

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University of Washington Tacoma unveils trail designs

PRAIRIE LINE: Three attractive prototypes leave out important features for bicyclists and historians

LAST UPDATED: FEBRUARY 3RD, 2012 03:29 PM (PST)

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Dome to South Tacoma trail in works

WATER DITCH: Restoration of historic trail worries some of the neighbors

KAREN MILLER
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Exit 133 into downtown Tacoma to reopen Saturday

Post by Stacia Glenn / The News Tribune on July 10, 2012 at 6:27 pm with No Comments »

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CATEGORIES: Interstate 5, Nalley Valley project

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SPECIAL PROJECT: SOUTH TACOMA WAY SERIES

Experts: Infrastructure key to south downtown Tacoma growth

KATHLEEN COOPER
LAST UPDATED: MAY 1ST, 2012 04:17 PM (PDT)

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New Walmart will bring traffic changes to Tacoma

Tacoma: No date set for start of construction on former Elks property

KATHLEEN COOPER
LAST UPDATED: MAY 9TH, 2012 05:03 AM (PDT)

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Northbound I-5's Exit 133 to downtown Tacoma will close for three months, beginning Saturday

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Rail bridge built, Pacific Avenue reopens

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CREW HELPS DOME SHINE ANEW

• Tuesday, April 3, 2012

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TACOMA: 6 guys with pressure washers continue makeover

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THE CLEANUP BY THE NUMBERS:

260,000
Square feet of the Tacoma Dome roof.

10,400
Square feet of roof area the crew is cleaning each day.

2,600-2,800
Feet of hose needed for the job.

75
Gallons of diluted Simple Green used each day for the job.

32
Expected days of work to clean roof.

Compiled by staff writer Stacia Glenn

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LEMAY MUSEUM | June 3, 2012 | ADD A COMMENT

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William Nakasone
Seattle Classic Sports Car Examiner

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Open House: Fed rate cut helping few in South Sound

SPECIAL PROJECT: SOUTH TACOMA WAY SERIES

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TACOMA

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ATTACHMENT A.2 - OF230

OF230 2012 Source Tracing Investigation

Ongoing Mercury and PCB Contamination

Prepared by

City of Tacoma

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1.0 INTRODUCTION

The Environmental Compliance group is tasked with source tracing contaminants of concern identified through annual sediment trap sampling in the Thea Foss Waterway. Based on sediment monitoring in OF230, specific sections of this drainage basin were identified as having ongoing issues with PCBs and mercury contamination.

In 2007, the City of Tacoma (City) completed a basin-wide stormline cleaning of the OF230 drainage basin. The objective of the stormline cleaning program was to remove residual sediments in the storm drains that may contain legacy contamination from past years that could continue to contaminate stormwater and/or baseflow. While the stormline cleaning was successful in removing legacy contaminates in OF230, high concentrations of PCBs and mercury have persisted in drainage areas FD3A and FD18 (Appendix A). Source tracing in these drainage areas was conducted during July 2012 to identify possible sources of this contamination.

2.0 PROJECT DESCRIPTION

The goal of this project was to identify possible sources of mercury and PCBs in drainage areas FD3A and FD18 of the OF230 basin. Samples were also analyzed for PAHs and phthalates since they are additional contaminants of concern in the Thea Foss Waterway.

Due to the targeted area topography, most of the pipes are steeply sloped and can exhibit very high velocities during storm events. Initial investigations showed no collectable amounts of sediment in the main lines of the drainage areas. As such, segments of FD3A and FD18 were targeted by combining sub-samples from the catch basins into a larger composite sample. Breaking FD3A and FD18 into composites representing specific segments will assist with identifying problem areas (Figure 1 and Figure 2).

3.0 LOCATION

3.1 FD3A

The sediment trap at FD3A represents downtown Tacoma from St. Helens to South 14th and Market Street to A Street. There are eight segments that have been identified for source tracing (Table 2 and Figure 2).

3.2 FD18

The sediment trap at FD18 represents downtown from South 11th to South 9th and Market Street to Martin Luther King Jr. Way and the residential area from South 9th to South 8th and Martin Luther King Jr. Way to South Sprague Avenue. There are four main segments that have been identified for source tracing (Table 1 and Figure 1).

4.0 SAMPLING PLAN

In FD3A and FD18, sub-samples were collected from catch basins draining to all major storm drainage manholes. The sub-samples were a volume-based composite of all available catch basins draining to the targeted manhole. Sub-samples were also composited into one sample representing each segment identified in Figure 1 and Figure 2. The segment composites were

submitted to the Environmental Services Laboratory for analysis and the sub-samples were frozen. If results indicated a source of contamination in a segment, frozen sub-samples were analyzed to further trace the contaminants to the source.

Volume-based sub-samples were collected from each catch basin using a stainless steel spoon. Sediment from each catch basin was placed in a clean stainless steel bowl for mixing. For the segment composite, 250ml of each sub-sample was collected into another stainless steel mixing bowl. An additional 250ml of sub-sample was collected in a glass jar and frozen upon return to the laboratory. After all sub-samples were collected for the targeted segment, a well-mixed 250ml sample was collected and submitted to the laboratory under standard chain of custody procedures to be analyzed for PCBS, phthalates, PAHs, and mercury using standard laboratory procedures for the Thea Foss Sampling Project.

The catch basins in FD-3A were sampled on July 11th and July 12th, 2012 and the catch basins in FD18 sampled on July 17 and July 18th, 2012. As the majority of the sampling was conducted in downtown Tacoma, sampling began at daybreak (approximately 4:30 am).

5.0 RESULTS AND DISCUSSION – SEGMENT COMPOSITES (ROUND 1)

Results from Round 1 segment sampling can be found in Table 3 and Table 4 and are discussed in detail below. Based on results from the segment composites, several samples were identified as needing further testing for specific contaminants.

5.1 PCBS

Three of the eight segments in FD3A exhibited PCB concentrations ranging from 500 – 600 µg/kg (E, F, and G). In comparison, the 2011 sediment trap results were 940 µg/kg. Both the annual sediment trap samples and recent segment sampling results derive from the same chemical signature (Aroclor - 1254). Sub-samples for these three segments were analyzed for PCBs and the results are discussed in the section for Round 2.

One segment in FD18 was identified as having higher concentrations of PCBs. These results match the chemical signature and concentration of the annual sediment trap results. The sub-samples from this segment (B) were analyzed for PCBs to further trace the contaminants to the source.

5.2 MERCURY

The majority of samples in FD3A and one sample in FD18 exhibited medium levels of mercury contamination. Sub-samples from these segments were analyzed for mercury contamination.

5.3 PAHS

Out of all of the segment composite samples for FD3A and FD18, only one sample (FD3A – H) was identified with medium levels of PAHs. While the sub-samples for this segment were analyzed, the land use for this location is a primarily a parking lot which may be contributing to these levels.

5.4 PHTHALATES

Phthalates have not been a large issue in this basin, which is indicated in the segment sampling results. Out of all of the segment samples, three segments were identified with small levels of phthalates (<120 µg/kg). Sub-samples from these three locations were analyzed further to determine if an issue exists in one of the contributing areas.

5.5 SUMMARY

Based on these results, frozen sub-samples from eight segments in the FD3A and FD18 drainage areas were submitted to the Environmental Services Laboratory in September 2012 and analyzed for the following pollutants:

- FD3A–A: Mercury & phthalates
- FD3A-D: Mercury, phthalates, PCBs
- FD3A-C: Mercury & phthalates
- FD3A-E: Mercury & PCBs
- FD3A-F: Mercury & PCBs
- FD3A-G: Mercury & PCBs
- FD3A-H: PAHs
- FD18-B: PCBs & phthalates
- FD18-D2: Mercury

6.0 RESULTS AND DISCUSSION – SUB-SAMPLES (ROUND 2)

Sub-samples represent a composite of four – seven catch basin samples in the drainage area. As mentioned above, specific sub-samples were analyzed in an attempt to trace the PCB and mercury contamination to its source. Complete results for the Round 2 sub-sample analysis can be found in Tables 5 – 13. The table below summarizes the specific problem areas in the drainage area identified from Round 2 analysis. These areas will be the focus of the 2013 source tracing investigations in this basin.

OF230 Source Tracing Project - Round 2 Priority Results					
Segment	**SAP MH #**	**Location**	**Analyte**	**Result**	
FD3A-C	6767533	Broadway	Phthalates	64,446	µg/kg
FD3A-D	6778358	Commerce and 9th	Phthalates	231,246	µg/kg
FD3A-C	6767550	11th Avenue Segment - East and Broadway	Mercury	0.957	mg/kg
FD3A-G	6766559	Court A and 12th Street	Mercury	6.830	mg/kg
FD3A-E	6778363	Commerce Segment	PCBs	550	µg/kg
FD3A-E	6766735	Pacific and South 13th	PCBs	3,100	µg/kg
FD3A-F	6775901	Pacific and 9th	PCBs	1,280	µg/kg
FD3A-G	6766398	Pacific (west side) and 11th	PCBs	440	µg/kg
FD3A-G	6766559	Court A and 12th Street	PCBs	770	µg/kg
FD3A-G	6766753	A and 13th	PCBs	2,100	µg/kg
FD18-B	6766321	Market and 11th	PCBs	480	µg/kg
FD18-B	6768225	Fawcett and 9th	PCBs	2,700	µg/kg
FD3A-H	6776949	South 14th and A Street	PAHs	495,940	µg/kg

6.1 PCBs

As noted in the above table, six locations were identified in FD3A and two locations in FD18 with higher levels of PCB contamination ranging from 440 - 3,100 µg/kg. The high PCB concentrations are not clustered in a specific area and are spread across three different

segments (Figure 3 and 4). Further sampling and analysis will need to be completed to trace the contamination to a specific catch basin.

6.2 MERCURY

Sampling results indentified two locations in the FD3A-G segment that require further investigation. Mercury was found at a concentration of 6.830 mg/kg and 0.957 mg/kg in two of the sub-samples submitted for analysis (Figure 5), which indicates them as hot spots since high concentrations for mercury in the sediment traps is typically 0.7 mg/kg. Further sampling and analysis will need to be completed to trace the contamination to a specific catch basin.

6.3 PAHS

Based on higher PAH concentrations in the FD3A-H samples, the sub-samples in this group where analyzed to target a more specific area. Sampling results identified one location in the FD3A-H section with a concentration of 495,940 µg/kg. Further sampling and analysis will need to be completed to trace the contamination. This drainage area is located next to a large parking complex and a complete investigation of this parking area will be completed.

6.4 PHTHALATES

Initial results from the segment sampling and past sediment sampling in OF230 did not indicate an issue with phthalate contamination. Results from sub-samples in this area indicated two segments, FD3A-C and FD3A-D, with higher levels of phthalates. Further sampling and analysis will need to be completed to trace the contamination to a specific catch basin.

6.5 SUMMARY

During 2012, City of Tacoma staff was able to identify specific drainage areas in OF230 to focus continued source tracing efforts for PCBs, mercury, PAHs, and phthalate contamination. Additionally, as these samples represent sediment collected from surface water runoff, results indicate that this drainage area has ongoing sources of contamination entering the collection system through surface water runoff. While significant headway was made in 2012 in identifying a possible source for these contaminants of concern, further investigations will continue into 2013.

7.0 2013 ACTION PLAN

Beginning in February 2013, the Environmental Compliance group will begin additional investigations in the OF230 drainage basin to identify a source of PCBs, mercury, PAHs, and phthalate contamination. The following plan identifies the targeted plan for accomplishing this goal.

7.1 ADDITIONAL SAMPLING

Staff will sample individual catch basins from the segment composite samples that showed medium/high levels of PCBs, mercury, PAHs, and phthalate contamination. This sampling is targeted to take place in February 2013 during a sampling event, where the following information will be recorded for each catch basin:

a. Associated land use,
b. Drainage details,
c. Sediment quality, and
d. Sediment quantity.

7.2 SOURCE CONTROL INVESTIGATIONS

Based on the additional catch basin sampling, specific drainage areas will be targeted for investigation. This investigation will include conducting business inspections and reviewing permits for recent construction activities, catch basin drainage, and historical spills and complaints in targeted areas. The specific drainage areas will be identified based on the next phase of sampling results.

Business inspections will focus on identify any of the possible sources of contaminants listed below:

- Mercury – Dental offices, thermometers, barometers, instruments (electrical), fluorescent tubes, advertising signs and was historically used in paint products.
- PCBs – Was manufactured in the US and used widely through the 1970s. Used in electrical equipment (transformers, capacitors, switches, electrical cable), paint, caulking and sealant, pesticides, pumps, gaskets and siding. A ban of PCBs occurred in 1977, but is still being found in equipment made prior to that time.
- Phthalates – Primarily used to soften plastics, but also used as lubricants, emulsifying agents, building materials, personal-care products, packaging, paints, pharmaceuticals, and many other products.
- PAHs – These pollutants are found in oil, coal and tar deposits. The parking lot next to the drainage area has been identified as a possible source for this contamination.

After investigation is complete, the FD3A and FD18 drainage areas will be cleaned. During the initial sampling event, the majority of the catch basin sumps were > 50% impacted or full of debris.

REFERENCE

Tacoma 2012a. 2011 Source Control and Water Year 2011 Stormwater Monitoring Report Prepared by City of Tacoma, dated. March 31, 2012.

TABLES

Table 1
FD18 Source Tracing Sub-Sampling Locations

Segment	Map ID	Sample ID	SAP ID	Type	Location	Sample Collection Time
A	**Composite**	**FD18-A**	**N/A**	**Segment**	**11th and Market to 11th @ Tacoma Avenue**	**7/17/2012 6:26**
	A1	FD18-A-6766313	6766313	MH	Market and 11th	7/17/2012 6:25
	A2	FD18-A-6768513	6768513	MH	Fawcett and11th	7/17/2012 6:00
	A3	N/A	6768360	MH	Fawcett and 10th	No sample; combined with A2
B	**Composite**	**FD18-B**	**N/A**	**Segment**	**Market Street Segment - South 11th to South 9th**	**7/17/2012 7:58**
	B1	FD18-B-6766321	6766321	MH	Market and 11th	7/17/2012 6:39
	B2	N/A	6766245	MH	Market and 10th	No sample; combined with B1
	B3	FD18-B-6768243	6768243	MH	Market and 9th	7/17/2012 7:05
	B4	N/A	6520884	CB	Market and 8th	No sample; combined with B3
	B5	FD18-B6768234	6768234	MH	Court D and 9th	7/17/2012 7:30
	B6	N/A	6774948	MH	Court D and 8th	No sample; combined with B5
	B7	FD18-B-6768225	6768225	MH	Fawcett and 9th	7/17/2012 7:55
	B8	N/A	6768078	MH	Fawcett and 8th	No sample; combined with B7
	B9	N/A	6752007	MH	Court E and 9th	No sample; combined with B7
	B10	N/A	6768216	MH	Tacoma Avenue and 9th	No sample; combined with B7
C-1	**Composite**	**FD18-C-1**	**N/A**	**Segment**	**South 9th Street Segment - Tacoma Avenue to MLK**	**7/18/2012 6:38**
	C1	FD18-C-6768208	6768208	MH	G and 9th	7/18/2012 5:51
	C2	No sample	6768190	MH	Yakima and 9th	No sample; combine with C3
	C3	FD18-C-6768182	6768182	MH	I and 9th	7/18/2012 6:14
	C4	No sample	6768173	MH	J and 9th	No sample; combine with C5
	C5	FD18-C-6768164	6768164	MH	MLK and 9th	7/18/2012 6:34
C-2	**Composite**	**FD18-C-2**	**N/A**	**Segment**	**South 9th Street Segment - MLK to Grant**	**7/17/2012 10:05**
	C6	FD18-C-6768147	6768147	MH	M and 9th	7/17/2012 8:50
	C7	FD18-C-6768138	6768138	MH	Sheridan leg and 9th	7/17/2012 9:20
	C8	FD18-C-6768121	6768121	MH	Cushman and 9th	7/17/2012 9:48
	C9	FD18-C-6768104	6768104	MH	Grant let and 9th	7/17/2012 10:04
D-2	**Composite**	**FD18-D-2**	**N/A**	**Segment**	**South 8th Street Segment - Sprague to MLK**	**7/18/2012 11:06**
	D1	FD18-D-6762377	6762377	MH	Sprague Segment and 8th	7/18/2012 9:31
	D2	FD18-D-6762174	6762174	MH	Grant and 8th	No sample; combine with D3
	D3	FD18-D-6762184	6762184	MH	Ainsworth Segment and 8th	7/18/2012 9:51
	D4	FD18-D-6762213	6762213	MH	Cushman and 8th	7/18/2012 10:14
	D5	FD18-D-6762222	6762222	MH	Sheridan leg and 8th	7/18/2012 10:40
	D6	FD18-D-6777905	6777905	MH	M Street leg and 8th	No sample; combined with D7
	D7	FD18-D-6777906	6777906	MH	L Street leg and 8th	7/18/2012 11:04
D-1	**Composite**	**FD18-D-1**	**N/A**	**Segment**	**South 8th Street Segment - MLK to Tacoma Ave**	**7/18/2012 11:58**
	D8	FD18-D-6762270	6762270	MH	MLK and 8th	No sample; combined with D9
	D9	FD18-D-6768027	6768027	MH	J Street and 8th	7/18/2012 11:23
	D10	FD18-D-6768035	6768035	MH	I Street and 8th	No sample; combined with D11
	D11	FD18-D-6768044	6768044	MH	Yakima and 8th	7/18/2012 11:42
	D12	FD18-D-6768061	6768061	MH	G and 8th	No sample; combined with D13
	D13	FD18-D-6768069	6768069	MH	Tacoma Ave and 8th	7/18/2012 11:57

Table 2
FD3A Source Tracing Sub-Sampling Locations

Segment	Map ID	Sample ID	SAP ID	Type	Location	Sample Collection Time
A	**Composite**	**FD3A-A**	**N/A**	**Segment**	**St. Helens Segment - Market to South 9th**	**7/11/2012 9:54**
	A1	FD3A-A-6777662	6777662	MH	St. Helens and Market Segment	7/11/2012 8:50
	A2	FD3A-A-6777664	6777664	MH	St. Helens and Court C	7/11/2012 9:35
	A3	No sample	6777632	MH	Middle of St. Helens	No sample; combined with A4
	A4	FD3A-A-677630	6777630	MH	9th and St. Helens Segment	7/11/2012 9:53
B	**Composite**	**FD3A-B**	**N/A**	**Segment**	**Broadway Segment - South 7th to 9th**	**7/11/2012 10:52**
	B1	No sample	6777640	MH	Broadway and 7th	No sample; All sites combined into one composite sample (FD3A-B). All CBs had 1kg sediment, debris.
	B2	No sample	6777639	MH	Middle of Broadway	
	B3	No sample	6777631	MH	Broadway and 9th	
C	**Composite**	**FD3A-C**	**N/A**	**Segment**	**Broadway - South 9th to 11th**	**7/12/2012 8:20**
	C1	FD3A-C-6767516	6767516	MH	9th Avenue Segment and Broadway	7/12/2012 7:19
	C2	No sample	6767525	MH	Broadway	No sample; combined with C3
	C3	FD3A-C-6767533	6767533	MH	Broadway	7/12/2012 7:54
	C4	FD3A-C-6767542	6767542	MH	Broadway	7/12/2012 8:10
	C5	FD3A-C-6767550	6767550	MH	11th Avenue Segment - East and Broadway	7/12/2012 8:14
	C6	FD3A-C-6766354	6766354	MH	11th Avenue Segment - West and Broadway	7/12/2012 8:18
D	**Composite**	**FD3A-D**	**N/A**	**Segment**	**Commerce Street - South 9th to 11th**	**7/12/2012 6:36**
	D1	FD3A-D-6778358	6778358	MH	Commerce and North of 9th Segment	7/12/2012 5:48
	D2	No sample	6766125	MH	Commerce and 9th Segment	No sample; new construction - no sediment
	D3	No sample	6766167	MH	Commerce and South of 9th Segment	No sample; combined with D4
	D4	FD3A-D-6512463	6512463	CB	South 10th and Commerce (Under Bridge)	7/12/2012 6:12
	D5	FD3A-D-6778361	6778361	MH	Commerce and South 11th	7/12/2012 6:35
F	**Composite**	**FD3A-F**	**N/A**	**Segment**	**Court A - South 8th to 11th Street**	**7/12/2012 12:21**
	F1	No sample	6766071	MH	Pacific and South 8th	No sample; combined with F2
	F2	FD3A-F-6766524	6766134	MH	Court A and 9th Segment	7/12/2012 11:30
	F3	FD3A-F-6766533	6775901	MH	Pacific and 9th	7/12/2012 11:49
	F4	No sample	6775902	MH	Pacific and 10th	No sample; combined with F3
	F5	No sample	6766262	MH	Court A and 10th	No sample; combined with F6
	F6	FD3A-F-6778363	6766142	MH	A Street and 9th	7/12/2012 12:09
	F7	FD3A-F-6766735	6766271	MH	A Street and 10th	7/12/2012 12:20
E	**Composite**	**FD3A-E**	**N/A**	**Segment**	**Broadway - South 11th to 13th**	**7/12/2012 10:36**
	E1	No sample	6766363	MH	Unknown of 11th and Broadway - investigate	No sample; Combined with E2
	E2	FD3A-E-6766134	6766524	MH	Broadway and South 12th	7/12/2012 8:55
	E3	FD3A-E-6775901	6766533	MH	Broadway and South 12.5	7/12/2012 9:22
	E4	FD3A-E-6775902	6766679	MH	Broadway and South 13th	7/12/2012 9:52
	E5	No sample	6766706	MH	Commerce and South 13th	No sample; combined with E6
	E6	FD3A-E-6766142	6778363	MH	Commerce Segment	7/12/2012 10:12
	E7	FD3A-E-6766271	6766735	MH	Pacific and South 13th	7/12/2012 10:35
	E8	No sample	6776950	MH	Court A and South 13th	No sample; Combined with E7
G	**Composite**	**FD3A-G**	**N/A**	**Segment**	**South 11th - Commerce to A street**	**7/11/2012 8:12:00 AM; logged in as 6:15**
	G1	FD3A-G-6766372	6766372	MH	Commerce and South 11th	7/11/2012 7:46
	G2	FD3A-G-6766398	6766398	MH	Pacific (west side) and 11th	7/11/2012 8:10:00 AM; Combined with G3
	G3	FD3A-G-6766415	6766415	MH	Pacific (east side) and 11th	7/11/2012 8:11; Duplicate of G2
	G4	FD3A-G-6766426	6766426	MH	Court A and South 11th Street Segment	7/11/2012 7:20
	G5	FD3A-G-6766559	6766559	MH	Court A and 12th Street Sedment	7/11/2012 7:02
	G6	FD3A-G-6766568	6766568	MH	A and 12th Street Sedment	7/11/2012 6:52
	G7	FD3A-G-6766753	6766753	MH	A and 13th	7/11/2012 6:45
H	**Composite**	**FD3A-H**	**N/A**	**Segment**	**South 14th and A Street**	**7/11/2012 6:15**
	H1	FD3A-H-6766797	6766797	MH	Court A and 14th	7/11/2012 5:51
	H2	FD3A-H-6516598	6516598	CB	3 Mystery CBs on A Street	7/11/2012 6:00
	H3	FD3A-H-6776949	6776949	MH	South 14th and A Street Grouping	7/11/2012 5:38
	H4	FD3A-H-6767615	6767615	MH	Near Sediment Trap	7/11/2012 6:12

** The SAP # and Sample ID do not match for Segments E and F. The labels were switched during the sampling event.*

Table 3
FD3A - OF230 Source Tracing 2012

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-A 7/11/2012	FD3A-B 7/11/2012	FD3A-C 7/12/2012	FD3A-D 7/12/2012	FD3A-E 7/12/2012	FD3A-F 7/12/2012	FD3A-G 7/11/2012	FD3A-H 7/11/2012
Conventionals									
Total Solids (%)	36.1	59.4	76.7	53.1	58.7	55.7	55.9	66	83.3
Total Metals in mg/kg									
Mercury	0.293 JD 4	0.196 D 5	0.0606 D 5	0.244 D 5	0.0893 D 5	0.151 D 5	0.2 D 5	0.216 D 5	0.0432 D 5
LPAHs in ug/kg									
2-Methylnaphthalene	140 D 10	360	80	130 U	130 U	130 U	150	130 U	900
Acenaphthene	400 D 10	390	62 U	93 U	92 U	93 U	190	250	270
Acenaphthylene	51 U	220	46 U	120 U	170	120 U	160	120 U	200
Anthracene	710 D 10	6100	32	190	210	96	370	430	2300
Fluorene	520 D 10	630	47 U	94 U	94 U	94 U	220	270	610
Naphthalene	320 D 10	190 U	72	120 U	120 U	120 U	150	120U	700
Phenanthrene	7,100 D 10	6,100	420	830	1,100	570	2,100	3,200	0
Total LPAHs in ug/kg	9,075.5	13,440.0	601.5	1,234	1,633.0	666	3,380.0	4,150	4,080.0
HPAHs in ug/kg									
Benzo(a)anthracene	7,900 D 10	3,100	200	620	580	380 D 5	900 D 5	2,000 1	16,000 D 5
Benzo(a)pyrene	7,100 D 10	3,400	270 D 5	530 D 5	510 D 2	420 D 5	1,000 D 5	1,900 D 5	15,000 D 5
Benzo(g,h,i)perylene	6,500 D 10	2,300	230 D 5	430 D 5	490 D 2	500 D 5	720 D 5	1,100 D 5	10,000 D 5
Benzo(b,k)fluoranthenes	18,000 D 10	7,500	660 D 5	1,100 D 5	1,200 D 2	970 D 5	2,000 D 5	4,400 D 5	33,000 J 5
Chrysene	9,500 D 10	4,600	470	800	810	640 D 5	1,300 D 5	2,500	20,000 D 5
Dibenz(a,h)anthracene	1,600 D 10	630	49 J	82 J	93 J	70 UJ	160 J	280 J	3,000 D 5
Fluoranthene	15,000 D 10	7,800	590	970	1,200	670	1,800	3,700	32,000 D 5
Indeno(1,2,3-cd)pyrene	6,700 D 10	2,100	150 J	260 J	330 D 2	260	530 D 5	970 D 5	9,900 D 5
Pyrene	10,000 D 10	10,000	810	1,400	1,500	1,300 D 5	3,100 D 5	4,400	36,000
Total HPAHs in ug/kg	82,300	41,430	3,429	6,192	6,713	5,210	11,510.0	21,250.0	174,900
Total PAHs in ug/kg	91,375.5	54,870.0	4,031	7,426	8,346	5,876	14,890	25,400	**178,980**
PCBs in ug/kg									
Aroclor-1016	9.6 U	20 UD 10	6 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1221	9.6 U	20 UD 10	6 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1232	9.6 U	20 UD 10	6 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1242	9.6 U	20 UD 10	6 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1248	86 U	20 UD 10	6 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1254	940 D 40	20 UD 10	6 UD 10	12 UD 10	12 UD 10	500 D 10	600 D 10	560 D 10	12 UD 10
Aroclor-1260	86 U	20 UD 10	6 UD 10	12 UD 10	12 UD 10		12 UD 10	12 UD 10	12 UD 10
Total PCBs	940	0	0	0	0	**500**	**600**	**560**	0
Phthalates in ug/kg									
Butylbenzylphthalate	3,800 D 10	430	11,000 D 5	810	320	500 D 5	380 J	590	300 J
Di(2-ethylhexyl)phthalate	33,000 D 10	36,000 D 5	8,100 D 5	30,000 D 5	12,000	20,000 D 5	21,000 D 5	26,000 D 5	5,100 D 5
Diethylphthalate	55 U	300 U	190 U	190 U	210 U	200 U	200 U	150 U	190 U
Dimethylphthalate	3,300 D 10	150 U	67	93 U	93 U	93 U	93 U	92 U	93 U
Di-n-butylphthalate	1,300 D 10	290	200	280	240	140	280	650	540
Di-n-octyl phthalate	62 UJ	170 U	480 D 5	1,900 D 5	320 D 2	100 UJ	650 J	100 UJ	1,200 JD 5
Total Phthalates	41,400	**36,720**	19,847	**33,180**	12,880	20,640	22,510	27,240	7,140

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Phthalates	< 50,000ug/kg	50,000-100,000 mg/kg	>100,000 ug/kg
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PAHs	<164,000 ug/kg	164,000 - 300,000 ug/kg	> 300,000 ug/Kg
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 4
FD18 - OF230 Source Tracing 2012

Segment Date Collected	FD-18 8/24/2011	FD18-A 7/17/2012	FD18-B 7/17/2012	FD18-C1 7/18/2012	FD18-C2 7/17/2012	FD18-D1 7/18/2012	FD18-D2 7/18/2012
Conventionals							
Total Solids (%)	37.4	65.2	65.3	67.6	51.3	49.4	56.6
Total Metals in mg/kg							
Mercury	0.155 JD 4	0.12 D 5	0.0794 D 5	0.058 D 5	0.111 D 5	0.0581 5	0.182 D 5
LPAHs in ug/kg							
2-Methylnaphthalene	48 U	130 U	180	130 U	130 U	130 U	130 U
Acenaphthene	58 U	92 U	93 U	93 U	92 U	93 U	92 U
Acenaphthylene	51 U	120 U	120 U	120 U	120 U	120 U	120 U
Anthracene	150	130	79	91	50 U	50 U	110
Fluorene	130	94 U	94 U	94 U	94 U	94 U	94 U
Naphthalene	140	120 U	120 U	120 U	120 U	120 U	120 U
Phenanthrene	1,600	550	370	460	300	290	320
Total LPAHs in ug/kg	2,074.5	680	449	551	300.0	290	430.0
HPAHs in ug/kg							
Benzo(a)anthracene	1,400 D 10	400	220 D 2	340	150	91	420
Benzo(a)pyrene	1,600 D 10	510 J	270 JD 2	370	180 J	120 J	280 J
Benzo(g,h,i)perylene	2,200 D 10	490 J	310 JD 2	350	230 J	150 J	240 J
Benzo(b,k)fluoranthenes	6,300 D 10	1,500 J	770 JD 2	710	460 J	330 J	710 J
Chrysene	3,000 D 10	690	490 D 2	550	380	320	670
Dibenz(a,h)anthracene	420 J	95 J	70 UJ	84	70 UJ	70 UJ	70 UJ
Fluoranthene	1,800	590	430	780	310	270	840
Indeno(1,2,3-cd)pyrene	2,100 D 10	390 J	210 J 2	250	120 J	86 UJ	120 J
Pyrene	2,300 D 10	860	690 D 2	1,200	420	390	1,100
Total HPAHs in ug/kg	21,120	5,525	3,390	4,634	2,320	1,827	4,450.0
Total PAHs in ug/kg	23,195	6,205	3,839	5,185	2,620	2,117	4,880
PCBs in ug/kg							
Aroclor-1016	9.5 U	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1221	9.5 U	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1232	9.5 U	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1242	9.5 U	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1248	86 U	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1254	390 D 40	12 UD 10	390 D 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Aroclor-1260	86 U	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10	12 UD 10
Total PCBs	390	0	390	0	0	0	0
Phthalates in ug/kg							
Butylbenzylphthalate	1,400 J	150	170 JD	180	380	99 U	170
Di(2-ethylhexyl)phthalate	35,000 D 10	3,200	13,000 D 2	3,400	6,300	5,100	4,000
Diethylphthalate	55 U	150 U	150 U	170 U	160 U	180 U	180 U
Dimethylphthalate	55 U	93 U	300	3,000	450	110	110
Di-n-butylphthalate	400	100 U	2,000	100 U	100 U	100	100 U
Di-n-octyl phthalate	61 UJ	260 J	100 UJ	100 UJ	100 UJ	270 J	310 J
Total Phthalates	36,800	3,460	15,470	6,400	7,130	5,580	4,590

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Phthalates	< 50,000ug/kg	50,000-100,000 mg/kg	>100,000 ug/kg
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PAHs	<164,000 ug/kg	164,000 - 300,000 ug/kg	> 300,000 ug/Kg
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 5
FD3A-A Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-A 7/11/2012	FD3A-A-6777630 7/11/2012	FD3A-A-6777662 7/12/2012	FD3A-A-6777664 7/12/2012
Conventionals					
Total Solids (%)	36.1	59.4	56.8	68.6	55.9
Total Metals in mg/kg					
Mercury	0.293 JD 4	**0.196** D 5	**0.0910**	**0.0492**	**0.127**
LPAHs in ug/kg					
Butylbenzylphthalate	**3,800** D 10	**430**	**733** J	**415**	**357**
Di(2-ethylhexyl)phthalate	**33,000** D 10	**36,000** D 5	**11,800**	**19,300**	**17,800**
Diethylphthalate	55 U	300 U	47 U	**88** J	47 U
Dimethylphthalate	**3,300** D 10	150 U	44 U	43 U	44 U
Di-n-butylphthalate	**1,300** D 10	**290**	**130**	**168**	**170**
Di-n-octyl phthalate	62 UJ	170 U	75 U	**559**	75 U
Total Phthalates	41,400	36,720	12,663	20,530	18,327

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Phthalates	< 50,000ug/kg	50,000-100,000 mg/kg	>100,000 ug/kg
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg

Table 6
FD3A-C Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-C 7/12/2012	FD3A-C-6767516 7/12/2012	FD3A-C-6767533 7/12/2012	FD3A-C-6767542 7/12/2012	FD3A-C-6767550 7/11/2012	FD3A-C-6766354 7/11/2012
Conventionals							
Total Solids (%)	36.1	53.1	57.8	38.7	52.7	59.1	55.4
Total Metals in mg/kg							
Mercury	**0.293** JD 4	**0.244** D 5	**0.0836**	**0.180**	**0.0798**	**0.957**	**0.251**
LPAHs in ug/kg							
Butylbenzylphthalate	**3,800** D 10	**810**	**552**	**3,240**	**604**	**625**	**895**
Di(2-ethylhexyl)phthalate	**33,000** D 10	**30,000** D 5	**22,500**	**47,400**	**25,400**	**12,000**	**10,200**
Diethylphthalate	55 U	190 UJ	46 U	47 U	47 U	46 U	47 U
Dimethylphthalate	**3,300** D 10	93 U	**47** J	**195**	43 U	43 U	43 U
Di-n-butylphthalate	**1,300** D 10	**280**	**426**	**292**	**201**	**206**	**806** J
Di-n-octyl phthalate	62 UJ	**1,900** D 5	73 U	75 U	74 U	**1,580**	75 U
Total Phthalates	41,400	31,090	23,525	51,127	26,205	14,411	11,901

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Phthalates	< 50,000ug/kg	50,000-100,000 mg/kg	>100,000 ug/kg
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg

Table 7
FD3A-D Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-D 7/12/2012	FD3A-D-6778358 7/12/2012	FD3A-D-6512463 7/12/2012	FD3A-D-6778361 7/12/2012
Conventionals					
Total Solids (%)	36.1	58.7	37.9	73.2	60.2
Total Metals in mg/kg					
Mercury	**0.293** JD 4	**0.0893** D 5	**0.423**	**0.0335**	**0.163**
LPAHs in ug/kg					
Aroclor-1016	9.6 U	12 U	9 U	7 U	10 U
Aroclor-1221	9.6 U	12 U	9 U	7 U	10 U
Aroclor-1232	9.6 U	12 U	9 U	7 U	10 U
Aroclor-1242	9.6 U	12 U	9 U	7 U	10 U
Aroclor-1248	86 U	12 U	8 U	6 U	8 U
Aroclor-1254	940 D 40	12 U	**330**	**85**	**64**
Aroclor-1260	86 U	12 U	8 U	6 U	8 U
Total PCBs	940	0	330	85	64
Phthalates in ug/kg					
Butylbenzylphthalate	**3,800** D 10	**320**	**870**	**850**	**440**
Di(2-ethylhexyl)phthalate	**33,000** D 10	**12,000**	**230,000**	**5,100**	**4,800**
Diethylphthalate	55 U	210 UJ	**69** J	36 U	44 U
Dimethylphthalate	**3,300** D 10	93 U	**57** J	**650**	**330**
Di-n-butylphthalate	**1,300** D 10	**240**	**250**	**450**	**240**
Di-n-octyl phthalate	62 UJ	**320** J	49 U	**140**	**160**
Total Phthalates	41,400	12,880	231,246	7,190	5,480

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Phthalates	< 50,000ug/kg	50,000-100,000 mg/kg	>100,000 ug/kg
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 8
FD3A-E Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-E 7/12/2012	FD3A-E-6766134 7/11/2012	FD3A-E-6775901 7/12/2012	FD3A-E-6775902 7/12/2012	FD3A-E-6766142 7/12/2012	FD3A-E-6766271 7/12/2012
Conventionals							
Total Solids (%)	36.1	55.7	45.5	51.1	58.7	59.3	52.2
Total Metals in mg/kg							
Mercury	0.293 JD 4	**0.151** D 5	**0.192**	**0.0842**	**0.0833**	**0.0571**	**0.0680**
PCBs in ug/kg							
Aroclor-1016	9.6 U	12 UD 10	7 U	8 U	6 U	7 U	7 U
Aroclor-1221	9.6 U	12 UD 10	7 U	8 U	6 U	7 U	7 U
Aroclor-1232	9.6 U	12 UD 10	7 U	8 U	6 U	7 U	7 U
Aroclor-1242	9.6 U	12 UD 10	7 U	8 U	6 U	7 U	7 U
Aroclor-1248	86 U	12 UD 10	6 U	7 U	5 U	6 U	6 U
Aroclor-1254	**940** D 40	**500** D 10	**78**	**62**	**14** J	**550**	**3100**
Aroclor-1260	86 U		6 U	7 U	5 U	6 U	6 U
Total PCBs	940	**500**	78	62	14	**550**	**3100**

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 9
FD3A-F Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-F 7/12/2012	FD3A-F-6766524 7/11/2012	FD3A-F-6766533 7/12/2012	FD3A-F6778363 7/12/2012	FD3A-F-6766735 7/12/2012
Conventionals						
Total Solids (%)	36.1	55.9	33.1	66.5	64.9	62.0
Total Metals in mg/kg						
Mercury	0.293 JD 4	**0.200** D 5	**0.145**	**0.0573**	**0.318**	**0.182**
PCBs in ug/kg						
Aroclor-1016	9.6 U	12 UD 10	8 U	6 U	10 U	7 U
Aroclor-1221	9.6 U	12 UD 10	8 U	**80**	10 U	7 U
Aroclor-1232	9.6 U	12 UD 10	8 U	6 U	10 U	7 U
Aroclor-1242	9.6 U	12 UD 10	8 U	6 U	10 U	7 U
Aroclor-1248	86 U	12 UD 10	7 U	6 U	9 U	6 U
Aroclor-1254	940 D 40	**600** D 10	7 U	**1200**	**51**	**140**
Aroclor-1260	86 U	12 UD 10	7 U	6 U	9 U	6 U
Total PCBs	940	**600**	0	**1280**	51	140

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 10
FD3A-G Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-G 7/11/2012	FD3A-G-6766372 7/11/2012	FD3A-G-6766398 7/12/2012	FD3A-G-6766415 7/12/2012	FD3A-G-6766426 7/12/2012	FD3A-G-6766559 7/12/2012	FD3A-G-6766568 7/11/2012	FD3A-G-6766753 7/11/2012
Conventionals									
Total Solids (%)	36.1	66.0	61.5	42.6	48.3	80.5	68.2	78.3	67.3
Total Metals in mg/kg									
Mercury	0.293 JD 4	**0.216** D 5	**0.0607**	**0.162**	**0.109**	**0.255**	**6.83**	**0.145**	**0.0463**
PCBs in ug/kg									
Aroclor-1016	9.6 U	12 UD 10	7 U	10 U	8 U	7 U	10 U	8 U	10 U
Aroclor-1221	9.6 U	12 UD 10	7 U	10 U	8 U	7 U	10 U	8 U	10 U
Aroclor-1232	9.6 U	12 UD 10	7 U	10 U	8 U	7 U	10 U	8 U	10 U
Aroclor-1242	9.6 U	12 UD 10	7 U	10 U	8 U	7 U	10 U	8 U	10 U
Aroclor-1248	86 U	12 UD 10	6 U	9 U	7 U	6 U	9 U	7 U	9 U
Aroclor-1254	**940** D 40	**560** D 10	**74**	**440**	**300**	**61**	**770**	**210**	**2100**
Aroclor-1260	86 U	12 UD 10	6 U	9 U	7 U	6 U	9 U	7 U	9 U
Total PCBs	940	**560**	**74**	**440**	**300**	**61**	**770**	**210**	**2100**

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 11
FD3A-H Round 2 Results

Segment Date Collected	FD-3A_SedTrap 8/25/2011	FD3A-H 7/11/2012	FD3A-H-6766797 7/11/2012	FD3A-H-6516598 7/11/2012	FD3A-H-6776949 7/11/2012	FD3A-H-6767615 7/11/2012
Conventionals						
Total Solids (%)	36.1	83.3	84.4	71.2	82.0	71.5
Total Metals in mg/kg						
Mercury	0.293 JD 4	**0.0432** D 5	**0.0319**	0.0336	0.0696	0.0372
LPAHs in ug/kg						
2-Methylnaphthalene	140 D 10	**900**	56 U	**62** J	**120**	60 U
Acenaphthene	400 D 10	**270**	**57** J	**78** J	**730**	130
Acenaphthylene	51 U	**200**	53 U	58 U	**480**	57 U
Anthracene	710 D 10	**2300**	**390**	**380**	**4900**	360
Fluorene	520 D 10	**610**	**120**	**150**	**1600**	190
Naphthalene	320 D 10	**700**	50 U	**88** J	**330**	62 J
Phenanthrene	7,100 D 10	**9,900**	**2500**	**2400**	**31000**	1900
Total LPAHs in ug/kg	9,075.5	13,980.0	3,118.5	3,125	39,040	2,671
HPAHs in ug/kg						
Benzo(a)anthracene	7,900 D 10	**16,000** D 5	**2900**	**2000**	41000	850
Benzo(a)pyrene	7,100 D 10	**15,000** D 5	**2700**	**2100**	42000	781
Benzo(g,h,i)perylene	6,500 D 10	**10,000** D 5	**2500**	**2200**	32000	840
Benzo(b,k)fluoranthenes	18,000 D 10	**33,000** J 5	**6500**	**4900**	95000	1800
Chrysene	9,500 D 10	**20,000** D 5	**3500**	**2800**	51000	990
Dibenz(a,h)anthracene	1,600 D 10	**3,000** D 5	**610**	**520**	6900	130
Fluoranthene	15,000 D 10	**32,000** D 5	**5300**	**4200**	81000	2000
Indeno(1,2,3-cd)pyrene	6,700 D 10	**9,900** D 5	**2500**	**2100**	32000	720
Pyrene	10,000 D 10	**36,000**	**5300**	**4100**	76000	1800
Total HPAHs in ug/kg	82,300	174,900	31,810	24,920	456,900	9,911
Total PAHs in ug/kg	91,375.5	**188,880**	34,929	28,045	495,940	12,582

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg
PAHs	<164,000 ug/kg	164,000 - 300,000 ug/kg	> 300,000 ug/Kg

Table 12
FD18-B Round 2 Results

Segment Date Collected	FD-18 8/24/2011	FD18-B 7/17/2012	FD18-B-6766321	FD18-B-6768243	FD18-B6768234	FD18-B-6768225
Conventionals						
Total Solids (%)	37.4	65.3	61.4	47.9	73.6	63.4
PCBs in ug/kg						
Aroclor-1016	9.5 U	12 UD 10	21 U	27 U	18 U	21 U
Aroclor-1221	9.5 U	12 UD 10	21 U	27 U	18 U	21 U
Aroclor-1232	9.5 U	12 UD 10	21 U	27 U	18 U	21 U
Aroclor-1242	9.5 U	12 UD 10	21 U	27 U	18 U	21 U
Aroclor-1248	86 U	12 UD 10	19 U	24 U	16 U	18 U
Aroclor-1254	390 D 40	**390** D 10	**480**	**110**	**39** J	**2700**
Aroclor-1260	86 U	12 UD 10	19U	24 U	16 U	18 U
Total PCBs	390	390	480	110	39	2700

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
PCBs	<120 ug/kg	120-400 ug/kg	> 400 ug/Kg

Table 13
FD18-D2 Round 2 Results

Segment Date Collected	FD-18 8/24/2011	FD18-D2 7/18/2012	FD18-D-6768027 7/18/2012	FD18-D-6768044 7/18/2012	FD18-D-6768069 7/18/2012	FD18-D-672213 7/18/2012
Conventionals						
Total Solids (%)	37.4	56.6	63.1	60.5	70.1	51.9
Total Metals in mg/kg						
Mercury	0.155 JD 4	0.182 D 5	**0.222**	**0.0801**	**0.345**	**0.535**

Key and Comments

Contaminant	Small Levels	Medium Levels	Large Levels
Mercury	.10- .20 mg/kg	.20-.70 mg/kg	> .70 mg/kg

FIGURES

City of Tacoma

Figure 1

OF 230 Source Trace Investigation
FD18 Segment Locations

Map Date: January, 2013
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588

C:\MAX\FD_18\Figure1.mxd - Mousseau

City of Tacoma

Figure 2

OF 230 Source Tracing Investigation
FD3A Segment Locations

Map Date: January, 2013
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588

N

0 75 150 300 Feet

Legend

- Non-sampled Storm MH
- Storm CB
- Storm Lines

Section

- A
- B
- C
- D
- E
- F
- G
- H

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City of Tacoma

Figure 3

FD3A - PCBs
Round 2 Priority Results

Map Date: January, 2013
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588

N

0 75 150 300 Feet

Legend

- Non-sampled Storm MH
- Storm CB
- Storm Lines

Section

A, B, C, D, E, F, G, H

PCB Concentrations of Sampled MHs

- LOW LEVELS - < 120 µg/kg
- MEDIUM LEVELS - 120 - 400 µg/kg
- HIGH LEVELS - > 400 ug/kg

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City of Tacoma

Figure 4

FD18 - PCBs
Round 2 Priority Results

Map Date: January, 2013
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588

Legend

- Non-sampled Storm MH
- Storm CB
- Storm Lines

N

0 120 240 480 Feet

Section

- A
- B
- C
- D
- FD-18b

PCB Concentrations of Sampleds MHs

- LOW LEVELS - < 120 µg/kg
- MEDIUM LEVELS -120 - 400 µg/kg
- HIGH LEVELS - > 400 µg/kg

Tacoma

C:\MAX\FD_18\Figure1PCBs.mxd - Mousseau

City of Tacoma

Figure 5

FD3A - Mercury
Round 2 Priority Results

Map Date: January, 2013
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588

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APPENDIX A: EXCERPTS FROM THE 2011 FOSS REPORT

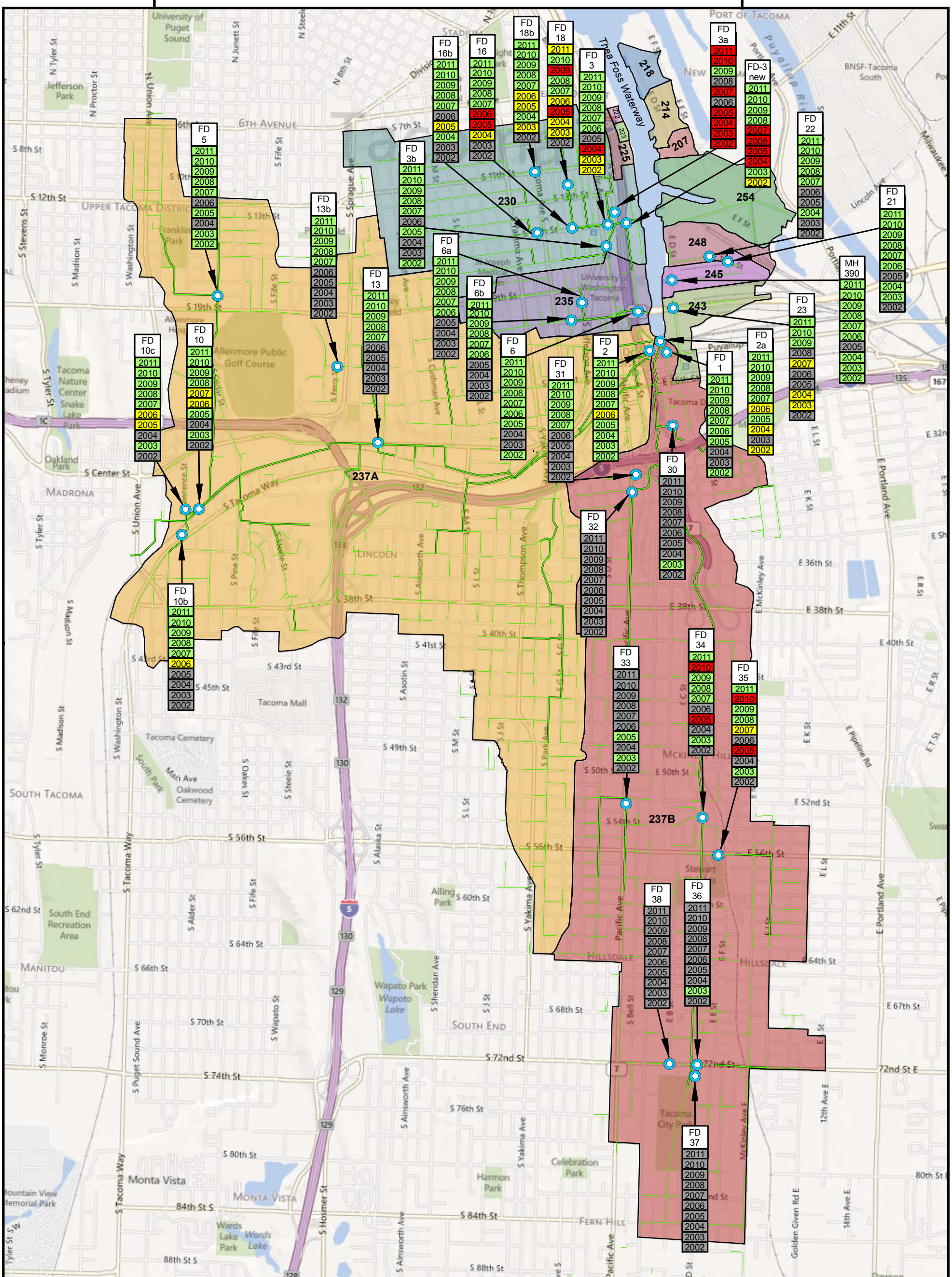
City of Tacoma

PCBs Figure 2-1d

Thea Foss Waterway - Sediment Trap Data Results

Map Date: March 2012
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588



Legend

- SAMPLE SITE LOCATIONS
- STORMWATER LINES
- TRUNK LINES 24" AND LARGER

Symbol Level Key

- NO ANALYSIS DUE TO SAMPLE SIZE
- SMALL LEVELS - < 120 ug/Kg
- MEDIUM LEVELS - 120 _ 400 ug/Kg
- LARGE LEVELS - > 400 ug/Kg

Tacoma

G:\gps_datarequest\Ddeleon\NPDES_2012\PCBs.mxd - Van Pelt

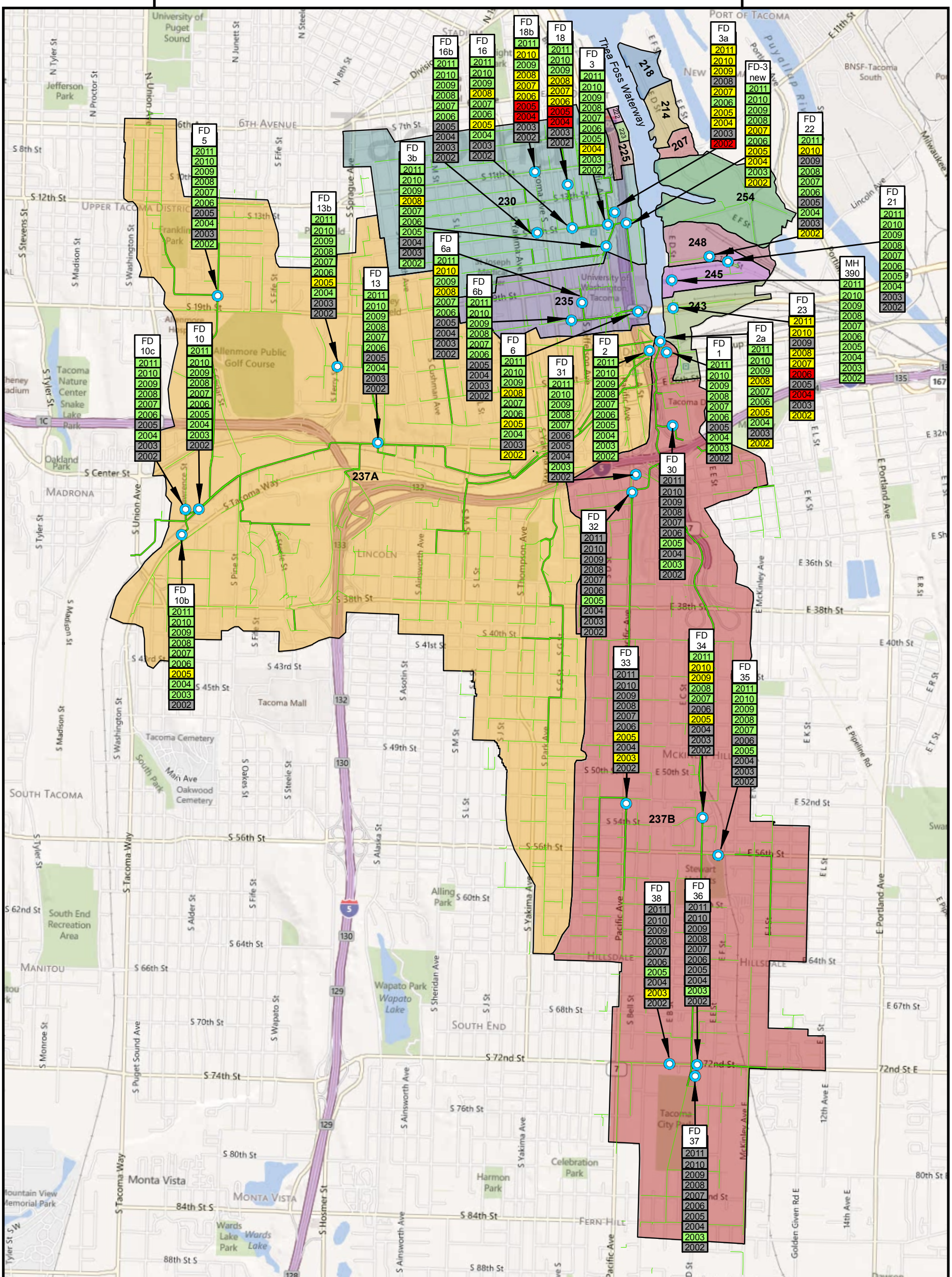
City of Tacoma

Mercury Figure 2-1a

Thea Foss Waterway - Sediment Trap Data Results

Map Date: March 2012
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588



Legend

- SAMPLE SITE LOCATIONS
- STORMWATER LINES
- TRUNK LINES 24" AND LARGER

N

0 500 1,000 2,000 Feet

Symbol Level Key

- NO ANALYSIS DUE TO SAMPLE SIZE
- SMALL LEVELS - <.20 ug/Kg
- MEDIUM LEVELS - .20 - .70 ug/Kg
- LARGE LEVELS - >.70 ug/Kg

Tacoma

G:\gps_datarequest\Ddeleon\NPDES_2012\Mercury.mxd - Van Pelt

APPENDIX B: CITY OF TACOMA ENVIRONMENTAL SERVICES LABORATORY REPORT

City of Tacoma
Environmental Services Laboratory

18 January 2013

Mary Henley
PW Science and Engineering
326 East D Street
Tacoma, WA 98421

Subject: Foss OF230 Source Tracing

Enclosed are the analytical results for samples collected between 07/11/2012 and 07/18/2012.

Quality Control Data are included with the sample results for your review.

If you have any questions concerning this report, call me at (253)502-2130. Please note that remaining samples associated with this report will be discarded 3 months from the date of this report unless we are notified otherwise.

Sincerely,

Stuart Magoon
Assistant Division Manager
Environmental Services Laboratory

cc. Alan Aplin

CHAIN OF CUSTODY

The samples were received under appropriate Chain of Custody procedures.

SAMPLE RECEIPT, PRESERVATION AND STORAGE

These samples were analyzed for Source Tracing. Samples were frozen to work in to the schedule around other projects. Holding times were evaluated based on the samples out of the freezer in a "thawed" state.

HOLDING TIMES

All analyses were performed within the required holding times.

METHODS

The samples were analyzed by the following methods:

- Standard Methods 2540G for Total Solids
- EPA Method 7471A for Total Mercury
- EPA Method 8270B For Semi-Volatile Organics to include PCBs as Aroclors

METHOD DETECTION LIMITS

All analytes are reported to the Method Detection Limit (MDL). Values below the PQL are qualified as estimated (J) and may not be as precise as values reported greater than the PQL (the low standard or 3 - 5 times the MDL).

METHOD BLANKS

Method blanks were analyzed at the required frequencies of the methods. There was a minimum of one Method Blank for each analytical method. Blank values were less than the Practical Quantitation Limits, **except for Diethylphthalate in 1229048-BLK1 at 100 ug/Kg and 1230037-BLK2 at 90 ug/Kg. Samples T207046-01, T207046-06, T207046-10, T207046-17, T207046-23, T207046-31, T207046-48, T207046-68, T207046-78, T207046-92RE1, and T207046-93 are qualified as not detected at the estimated value (UJ).**

SURROGATE COMPOUNDS

Surrogate compounds were added to each sample to monitor matrix effects. Surrogate recoveries were within the project control limits, except for Terphenyl-d14 in the following samples:

Analysis	Sample	Recovery	Limits
Semi-VOA	FD3A-B	158	50-150
	FD3A-C	155	50-150
	FD3A-E	158	50-150

No data is qualified on just one surrogate recovery outside of limits in these samples.

LABORATORY CONTROL SAMPLES

Laboratory Control Samples were analyzed with these samples for all parameters. The recoveries for all associated LCS were within the project limits.

DUPLICATE SAMPLE ANALYSIS

Duplicate analysis was performed with these samples for Total Solids and Mercury. Relative percent differences were within the project limits.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE ANALYSIS

Matrix Spike and/or Matrix Spike Duplicate analysis was performed with these samples. Recoveries were within the project limits, except for those indicated in the data report with '#'. No data is qualified solely on the MS or MSD recoveries out of limits.

INTERNAL STANDARDS

Internal Standards were added to these samples for quantitation purposes. The Area counts of these standards must not vary more than a factor of two from the mid-point standard of the calibration curve according to the method. The retention times must not vary by more than 30 seconds. No compounds varied by more than 30 seconds retention time. The internal standard criteria were met for these samples, **except for the following:**

SampleID	Internal Standard	Area Recovery	Associated Compounds
T207046-31	Chrysene-d12	49%	Butyl benzyl phthalate
T207046-48	Chrysene-d12	48%	Butyl benzyl phthalate
T207046-57	Chrysene-d12	49%	Butyl benzyl phthalate
T207046-06	Perylene-d12	49%	Indeno(1,2,3-c,d)pyrene Dibenz(a,h)anthracene
T207046-10	Perylene-d12	44%	Indeno(1,2,3-c,d)pyrene Dibenz(a,h)anthracene
T207046-17	Perylene-d12	42%	Dibenz(a,h)anthracene
T207046-23	Perylene-d12	38%	Di-n-octyl phthalate Dibenz(a,h)anthracene
T207046-31	Perylene-d12	34%	Di-n-octyl phthalate Dibenz(a,h)anthracene
T207046-40	Perylene-d12	35%	Di-n-octyl phthalate Dibenz(a,h)anthracene
T207046-53RE1	Perylene-d12	47%	Indeno(1,2,3-c,d)pyrene Di-n-octyl phthalate Benzo(a)pyrene Benzo(b,k)fluoranthenes Dibenz(a,h)anthracene Benzo(g,h,i)perylene
T207046-57	Perylene-d12	30%	Di-n-octyl phthalate Dibenz(a,h)anthracene
T207046-57RE1	Perylene-d12	46%	Indeno(1,2,3-c,d)pyrene Benzo(a)pyrene Benzo(b,k)fluoranthenes Benzo(g,h,i)perylene
T207046-68RE1	Perylene-d12	36%	Indeno(1,2,3-c,d)pyrene Di-n-octyl phthalate Benzo(a)pyrene Benzo(b,k)fluoranthenes Dibenz(a,h)anthracene Benzo(g,h,i)perylene

SampleID	Internal Standard	Area Recovery	Associated Compounds
T207046-78RE1	Perylene-d12	34%	Indeno(1,2,3-c,d)pyrene Di-n-octyl phthalate Benzo(a)pyrene Benzo(b,k)fluoranthenes Dibenz(a,h)anthracene Benzo(g,h,i)perylene
T207046-93RE1	Perylene-d12	32	Indeno(1,2,3-c,d)pyrene Di-n-octyl phthalate Benzo(a)pyrene Benzo(b,k)fluoranthenes Dibenz(a,h)anthracene Benzo(g,h,i)perylene

The detected compounds associated with the samples listed above are qualified as estimated at the reported levels (J). The compounds that were not detected associated with the samples listed above are qualified as not detected at the estimated reported values (UJ)

DATA AVAILABILITY

All data associated with the samples contained in this report are archived at the Environmental Services Laboratory and are available upon request.

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled
FD3A-A	T207046-01	Soil	11-Jul-12 09:54
FD3A-A-6777662	T207046-02	Soil	11-Jul-12 08:50
FD3A-A-6777664	T207046-03	Soil	11-Jul-12 09:35
FD3A-A-6777630	T207046-05	Soil	11-Jul-12 09:53
FD3A-B	T207046-06	Soil	11-Jul-12 10:52
FD3A-C	T207046-10	Soil	12-Jul-12 08:20
FD3A-C-6767516	T207046-11	Soil	12-Jul-12 07:19
FD3A-C-6767533	T207046-13	Soil	12-Jul-12 07:54
FD3A-C-6767542	T207046-14	Soil	11-Jul-12 08:10
FD3A-C-6767550	T207046-15	Soil	11-Jul-12 08:14
FD3A-C-6766354	T207046-16	Soil	11-Jul-12 08:18
FD3A-D	T207046-17	Soil	12-Jul-12 06:36
FD3A-D-6778358	T207046-18	Soil	12-Jul-12 05:48
FD3A-D-6512463	T207046-21	Soil	12-Jul-12 06:12
FD3A-D-6778361	T207046-22	Soil	12-Jul-12 06:35
FD3A-E	T207046-23	Soil	12-Jul-12 10:36
FD3A-E-6766134	T207046-25	Soil	12-Jul-12 08:55
FD3A-E-6775901	T207046-26	Soil	12-Jul-12 09:22
FD3A-E-6775902	T207046-27	Soil	12-Jul-12 09:52
FD3A-E-6766142	T207046-29	Soil	12-Jul-12 10:12
FD3A-E-6766271	T207046-30	Soil	12-Jul-12 10:35
FD3A-F	T207046-31	Soil	12-Jul-12 12:21
FD3A-F-6766533	T207046-33	Soil	12-Jul-12 11:49
FD3A-F-6778363	T207046-36	Soil	12-Jul-12 12:09
FD3A-F-6766735	T207046-37	Soil	12-Jul-12 12:20
FD3A-F-6766524	T207046-39	Soil	12-Jul-12 11:30
FD3A-G	T207046-40	Soil	11-Jul-12 06:15
FD3A-G-6766372	T207046-41	Soil	11-Jul-12 07:46

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lori A. Zborabki
Reviewed By

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled
FD3A-G-6766398	T207046-42	Soil	11-Jul-12 08:10
FD3A-G-6766415	T207046-43	Soil	11-Jul-12 08:11
FD3A-G-6766426	T207046-44	Soil	11-Jul-12 07:20
FD3A-G-6766559	T207046-45	Soil	11-Jul-12 07:02
FD3A-G-6766568	T207046-46	Soil	11-Jul-12 06:52
FD3A-G-6766753	T207046-47	Soil	11-Jul-12 06:45
FD3A-H	T207046-48	Soil	11-Jul-12 06:15
FD3A-H-6766797	T207046-49	Soil	11-Jul-12 05:51
FD3A-H-6516598	T207046-50	Soil	11-Jul-12 06:00
FD3A-H-6776949	T207046-51	Soil	11-Jul-12 05:38
FD3A-H-6767615	T207046-52	Soil	11-Jul-12 06:12
FD18-A	T207046-53	Soil	17-Jul-12 06:26
FD18-A-6766313	T207046-54	Soil	17-Jul-12 06:25
FD18-A-6768513	T207046-55	Soil	17-Jul-12 06:00
FD18-B	T207046-57	Soil	17-Jul-12 07:58
FD18-B-6766321	T207046-58	Soil	17-Jul-12 06:39
FD18-B-6768243	T207046-60	Soil	17-Jul-12 07:05
FD18-B-6768234	T207046-62	Soil	17-Jul-12 07:30
FD18-B-6768225	T207046-64	Soil	17-Jul-12 07:55
FD18-C-2	T207046-68	Soil	17-Jul-12 10:05
FD18-C-6768208	T207046-69	Soil	18-Jul-12 05:51
FD18-C-6768182	T207046-71	Soil	18-Jul-12 06:14
FD18-C-6768164	T207046-73	Soil	18-Jul-12 10:04
FD18-C-6768147	T207046-74	Soil	17-Jul-12 08:50
FD18-C-6768138	T207046-75	Soil	17-Jul-12 09:20
FD18-C-6768121	T207046-76	Soil	17-Jul-12 09:48
FD18-C-6768104	T207046-77	Soil	17-Jul-12 10:04
FD18-D-1	T207046-78	Soil	18-Jul-12 11:58

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lori A. Zboralski
Reviewed By

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled
FD18-D-6762377	T207046-79	Soil	18-Jul-12 09:31
FD18-D-6762184	T207046-81	Soil	18-Jul-12 09:51
FD18-D-6762213	T207046-82	Soil	18-Jul-12 10:14
FD18-D-6762222	T207046-83	Soil	18-Jul-12 10:40
FD18-D-6777906	T207046-85	Soil	18-Jul-12 11:04
FD18-D-6768027	T207046-87	Soil	18-Jul-12 11:23
FD18-D-6768044	T207046-89	Soil	18-Jul-12 11:42
FD18-D-6768069	T207046-91	Soil	18-Jul-12 11:57
FD18-C-1	T207046-92	Soil	18-Jul-12 06:38
FD18-D-2	T207046-93	Soil	18-Jul-12 11:06

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-A
T207046-01 (Soil)
11-Jul-12 09:54

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**59.4**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G
Metals							
Mercury	**0.196**	0.0272	0.0272	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**360**	330	220	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	**390**	330	150	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	**220 J**	330	200	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**6100**	330	82	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(a)anthracene	**3100**	330	87	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(a)pyrene	**3400**	330	96	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**7500**	660	160	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**2300**	330	110	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Butyl benzyl phthalate	**430**	330	160	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Chrysene	**4600**	330	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**630**	330	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**300 UJ**	330	160	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	150 U	330	150	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**290 J**	330	170	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-Octyl phthalate	170 U	330	170	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**7800**	330	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluorene	**630**	330	160	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**2100**	330	140	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	190 U	330	190	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**6100**	330	62	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Pyrene	**10000**	330	83	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*81.5 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*77.4 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	20 U	79	20	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D

FD3A-A
T207046-01 (Soil)
11-Jul-12 09:54

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Surrogate: 2-Fluorobiphenyl		*72.0 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*111 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*

FD3A-A
T207046-01RE1 (Soil)
11-Jul-12 09:54

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**36000**	1600	890	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-A-6777662
T207046-02 (Soil)
11-Jul-12 08:50

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**68.6**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.0492**	0.294	0.0368	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**64 J**	96	62	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	48 U	96	48	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	55 U	96	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**72 J**	96	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**200**	96	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)pyrene	**311**	96	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**878**	192	85	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**583**	96	74	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**415**	96	59	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**535**	96	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	69 U	96	69	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	**88 J**	96	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	43 U	96	43	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**168**	96	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	**559**	96	74	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**511**	96	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	46 U	96	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**383**	96	66	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	54 U	96	54	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**423**	96	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Pyrene	**950**	96	38	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D

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FD3A-A-6777662
T207046-02RE1 (Soil)
11-Jul-12 08:50

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**19300**	1920	1130	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*80.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Pyrene-d10		*72.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*84.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-A-6777664
T207046-03 (Soil)
11-Jul-12 09:35

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**55.9**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.127**	0.294	0.0368	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**487**	97	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	48 U	97	48	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	56 U	97	56	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**187**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**381**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)pyrene	**341**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**949**	195	86	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**892**	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**357**	97	60	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**746**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**89 J**	97	70	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	47 U	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	44 U	97	44	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**170**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	75 U	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**552**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**114**	97	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**746**	97	67	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**178**	97	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**730**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*81.0 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-A-6777664
T207046-03RE1 (Soil)
11-Jul-12 09:35

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**17800**	974	575	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**892 J**	974	383	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*82.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*96.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

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FD3A-A-6777630
T207046-05 (Soil)
11-Jul-12 09:53

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**56.8**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.0910**	0.222	0.0278	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**98**	98	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	**383**	98	48	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	**220**	98	56	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**1630**	98	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**5490**	98	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**7900**	98	53	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**896**	98	70	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	47 U	98	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	44 U	98	44	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**130**	98	53	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	75 U	98	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**505**	98	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**90 J**	98	56	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*87.6 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-A-6777630
T207046-05RE1 (Soil)
11-Jul-12 09:53

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**6520**	978	523	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**9450**	1960	866	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**4400**	978	756	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**11800**	978	578	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Butyl benzyl phthalate	**733 J**	978	601	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Fluoranthene	**16900**	978	522	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**5540**	978	673	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Phenanthrene	**8960**	978	471	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**13000**	978	384	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*88.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*102 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-B
T207046-06 (Soil)
11-Jul-12 10:52

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**76.7**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G
Metals							
Mercury	**0.0606**	0.0278	0.0278	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**80 J**	100	65	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	46 U	100	46	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	62 U	100	62	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**32 J**	100	25	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(a)anthracene	**200**	100	26	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Chrysene	**470**	100	35	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**49 J**	100	35	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**190 UJ**	100	49	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	**67 J**	100	46	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**200**	100	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**590**	100	37	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluorene	47 U	100	47	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**150 J**	100	43	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	**72 J**	100	58	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**420**	100	19	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Pyrene	**810**	100	25	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*73.9 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*73.9 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	6 U	24	6	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*65.0 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*103 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*

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FD3A-B
T207046-06RE1 (Soil)
11-Jul-12 10:52

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**270 J**	500	150	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**660 J**	1000	240	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**230 J**	500	170	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**8100**	500	270	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	**11000**	500	250	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**480 J**	500	260	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*158 %*	*49-128*		*18-Jul-12*	*31-Jul-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-C
T207046-10 (Soil)
12-Jul-12 08:20

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**53.1**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G
Metals							
Mercury	**0.244**	0.0278	0.0278	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**190 J**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(a)anthracene	**620**	200	53	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Butyl benzyl phthalate	**810**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Chrysene	**800**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**82 J**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**190 UJ**	200	98	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**280**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**970**	200	75	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**260 J**	200	86	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**830**	200	38	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Pyrene	**1400**	200	51	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*83.5 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*77.9 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*65.3 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*107 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*

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FD3A-C
T207046-10RE1 (Soil)
12-Jul-12 08:20

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**530 J**	1000	290	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1100 J**	2000	480	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**430 J**	1000	340	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**30000**	1000	540	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**1900**	1000	510	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*155 %*	*49-128*		*18-Jul-12*	*31-Jul-12*	*EPA 8270D*

FD3A-C-6767516
T207046-11 (Soil)
12-Jul-12 07:19

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**57.8**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.0836**	0.250	0.0313	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**166**	95	61	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	**528**	95	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	54 U	95	54	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**607**	95	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**875**	95	45	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)pyrene	**1030**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1770**	189	84	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**1300**	95	73	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**552**	95	58	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**1210**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**110**	95	68	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	46 U	95	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	**47 J**	95	42	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**426**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	73 U	95	73	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**394**	95	45	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**1140**	95	65	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**213**	95	54	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*88.2 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

FD3A-C-6767516
T207046-11RE1 (Soil)
12-Jul-12 07:19

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**22500**	4730	2800	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Fluoranthene	**2760 J**	4730	2530	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Phenanthrene	**2760 J**	4730	2280	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**1970 J**	4730	1860	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*80.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*90.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

FD3A-C-6767533
T207046-13 (Soil)
12-Jul-12 07:54

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**38.7**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.180**	0.313	0.0391	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**235**	97	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	**49 J**	97	48	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	56 U	97	56	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**130**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**341**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)pyrene	**341**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**843**	195	86	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**1310**	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**3240**	97	60	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**835**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**114**	97	70	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	47 U	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	**195**	97	44	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**292**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	75 U	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**535**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**89 J**	97	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**827**	97	67	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**162**	97	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**673**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Pyrene	**1960**	97	38	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*81.6 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

FD3A-C-6767533
T207046-13RE1 (Soil)
12-Jul-12 07:54

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**47400**	4870	2880	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*80.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*90.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-C-6767542
T207046-14 (Soil)
11-Jul-12 08:10

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**52.7**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.0798**	0.204	0.0255	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	62 U	97	62	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	48 U	97	48	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	55 U	97	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**89 J**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**226**	97	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)pyrene	**242**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**548**	193	86	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**556**	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**604**	97	59	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**500**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	69 U	97	69	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	47 U	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	43 U	97	43	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**201**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	74 U	97	74	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**379**	97	52	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**56 J**	97	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**338**	97	67	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**64 J**	97	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**516**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Pyrene	**1330**	97	38	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*87.2 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

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FD3A-C-6767542
T207046-14RE1 (Soil)
11-Jul-12 08:10

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**25400**	4830	2860	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*80.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*90.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-C-6767550
T207046-15 (Soil)
11-Jul-12 08:14

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**59.1**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.957**	0.303	0.0379	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	61 U	95	61	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	47 U	95	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	54 U	95	54	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	46 U	95	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)anthracene	**111**	95	45	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(a)pyrene	**158**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**364**	190	84	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**388**	95	73	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**625**	95	58	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Chrysene	**332**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	68 U	95	68	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	46 U	95	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	43 U	95	43	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**206**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**206**	95	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	45 U	95	45	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**229**	95	65	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**79 J**	95	54	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**253**	95	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*87.4 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-C-6767550
T207046-15RE1 (Soil)
11-Jul-12 08:14

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**12000**	949	561	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Di-n-Octyl phthalate	**1580**	949	731	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**395 J**	949	373	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*88.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*104 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-C-6766354
T207046-16 (Soil)
11-Jul-12 08:18

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**55.4**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Metals							
Mercury	**0.251**	0.303	0.0379	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	63 U	97	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	48 U	97	48	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	**129**	97	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Anthracene	**258**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1900**	194	86	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**1110**	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Butyl benzyl phthalate	**895**	97	60	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**169**	97	69	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	47 U	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	43 U	97	43	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-Octyl phthalate	75 U	97	75	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**56 J**	97	46	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**145**	97	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**1140**	97	47	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*85.0 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-C-6766354
T207046-16RE1 (Soil)
11-Jul-12 08:18

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**1210**	968	464	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)pyrene	**1050**	968	518	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**10200**	968	572	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Chrysene	**1530**	968	520	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Di-n-butylphthalate	**806 J**	968	522	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Fluoranthene	**2340**	968	517	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**726 J**	968	666	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**2020**	968	380	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*88.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*102 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-D
T207046-17 (Soil)
12-Jul-12 06:36

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**58.7**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G
Metals							
Mercury	**0.0893**	0.0250	0.0250	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	92 U	200	92	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	**170 J**	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**210**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(a)anthracene	**580**	200	53	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**12000**	200	110	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Butyl benzyl phthalate	**320**	200	99	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Chrysene	**810**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**93 J**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**210 UJ**	200	98	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**240**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**1200**	200	75	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**1100**	200	38	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Pyrene	**1500**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*83.8 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*78.7 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*143 %*	*49-128*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*68.6 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*114 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*

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FD3A-D
T207046-17RE1 (Soil)
12-Jul-12 06:36

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**510**	400	120	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1200**	800	190	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**490**	400	130	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	140 U	400	140	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**320 J**	400	210	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-D-6778358
T207046-18 (Soil)
12-Jul-12 05:48

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**37.9**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.243**	0.278	0.0347	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**170**	95	62	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**170**	95	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	**590**	95	59	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**1100**	95	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**2500**	95	25	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)pyrene	**1400**	95	28	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**3600**	190	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(g,h,i)perylene	**1300**	95	32	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**870**	95	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**1700**	95	34	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dibenz(a,h)anthracene	**260**	95	33	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	**69 J**	95	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	**57 J**	95	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**250**	95	48	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	49 U	95	49	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**3700**	95	36	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**450**	95	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**1400**	95	41	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**260**	95	56	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**4400**	95	18	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**4100**	95	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*62.8 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*56.8 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*65.9 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*74.4 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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FD3A-D-6778358
T207046-18RE1 (Soil)
12-Jul-12 05:48

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**230000**	9500	5200	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Aroclor-1016	9 U	32	9	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1221	9 U	32	9	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1232	9 U	32	9	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1242	9 U	32	9	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1248	8 U	32	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1254	**330**	32	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1260	8 U	32	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*51.2 %*	*26-107*		*09-Nov-12*	*21-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*84.0 %*	*42-123*		*09-Nov-12*	*21-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-D-6512463
T207046-21 (Soil)
12-Jul-12 06:12

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**73.2**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0335**	0.263	0.0329	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**47 J**	72	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**51 J**	72	34	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	45 U	72	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**93**	72	18	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**330**	72	19	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)pyrene	**320**	72	21	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**730**	140	35	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(g,h,i)perylene	**470**	72	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**5100**	72	39	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**850**	72	36	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**480**	72	26	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dibenz(a,h)anthracene	**72**	72	25	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	36 U	72	36	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	**650**	72	34	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**450**	72	37	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	**140**	72	37	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**740**	72	27	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**73**	72	34	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**310**	72	31	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**130**	72	42	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**700**	72	14	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**1100**	72	18	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*82.6 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*74.6 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*98.3 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*112 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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FD3A-D-6512463
T207046-21RE1 (Soil)
12-Jul-12 06:12

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1016	7 U	24	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1221	7 U	24	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1232	7 U	24	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1242	7 U	24	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1248	6 U	24	6	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1254	**85**	24	6	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1260	6 U	24	6	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*68.8 %*	*26-107*		*09-Nov-12*	*21-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*107 %*	*42-123*		*09-Nov-12*	*21-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-D-6778361
T207046-22 (Soil)
12-Jul-12 06:35

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**60.2**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.163**	0.222	0.0278	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**64 J**	89	58	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**79 J**	89	41	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	55 U	89	55	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**110**	89	22	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**320**	89	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)pyrene	**350**	89	26	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**840**	180	42	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(g,h,i)perylene	**470**	89	30	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**4800**	89	48	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**440**	89	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**500**	89	31	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dibenz(a,h)anthracene	**80 J**	89	31	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	44 U	89	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	**330**	89	41	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**240**	89	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	**160**	89	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**820**	89	33	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**110**	89	42	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**310**	89	38	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**240**	89	52	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**970**	89	17	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**990**	89	22	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*65.5 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*59.6 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*74.2 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*83.8 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Aroclor-1016	10 U	36	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1221	10 U	36	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1232	10 U	36	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1242	10 U	36	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	

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FD3A-D-6778361
T207046-22 (Soil)
12-Jul-12 06:35

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1248	8 U	36	8	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D
Aroclor-1254	**64**	36	8	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D
Aroclor-1260	8 U	36	8	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*49.4 %*	*26-107*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*70.6 %*	*42-123*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-E
T207046-23 (Soil)
12-Jul-12 10:36

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**55.7**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G	
Metals								
Mercury	**0.151**	0.0266	0.0266	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	130 U	200	130	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Acenaphthene	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Acenaphthylene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Anthracene	**96 J**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Dibenz(a,h)anthracene	70 UJ	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Diethylphthalate	**200 UJ**	200	98	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Dimethyl phthalate	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Di-n-butylphthalate	**140 J**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Di-n-Octyl phthalate	100 UJ	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Fluoranthene	**670**	200	75	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Fluorene	94 U	200	94	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**260**	200	86	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Naphthalene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Phenanthrene	**570**	200	38	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*83.6 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*	
Surrogate: Nitrobenzene-d5		*76.9 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*158 %*	*49-128*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*	
Aroclor-1016	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1221	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1232	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1242	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1248	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1254	**500**	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*71.5 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*124 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*	#

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FD3A-E

T207046-23RE1 (Soil)

12-Jul-12 10:36

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**380 J**	1000	270	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**420 J**	1000	290	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**970 J**	2000	480	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**500 J**	1000	340	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**20000**	1000	540	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	**500 J**	1000	500	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**640 J**	1000	350	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**1300**	1000	250	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-E-6766134
T207046-25 (Soil)
12-Jul-12 08:55

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**45.5**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.192**	0.278	0.0347	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	25	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**78**	25	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	25	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*42.4 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*54.7 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-E-6775901
T207046-26 (Soil)
12-Jul-12 09:22

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**51.1**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0842**	0.200	0.0250	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	7 U	31	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**62**	31	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	7 U	31	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*41.5 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*58.8 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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FD3A-E-6775902
T207046-27 (Soil)
12-Jul-12 09:52

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**65.4**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0833**	0.270	0.0338	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	6 U	23	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	6 U	23	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	6 U	23	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	6 U	23	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	5 U	23	5	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**14 J**	23	5	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	5 U	23	5	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*87.4 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*125 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-E-6766142
T207046-29 (Soil)
12-Jul-12 10:12

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**59.3**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0571**	0.286	0.0357	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	27	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**550**	27	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	27	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*83.7 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*103 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-E-6766271
T207046-30 (Soil)
12-Jul-12 10:35

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**52.2**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0680**	0.286	0.0357	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	7 U	25	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	25	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**3100**	25	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	25	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*85.5 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*114 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-F
T207046-31 (Soil)
12-Jul-12 12:21

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**55.9**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G	
Metals								
Mercury	**0.200**	0.0260	0.0260	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**150 J**	200	130	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Acenaphthene	**190 J**	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Acenaphthylene	**160 J**	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Anthracene	**370**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Butyl benzyl phthalate	**380 J**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Dibenz(a,h)anthracene	**160 J**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Diethylphthalate	**200 UJ**	200	98	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Dimethyl phthalate	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Di-n-butylphthalate	**280**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Di-n-Octyl phthalate	**650 J**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Fluoranthene	**1800**	200	75	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Fluorene	**220**	200	94	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Naphthalene	**150 J**	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Phenanthrene	**2100**	200	38	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*86.2 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*	
Surrogate: Nitrobenzene-d5		*80.1 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*137 %*	*49-128*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*	#
Aroclor-1016	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1221	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1232	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1242	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1248	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1254	**600**	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Aroclor-1260	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*68.2 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*118 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*	

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FD3A-F
T207046-31RE1 (Soil)
12-Jul-12 12:21

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**900 J**	1000	260	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**1000**	1000	290	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**2000**	2000	480	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**720 J**	1000	340	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**21000**	1000	540	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**1300**	1000	350	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**530 J**	1000	430	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**3100**	1000	250	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-F-6766533
T207046-33 (Soil)
12-Jul-12 11:49

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**66.5**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0573**	0.256	0.0321	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	6 U	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	**80**	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	6 U	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	6 U	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**1200**	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	24	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*91.2 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*112 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-F-6778363
T207046-36 (Soil)
12-Jul-12 12:09

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**64.9**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.318**	0.278	0.0347	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**150**	92	60	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**120**	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	**140**	92	57	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**240**	92	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**440**	92	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**420**	92	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**780**	92	33	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	**89 J**	92	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	**98**	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**780**	92	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**880**	92	35	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**180**	92	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**190**	92	54	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**980**	92	17	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**1100**	92	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*77.9 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*72.6 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*85.5 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*95.9 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Aroclor-1016	10 U	37	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1221	10 U	37	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1232	10 U	37	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1242	10 U	37	10	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1248	9 U	37	9	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1254	**51**	37	9	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Aroclor-1260	9 U	37	9	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*28.8 %*	*26-107*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*42.2 %*	*42-123*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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FD3A-F-6778363
T207046-36RE1 (Soil)
12-Jul-12 12:09

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**520**	460	140	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1100**	920	220	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**780**	460	160	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**17000**	460	250	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**190 J**	460	160	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Di-n-Octyl phthalate	**800**	460	240	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**580**	460	200	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D

FD3A-F-6766735
T207046-37 (Soil)
12-Jul-12 12:20

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**62.0**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.182**	0.256	0.0321	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	26	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**140**	26	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	26	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*80.2 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*107 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-F-6766524
T207046-39 (Soil)
12-Jul-12 11:30

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**33.1**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.145**	0.278	0.0347	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**160**	91	59	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**230**	91	42	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	**110**	91	56	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**620**	91	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**1600**	91	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**180**	91	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**1100**	91	32	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	44 U	91	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	42 U	91	42	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**160**	91	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	47 U	91	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**2200**	91	34	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**260**	91	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**210**	91	53	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**3000**	91	17	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**3000**	91	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*77.4 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*70.9 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*82.1 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*93.5 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-F-6766524
T207046-39RE1 (Soil)
12-Jul-12 11:30

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**1300**	450	130	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**2300**	910	220	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**1400**	450	150	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**32000**	450	240	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**200 J**	450	160	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**1000**	450	200	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Aroclor-1016	8 U	30	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1221	8 U	30	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1232	8 U	30	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1242	8 U	30	8	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1248	7 U	30	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1254	7 U	30	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Aroclor-1260	7 U	30	7	ug/kg dry	09-Nov-12	21-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*65.6 %*	*26-107*		*09-Nov-12*	*21-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*106 %*	*42-123*		*09-Nov-12*	*21-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G
T207046-40 (Soil)
11-Jul-12 06:15

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**66.0**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G
Metals							
Mercury	**0.216**	0.0245	0.0245	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	**250**	200	92	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**430**	200	49	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Benzo(a)anthracene	**2000**	200	53	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Butyl benzyl phthalate	**590**	200	99	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Chrysene	**2500**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**280 J**	200	70	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**130 J**	200	98	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	92 U	200	92	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**650**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-Octyl phthalate	100 UJ	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**3700**	200	74	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluorene	**270**	200	94	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**3200**	200	37	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Pyrene	**4400**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*83.6 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*73.1 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*108 %*	*49-128*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	**560**	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*67.2 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*91.7 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G
T207046-40RE1 (Soil)
11-Jul-12 06:15

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**1900**	990	290	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**4400**	2000	470	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**1100**	990	330	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**26000**	990	540	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	350 U	990	350	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**970 J**	990	430	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G-6766372
T207046-41 (Soil)
11-Jul-12 07:46

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**61.5**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0607**	0.263	0.0329	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	7 U	26	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	26	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**74**	26	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	26	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*76.6 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*101 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G-6766398
T207046-42 (Soil)
11-Jul-12 08:10

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**42.6**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.162**	0.270	0.0338	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	9 U	36	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**440**	36	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	9 U	36	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*83.6 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*104 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G-6766415
T207046-43 (Soil)
11-Jul-12 08:11

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**48.3**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.109**	0.238	0.0298	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	8 U	30	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	8 U	30	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	8 U	30	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	8 U	30	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	7 U	30	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**300**	30	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	7 U	30	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*82.4 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*108 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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FD3A-G-6766426
T207046-44 (Soil)
11-Jul-12 07:20

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**80.5**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.255**	0.196	0.0245	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	7 U	27	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	6 U	27	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**61**	27	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	6 U	27	6	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*85.8 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*110 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G-6766559
T207046-45 (Soil)
11-Jul-12 07:02

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**68.2**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**6.83**	0.889	0.111	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**770**	38	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*73.4 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*101 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G-6766568
T207046-46 (Soil)
11-Jul-12 06:52

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**78.3**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.145**	0.233	0.0291	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	8 U	31	8	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	7 U	31	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**210**	31	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	7 U	31	7	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*95.5 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*119 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-G-6766753
T207046-47 (Soil)
11-Jul-12 06:45

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**67.3**	1.0		%	10-Oct-12	10-Oct-12	SM 2540 G
Metals							
Mercury	**0.0463**	0.204	0.0255	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B
Semi-VOA							
Aroclor-1016	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1221	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1232	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1242	10 U	36	10	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1248	9 U	36	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1254	**2100**	36	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Aroclor-1260	9 U	36	9	ug/kg dry	15-Oct-12	19-Oct-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*85.5 %*	*26-107*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*106 %*	*42-123*		*15-Oct-12*	*19-Oct-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-H
T207046-48 (Soil)
11-Jul-12 06:15

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**83.3**	1.0		%	12-Jul-12	13-Jul-12	SM 2540 G
Metals							
Mercury	**0.0432**	0.0250	0.0250	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**900**	200	130	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	**270**	200	92	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	**200**	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**2300**	200	50	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Butyl benzyl phthalate	**300 J**	200	99	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**190 UJ**	200	98	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	93 U	200	93	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**540**	200	100	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Fluorene	**610**	200	94	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	**700**	200	120	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**9900**	200	37	ug/kg dry	18-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*84.2 %*	*39-92*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*71.1 %*	*32-105*		*18-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	18-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*57.6 %*	*26-107*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*100 %*	*42-123*		*18-Jul-12*	*03-Aug-12*	*EPA 8270D*

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FD3A-H

T207046-48RE1 (Soil)

11-Jul-12 06:15

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**16000**	1000	260	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**15000**	1000	290	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**33000**	2000	480	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**10000**	1000	330	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**5100**	1000	540	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	500 U	1000	500	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**20000**	1000	350	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**3000**	1000	350	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**1200**	1000	510	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Fluoranthene	**32000**	1000	370	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**9900**	1000	430	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**36000**	1000	250	ug/kg dry	18-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*125 %*	*49-128*		*18-Jul-12*	*31-Jul-12*	*EPA 8270D*

FD3A-H-6766797
T207046-49 (Soil)
11-Jul-12 05:51

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**84.4**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0319**	0.204	0.0255	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	56 U	86	56	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**57 J**	86	40	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	53 U	86	53	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**390**	86	21	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**2900**	86	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**1300**	86	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	43 U	86	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**3500**	86	30	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	42 U	86	42	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	40 U	86	40	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**50 J**	86	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	**85 J**	86	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**5300**	86	32	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**120**	86	40	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	50 U	86	50	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**2500**	86	16	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**5300**	86	22	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*76.0 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*65.4 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*83.7 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*95.3 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

FD3A-H-6766797
T207046-49RE1 (Soil)
11-Jul-12 05:51

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**2700**	430	130	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**6500**	860	200	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**2500**	430	140	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**610**	430	150	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**2500**	430	180	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-H-6516598
T207046-50 (Soil)
11-Jul-12 06:00

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**71.2**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0336**	0.185	0.0231	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**62 J**	93	61	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**78 J**	93	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	58 U	93	58	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**380**	93	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**2000**	93	25	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**5400**	93	50	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**390**	93	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**2800**	93	33	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	46 U	93	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	43 U	93	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**51 J**	93	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**4200**	93	35	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**150**	93	44	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**88 J**	93	54	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**2400**	93	17	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**4100**	93	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*73.8 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*68.1 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*80.1 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*91.1 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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FD3A-H-6516598
T207046-50RE1 (Soil)
11-Jul-12 06:00

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**2100**	460	140	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**4900**	930	220	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**2200**	460	160	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**520**	460	160	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Di-n-Octyl phthalate	**3100**	460	240	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**2100**	460	200	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-H-6776949
T207046-51 (Soil)
11-Jul-12 05:38

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**82.0**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0696**	0.222	0.0278	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	**120**	92	60	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**730**	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	**480**	92	57	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**4900**	92	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**620**	92	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	45 U	92	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	43 U	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**250**	92	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	47 U	92	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**1600**	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**330**	92	54	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*79.3 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*70.5 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-H-6776949
T207046-51RE1 (Soil)
11-Jul-12 05:38

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**41000**	1800	490	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(a)pyrene	**42000**	1800	540	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**95000**	3700	880	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**32000**	1800	620	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**4800**	1800	990	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Chrysene	**51000**	1800	650	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**6900**	1800	640	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Fluoranthene	**81000**	1800	690	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**32000**	1800	790	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Phenanthrene	**31000**	1800	350	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Pyrene	**76000**	1800	460	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*90.3 %*	*50-150*		*09-Nov-12*	*26-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*106 %*	*49-128*		*09-Nov-12*	*26-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD3A-H-6767615
T207046-52 (Soil)
11-Jul-12 06:12

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**71.5**	1.0		%	05-Nov-12	07-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0372**	0.244	0.0305	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	60 U	92	60	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthene	**130**	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Acenaphthylene	57 U	92	57	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Anthracene	**360**	92	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Benzo(a)anthracene	**850**	92	24	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**3100**	92	50	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Butyl benzyl phthalate	**190**	92	46	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Chrysene	**990**	92	32	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dibenz(a,h)anthracene	**130**	92	32	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Diethylphthalate	45 U	92	45	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Dimethyl phthalate	43 U	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-butylphthalate	**140**	92	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Di-n-Octyl phthalate	**310**	92	47	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluoranthene	**2000**	92	34	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Fluorene	**190**	92	43	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Naphthalene	**62 J**	92	54	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Phenanthrene	**1900**	92	17	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Pyrene	**1800**	92	23	ug/kg dry	09-Nov-12	20-Nov-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*79.4 %*	*39-92*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	#
Surrogate: Nitrobenzene-d5		*68.0 %*	*32-105*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Pyrene-d10		*83.5 %*	*50-150*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*95.3 %*	*49-128*		*09-Nov-12*	*20-Nov-12*	*EPA 8270D*	

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FD3A-H-6767615
T207046-52RE1 (Soil)
11-Jul-12 06:12

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**780**	460	130	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1800**	920	220	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**840**	460	150	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**720**	460	200	ug/kg dry	09-Nov-12	26-Nov-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-A
T207046-53 (Soil)
17-Jul-12 06:26

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**65.2**	1.0		%	18-Jul-12	19-Jul-12	SM 2540 G
Metals							
Mercury	**0.120**	0.0278	0.0278	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	92 U	200	92	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**130 J**	200	50	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	150 U	200	150	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	93 U	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**590**	200	75	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**550**	200	38	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*84.8 %*	*39-92*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*70.3 %*	*32-105*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*68.6 %*	*26-107*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*83.0 %*	*42-123*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*

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FD18-A

T207046-53RE1 (Soil)

17-Jul-12 06:26

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**400**	200	53	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**510 J**	200	59	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1500 J**	400	95	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**490 J**	200	67	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**3200**	200	110	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	**150 J**	200	99	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**690**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**95 J**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-butylphthalate	100 U	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**260 J**	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**390 J**	200	86	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**860**	200	51	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*106 %*	*49-128*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-A-6766313
T207046-54 (Soil)
17-Jul-12 06:25

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**78.5**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	0.0338 U	0.270	0.0338	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	57 U	87	57	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	**45 J**	87	40	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	54 U	87	54	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	**97**	87	22	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)anthracene	**240**	87	23	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**3400**	87	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**100**	87	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Chrysene	**400**	87	31	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	43 U	87	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	41 U	87	41	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**71 J**	87	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**850**	87	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	**69 J**	87	41	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	51 U	87	51	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**820**	87	16	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Pyrene	**1000**	87	22	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*69.0 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*112 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*127 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Aroclor-1016	5 U	17	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1221	5 U	17	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1232	5 U	17	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1242	5 U	17	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1248	4 U	17	4	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1254	**24**	17	4	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1260	4 U	17	4	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*56.4 %*	*26-107*		*03-Dec-12*	*21-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*82.8 %*	*42-123*		*03-Dec-12*	*21-Dec-12*	*EPA 8270D*	

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FD18-A-6766313
T207046-54RE1 (Soil)
17-Jul-12 06:25

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**260**	87	26	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(b,k)fluoranthenes	**610**	170	42	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(g,h,i)perylene	**270**	87	29	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Dibenz(a,h)anthracene	**54 J**	87	31	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Di-n-Octyl phthalate	45 U	87	45	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**230**	87	38	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-A-6768513
T207046-55 (Soil)
17-Jul-12 06:00

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**58.3**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0643**	0.263	0.0329	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	62 U	94	62	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	**96**	94	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	59 U	94	59	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	**140**	94	24	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	47 U	94	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	**61 J**	94	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	44 U	94	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**120**	94	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**1000**	94	35	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	**100**	94	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	**93 J**	94	55	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**810**	94	18	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*75.2 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Terphenyl-d14		*137 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Aroclor-1248	5 U	19	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1254	**66**	19	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1260	5 U	19	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Surrogate: Terphenyl-d14		*68.9 %*	*42-123*		*03-Dec-12*	*21-Dec-12*	*EPA 8270D*	

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FD18-A-6768513
T207046-55RE1 (Soil)
17-Jul-12 06:00

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)pyrene	**810**	94	28	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(b,k)fluoranthenes	**2200**	190	45	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(g,h,i)perylene	**72 J**	94	32	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Dibenz(a,h)anthracene	**150**	94	33	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Di-n-Octyl phthalate	49 U	94	49	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**680**	94	41	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Aroclor-1016	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*95.0 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

FD18-A-6768513
T207046-55RE2 (Soil)
17-Jul-12 06:00

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**620 J**	940	250	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**10000**	940	510	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Chrysene	**1100**	940	330	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Pyrene	**1600**	940	240	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Surrogate: Pyrene-d10		*118 %*	*50-150*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B
T207046-57 (Soil)
17-Jul-12 07:58

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**65.3**	1.0		%	18-Jul-12	19-Jul-12	SM 2540 G
Metals							
Mercury	**0.0794**	0.0272	0.0272	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	**180 J**	200	130	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	93 U	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**79 J**	200	50	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Butyl benzyl phthalate	**170 J**	200	100	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	70 UJ	200	70	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	150 U	200	150	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	**300**	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**2000**	200	100	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Di-n-Octyl phthalate	100 UJ	200	100	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**430**	200	75	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**370**	200	38	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*84.1 %*	*39-92*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*69.5 %*	*32-105*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	**390**	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*60.5 %*	*26-107*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*81.6 %*	*42-123*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B
T207046-57RE1 (Soil)
17-Jul-12 07:58

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**220 J**	400	110	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**270 J**	400	120	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**770 J**	800	190	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**310 J**	400	130	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**13000**	400	220	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**490**	400	140	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**210 J**	400	170	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**690**	400	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*108 %*	*49-128*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6766321
T207046-58 (Soil)
17-Jul-12 06:39

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**61.4**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Semi-VOA							
Aroclor-1016	21 U	78	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1221	21 U	78	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1232	21 U	78	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1242	21 U	78	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1248	19 U	78	19	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1254	**480**	78	19	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1260	19 U	78	19	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*80.6 %*	*26-107*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*113 %*	*42-123*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
2-Methylnaphthalene	74 U	114	74	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	**76 J**	114	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	65 U	114	65	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	55 U	114	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	**1000**	114	51	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**505**	114	62	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**771**	114	61	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**67 J**	114	54	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**76 J**	114	65	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**647**	114	55	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*82.3 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6766321
T207046-58RE1 (Soil)
17-Jul-12 06:39

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Anthracene	**133**	114	55	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)anthracene	**343**	114	55	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)pyrene	**666**	114	61	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1590**	228	101	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**1000**	114	88	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Butyl benzyl phthalate	**371**	114	70	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Chrysene	**895**	114	61	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**181**	114	82	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Di-n-Octyl phthalate	88 U	114	88	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**923**	114	79	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**933**	114	45	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*88.6 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*99.8 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6766321
T207046-58RE2 (Soil)
17-Jul-12 06:39

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**11300**	457	270	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D
Diethylphthalate	221 U	457	221	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6768243
T207046-60 (Soil)
17-Jul-12 07:05

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**47.9**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Semi-VOA							
Aroclor-1016	27 U	100	27	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1221	27 U	100	27	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1232	27 U	100	27	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1242	27 U	100	27	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1248	24 U	100	24	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1254	**110**	100	24	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1260	24 U	100	24	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*73.9 %*	*26-107*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*101 %*	*42-123*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
2-Methylnaphthalene	**997**	117	76	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	**78 J**	117	58	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	67 U	117	67	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	57 U	117	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	**3020**	117	53	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**2670**	117	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**1250**	117	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	**156**	117	56	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	**332**	117	67	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**1190**	117	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*73.4 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6768243
T207046-60RE1 (Soil)
17-Jul-12 07:05

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Anthracene	**225**	117	57	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)anthracene	**772**	117	56	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)pyrene	**879**	117	63	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**1680**	234	104	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**811**	117	91	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Butyl benzyl phthalate	**1900**	117	72	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Chrysene	**1220**	117	63	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	**147**	117	84	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Di-n-Octyl phthalate	90 U	117	90	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**821**	117	81	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**1920**	117	46	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*85.0 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*95.5 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

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FD18-B-6768243
T207046-60RE2 (Soil)
17-Jul-12 07:05

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Acenaphthylene	269 U	469	269	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**19100**	469	277	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6768234
T207046-62 (Soil)
17-Jul-12 07:30

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**73.6**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Semi-VOA							
Aroclor-1016	18 U	65	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1221	18 U	65	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1232	18 U	65	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1242	18 U	65	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1248	16 U	65	16	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1254	**39 J**	65	16	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1260	16 U	65	16	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*79.2 %*	*26-107*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*104 %*	*42-123*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
2-Methylnaphthalene	76 U	118	76	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	59 U	118	59	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	68 U	118	68	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	57 U	118	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	53 U	118	53	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**206**	118	64	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**118**	118	63	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	56 U	118	56	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	67 U	118	67	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**157**	118	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*79.4 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

FD18-B-6768234
T207046-62RE1 (Soil)
17-Jul-12 07:30

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Anthracene	57 U	118	57	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)anthracene	**59 J**	118	57	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)pyrene	**187**	118	63	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**187 J**	236	105	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**157**	118	91	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**2180**	118	70	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Butyl benzyl phthalate	**177**	118	73	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Chrysene	**265**	118	63	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	84 U	118	84	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Di-n-Octyl phthalate	**177**	118	91	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**88 J**	118	81	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**236**	118	46	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*94.1 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*106 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-B-6768225
T207046-64 (Soil)
17-Jul-12 07:55

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**63.4**	1.0		%	19-Oct-12	22-Oct-12	SM 2540 G
Semi-VOA							
Aroclor-1016	21 U	76	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1221	21 U	76	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1232	21 U	76	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1242	21 U	76	21	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1248	18 U	76	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1254	**2700**	76	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Aroclor-1260	18 U	76	18	ug/kg dry	23-Oct-12	05-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*78.2 %*	*26-107*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*105 %*	*42-123*		*23-Oct-12*	*05-Nov-12*	*EPA 8270D*
2-Methylnaphthalene	77 U	119	77	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthene	59 U	119	59	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Acenaphthylene	68 U	119	68	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Diethylphthalate	58 U	119	58	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Dimethyl phthalate	53 U	119	53	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Di-n-butylphthalate	**69 J**	119	64	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluoranthene	**308**	119	64	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Fluorene	57 U	119	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Naphthalene	68 U	119	68	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Phenanthrene	**258**	119	57	ug/kg dry	22-Oct-12	01-Nov-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*78.5 %*	*50-150*		*22-Oct-12*	*01-Nov-12*	*EPA 8270D*

FD18-B-6768225
T207046-64RE1 (Soil)
17-Jul-12 07:55

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Anthracene	58 U	119	58	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)anthracene	**218**	119	57	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(a)pyrene	**407**	119	64	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(b,k)fluoranthenes	**625**	238	106	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Benzo(g,h,i)perylene	**367**	119	92	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Butyl benzyl phthalate	**457**	119	73	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Chrysene	**516**	119	64	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Dibenz(a,h)anthracene	85 U	119	85	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Di-n-Octyl phthalate	92 U	119	92	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**367**	119	82	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Phenanthrene	**258**	119	57	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Pyrene	**486**	119	47	ug/kg dry	22-Oct-12	02-Nov-12	EPA 8270D
Surrogate: Pyrene-d10		*88.1 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*101 %*	*50-150*		*22-Oct-12*	*02-Nov-12*	*EPA 8270D*

FD18-B-6768225
T207046-64RE2 (Soil)
17-Jul-12 07:55

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
2-Methylnaphthalene	308 U	477	308	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D
Acenaphthylene	273 U	477	273	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**15800**	477	282	ug/kg dry	22-Oct-12	05-Nov-12	EPA 8270D

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-2
T207046-68 (Soil)
17-Jul-12 10:05

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**51.3**	1.0		%	18-Jul-12	19-Jul-12	SM 2540 G
Metals							
Mercury	**0.111**	0.0255	0.0255	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	93 U	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Anthracene	50 U	200	50	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**160 UJ**	200	150	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	**450**	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	100 U	200	100	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**310**	200	75	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**300**	200	38	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*84.9 %*	*39-92*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*67.2 %*	*32-105*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*63.4 %*	*26-107*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*88.3 %*	*42-123*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-2
T207046-68RE1 (Soil)
17-Jul-12 10:05

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**150 J**	200	53	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**180 J**	200	59	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**460 J**	400	96	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**230 J**	200	67	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**6300**	200	110	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	**380**	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**380**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	70 UJ	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	100 UJ	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**120 J**	200	86	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**420**	200	51	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*98.6 %*	*49-128*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768208
T207046-69 (Soil)
18-Jul-12 05:51

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**67.9**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0430**	0.213	0.0266	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
bis(2-Ethylhexyl)phthalate	**2300**	96	52	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**290**	96	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	47 U	96	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**70 J**	96	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**54 J**	96	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*74.9 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*118 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*133 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Aroclor-1248	5 U	19	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1254	**33**	19	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1260	5 U	19	5	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Surrogate: Terphenyl-d14		*104 %*	*42-123*		*03-Dec-12*	*21-Dec-12*	*EPA 8270D*	

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768208
T207046-69RE1 (Soil)
18-Jul-12 05:51

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Di-n-Octyl phthalate	49 U	96	49	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Aroclor-1016	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*98.9 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768182
T207046-71 (Soil)
18-Jul-12 06:14

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**66.5**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0581**	0.233	0.0291	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
bis(2-Ethylhexyl)phthalate	**2700**	93	51	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**1400**	93	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	46 U	93	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**410**	93	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**73 J**	93	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*76.3 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*117 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*132 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Aroclor-1248	4 U	19	4	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1254	4 U	19	4	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Aroclor-1260	4 U	19	4	ug/kg dry	03-Dec-12	21-Dec-12	EPA 8270D	
Surrogate: Terphenyl-d14		*118 %*	*42-123*		*03-Dec-12*	*21-Dec-12*	*EPA 8270D*	

FD18-C-6768182
T207046-71RE1 (Soil)
18-Jul-12 06:14

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
Semi-VOA								
Di-n-Octyl phthalate	48 U	93	48	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D	
Aroclor-1016	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1221	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1232	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1242	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*108 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*	#

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768164
T207046-73 (Soil)
18-Jul-12 10:04

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**64.9**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0573**	0.270	0.0338	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
Diethylphthalate	47 U	96	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**84 J**	96	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	49 U	96	49	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*75.6 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768164
T207046-73RE1 (Soil)
18-Jul-12 10:04

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
Semi-VOA								
bis(2-Ethylhexyl)phthalate	**2300**	96	52	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**170**	96	48	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D	
Di-n-Octyl phthalate	49 U	96	49	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D	
Surrogate: Pyrene-d10		*119 %*	*50-150*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*134 %*	*49-128*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*	#
Aroclor-1016	21 U	77	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1221	21 U	77	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1232	21 U	77	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1242	21 U	77	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1248	18 U	77	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1254	18 U	77	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1260	18 U	77	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*108 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*	#
Surrogate: Terphenyl-d14		*127 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*	#

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768147
T207046-74 (Soil)
17-Jul-12 08:50

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**60.3**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.366**	0.227	0.0284	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	65 U	99	65	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	46 U	99	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	62 U	99	62	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	25 U	99	25	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	49 U	99	49	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**310**	99	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**110**	99	50	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**180**	99	37	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	47 U	99	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	58 U	99	58	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**150**	99	19	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*75.5 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768147
T207046-74RE1 (Soil)
17-Jul-12 08:50

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**340**	99	26	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(a)pyrene	**290**	99	29	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(b,k)fluoranthenes	**280**	200	47	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(g,h,i)perylene	33 U	99	33	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**2900**	99	54	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Butyl benzyl phthalate	**160**	99	49	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Chrysene	35 U	99	35	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Dibenz(a,h)anthracene	35 U	99	35	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Di-n-Octyl phthalate	51 U	99	51	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	43 U	99	43	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Pyrene	**340**	99	25	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Surrogate: Pyrene-d10		*94.7 %*	*50-150*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*111 %*	*49-128*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*
Aroclor-1016	22 U	79	22	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	22 U	79	22	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	22 U	79	22	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	22 U	79	22	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1248	19 U	79	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1254	19 U	79	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1260	19 U	79	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*94.1 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*107 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768138
T207046-75 (Soil)
17-Jul-12 09:20

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**58.4**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0909**	0.303	0.0379	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	62 U	95	62	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	**58 J**	95	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	59 U	95	59	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	**69 J**	95	24	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	47 U	95	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**83 J**	95	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**700**	95	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**540**	95	36	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	**80 J**	95	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	56 U	95	56	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**700**	95	18	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*79.1 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768138
T207046-75RE1 (Soil)
17-Jul-12 09:20

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**220**	95	25	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(a)pyrene	**360**	95	28	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(b,k)fluoranthenes	**650**	190	45	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Benzo(g,h,i)perylene	**200**	95	32	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**3600**	95	51	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Butyl benzyl phthalate	**270**	95	47	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Chrysene	**480**	95	33	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Dibenz(a,h)anthracene	33 U	95	33	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Di-n-Octyl phthalate	49 U	95	49	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**120**	95	41	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Pyrene	**790**	95	24	ug/kg dry	03-Dec-12	18-Dec-12	EPA 8270D
Surrogate: Pyrene-d10		*97.5 %*	*50-150*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*113 %*	*49-128*		*03-Dec-12*	*18-Dec-12*	*EPA 8270D*
Aroclor-1016	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	21 U	76	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1248	18 U	76	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1254	18 U	76	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1260	18 U	76	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.0 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*110 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768121
T207046-76 (Soil)
17-Jul-12 09:48

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**58.3**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.147**	0.278	0.0347	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	61 U	94	61	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	44 U	94	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	**79 J**	94	59	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	**930**	94	23	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)anthracene	**270**	94	25	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)pyrene	**300**	94	28	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**750**	190	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(g,h,i)perylene	**220**	94	32	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**2500**	94	51	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**330**	94	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Chrysene	**590**	94	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dibenz(a,h)anthracene	**38 J**	94	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	46 U	94	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**100**	94	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**130**	94	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-Octyl phthalate	**140**	94	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**700**	94	35	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	**61 J**	94	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**150**	94	41	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	55 U	94	55	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**1000**	94	18	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Pyrene	**1000**	94	24	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*75.1 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*92.8 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*114 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	

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FD18-C-6768121
T207046-76RE1 (Soil)
17-Jul-12 09:48

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1016	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1248	18 U	75	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1254	18 U	75	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1260	18 U	75	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*101 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*118 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768104
T207046-77 (Soil)
17-Jul-12 10:04

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**38.7**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0483**	0.244	0.0305	mg/kg	22-Oct-12	23-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	64 U	98	64	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	45 U	98	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	61 U	98	61	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	**230**	98	24	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)anthracene	**190**	98	26	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)pyrene	**170**	98	29	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**460**	200	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(g,h,i)perylene	**210**	98	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**5000**	98	53	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	49 U	98	49	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Chrysene	**240**	98	34	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dibenz(a,h)anthracene	34 U	98	34	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	**180**	98	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**55 J**	98	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**73 J**	98	49	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-Octyl phthalate	50 U	98	50	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**200**	98	37	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	46 U	98	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**120**	98	42	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	57 U	98	57	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**250**	98	18	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Pyrene	**840**	98	25	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*76.0 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*88.5 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*116 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-6768104
T207046-77RE1 (Soil)
17-Jul-12 10:04

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1016	21 U	78	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	21 U	78	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	21 U	78	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	21 U	78	21	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1248	19 U	78	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1254	19 U	78	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1260	19 U	78	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.9 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*110 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-1
T207046-78 (Soil)
18-Jul-12 11:58

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**49.4**	1.0		%	18-Jul-12	19-Jul-12	SM 2540 G
Metals							
Mercury	**0.0581**	0.0255	0.0255	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	92 U	200	92	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Anthracene	50 U	200	50	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**180 UJ**	200	150	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	**110 J**	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	**100 J**	200	100	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**270**	200	75	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**290**	200	38	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*86.5 %*	*39-92*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*67.8 %*	*32-105*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*64.8 %*	*26-107*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*88.8 %*	*42-123*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-1
T207046-78RE1 (Soil)
18-Jul-12 11:58

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**91 J**	200	53	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**120 J**	200	58	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**330 J**	400	95	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**150 J**	200	67	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**5100**	200	110	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	99 U	200	99	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**320**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	70 UJ	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**270 J**	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	86 UJ	200	86	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**390**	200	50	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*99.6 %*	*49-128*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6762377
T207046-79 (Soil)
18-Jul-12 09:31

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**61.5**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G
Metals							
Mercury	**0.0503**	0.294	0.0368	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6762184
T207046-81 (Soil)
18-Jul-12 09:51

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**45.1**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G
Metals							
Mercury	**0.0792**	0.294	0.0368	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6762213
T207046-82 (Soil)
18-Jul-12 10:14

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**51.9**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G
Metals							
Mercury	**0.535**	0.303	0.0379	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6762222
T207046-83 (Soil)
18-Jul-12 10:40

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**44.4**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G
Metals							
Mercury	**0.199**	0.244	0.0305	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6777906
T207046-85 (Soil)
18-Jul-12 11:04

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**43.1**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G
Metals							
Mercury	**0.0991**	0.294	0.0368	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B

PW Science and Engineering 326 East D Street Tacoma WA, 98421	Project: **Foss OF230 Source Tracing** Project Number: ENV-03003-04-01 Project Manager: Mary Henley	**Reported:** 18-Jan-13 12:18

FD18-D-6768027
T207046-87 (Soil)
18-Jul-12 11:23

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**63.1**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0583**	0.222	0.0278	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	60 U	91	60	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	42 U	91	42	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	57 U	91	57	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	**27 J**	91	23	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)anthracene	**120**	91	24	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)pyrene	**130**	91	27	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**270**	180	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(g,h,i)perylene	**120**	91	31	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**5100**	91	49	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**150**	91	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Chrysene	**240**	91	32	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dibenz(a,h)anthracene	32 U	91	32	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	45 U	91	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	**910**	91	42	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**160**	91	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-Octyl phthalate	**650**	91	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**230**	91	34	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	43 U	91	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**61 J**	91	39	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	53 U	91	53	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**240**	91	17	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Pyrene	**420**	91	23	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*80.4 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*109 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*127 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	

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FD18-D-6768027
T207046-87RE1 (Soil)
18-Jul-12 11:23

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1016	20 U	73	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	20 U	73	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	20 U	73	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	20 U	73	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1248	17 U	73	17	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1254	17 U	73	17	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1260	17 U	73	17	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*101 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*113 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6768044
T207046-89 (Soil)
18-Jul-12 11:42

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**60.5**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0801**	0.294	0.0368	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	61 U	93	61	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	43 U	93	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	58 U	93	58	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	23 U	93	23	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)anthracene	**310**	93	25	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)pyrene	**100**	93	27	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**230**	190	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(g,h,i)perylene	**85 J**	93	31	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**2200**	93	50	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	**340**	93	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Chrysene	**340**	93	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dibenz(a,h)anthracene	33 U	93	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	46 U	93	46	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	43 U	93	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	**150**	93	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-Octyl phthalate	**190**	93	48	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**180**	93	35	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	44 U	93	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**44 J**	93	40	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	55 U	93	55	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**200**	93	18	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Pyrene	**300**	93	24	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*79.4 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*98.4 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*118 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	

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FD18-D-6768044
T207046-89RE1 (Soil)
18-Jul-12 11:42

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
Semi-VOA								
Aroclor-1016	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1221	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1232	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1242	20 U	75	20	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1248	18 U	75	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1254	18 U	75	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Aroclor-1260	18 U	75	18	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*111 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*	#
Surrogate: Terphenyl-d14		*118 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*	

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-6768069
T207046-91 (Soil)
18-Jul-12 11:57

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method	
CONVENTIONAL								
Total Solids	**70.1**	1.0		%	28-Nov-12	28-Nov-12	SM 2540 G	
Metals								
Mercury	**0.0345**	0.270	0.0338	mg/kg	17-Oct-12	18-Oct-12	EPA 7471B	
Semi-VOA								
2-Methylnaphthalene	57 U	87	57	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthene	40 U	87	40	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Acenaphthylene	54 U	87	54	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Anthracene	22 U	87	22	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)anthracene	**55 J**	87	23	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(a)pyrene	**59 J**	87	25	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(b,k)fluoranthenes	**180**	170	42	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Benzo(g,h,i)perylene	**76 J**	87	29	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
bis(2-Ethylhexyl)phthalate	**910**	87	47	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Butyl benzyl phthalate	43 U	87	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Chrysene	**160**	87	31	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dibenz(a,h)anthracene	30 U	87	30	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Diethylphthalate	43 U	87	43	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Dimethyl phthalate	40 U	87	40	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-butylphthalate	44 U	87	44	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Di-n-Octyl phthalate	45 U	87	45	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluoranthene	**130**	87	33	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Fluorene	41 U	87	41	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Indeno(1,2,3-c,d)pyrene	**38 J**	87	37	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Naphthalene	51 U	87	51	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Phenanthrene	**150**	87	16	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Pyrene	**210**	87	22	ug/kg dry	03-Dec-12	14-Dec-12	EPA 8270D	
Surrogate: 2-Fluorobiphenyl		*77.7 %*	*39-92*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	#
Surrogate: Pyrene-d10		*99.3 %*	*50-150*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	
Surrogate: Terphenyl-d14		*118 %*	*49-128*		*03-Dec-12*	*14-Dec-12*	*EPA 8270D*	

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FD18-D-6768069
T207046-91RE1 (Soil)
18-Jul-12 11:57

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1016	19 U	70	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1221	19 U	70	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1232	19 U	70	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1242	19 U	70	19	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1248	17 U	70	17	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1254	17 U	70	17	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Aroclor-1260	17 U	70	17	ug/kg dry	03-Dec-12	24-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.9 %*	*26-107*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*114 %*	*42-123*		*03-Dec-12*	*24-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-1
T207046-92 (Soil)
18-Jul-12 06:38

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**67.6**	1.0		%	18-Jul-12	19-Jul-12	SM 2540 G
Metals							
Mercury	**0.0580**	0.0255	0.0255	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
Aroclor-1016	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*72.0 %*	*26-107*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*90.2 %*	*42-123*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-C-1
T207046-92RE1 (Soil)
18-Jul-12 06:38

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Acenaphthene	93 U	200	93	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Anthracene	**91 J**	200	50	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)anthracene	**340**	200	53	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**370**	200	59	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**710**	400	96	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**350**	200	67	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**3400**	200	110	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	**180 J**	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**550**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	**84 J**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Diethylphthalate	**170 UJ**	200	150	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Dimethyl phthalate	**3000**	200	93	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-butylphthalate	100 U	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	100 U	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Fluoranthene	**780**	200	75	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**250**	200	86	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Phenanthrene	**460**	200	38	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**1200**	200	51	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*83.9 %*	*39-92*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*82.2 %*	*32-105*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*121 %*	*49-128*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

FD18-D-2
T207046-93 (Soil)
18-Jul-12 11:06

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**56.6**	1.0		%	18-Jul-12	19-Jul-12	SM 2540 G
Metals							
Mercury	**0.182**	0.0260	0.0260	mg/kg	23-Jul-12	24-Jul-12	EPA 7471B
Semi-VOA							
2-Methylnaphthalene	130 U	200	130	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthene	92 U	200	92	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Acenaphthylene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Anthracene	**110 J**	200	50	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Diethylphthalate	**180 UJ**	200	150	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Dimethyl phthalate	**110 J**	200	93	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Di-n-butylphthalate	100 U	200	100	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluoranthene	**840**	200	75	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Fluorene	94 U	200	94	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Naphthalene	120 U	200	120	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Phenanthrene	**320**	200	37	ug/kg dry	24-Jul-12	27-Jul-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*84.7 %*	*39-92*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Surrogate: Nitrobenzene-d5		*60.9 %*	*32-105*		*24-Jul-12*	*27-Jul-12*	*EPA 8270D*
Aroclor-1016	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1221	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1232	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1242	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1248	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1254	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Aroclor-1260	12 U	48	12	ug/kg dry	24-Jul-12	03-Aug-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*64.3 %*	*26-107*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*87.8 %*	*42-123*		*24-Jul-12*	*03-Aug-12*	*EPA 8270D*

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FD18-D-2
T207046-93RE1 (Soil)
18-Jul-12 11:06

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Benzo(a)anthracene	**420**	200	53	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(a)pyrene	**280 J**	200	58	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(b,k)fluoranthenes	**710 J**	400	95	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Benzo(g,h,i)perylene	**240 J**	200	67	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
bis(2-Ethylhexyl)phthalate	**4000**	200	110	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Butyl benzyl phthalate	**170 J**	200	99	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Chrysene	**670**	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Dibenz(a,h)anthracene	70 UJ	200	70	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Di-n-Octyl phthalate	**310 J**	200	100	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Indeno(1,2,3-c,d)pyrene	**120 J**	200	86	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Pyrene	**1100**	200	50	ug/kg dry	24-Jul-12	31-Jul-12	EPA 8270D
Surrogate: Terphenyl-d14		*96.0 %*	*49-128*		*24-Jul-12*	*31-Jul-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

CONVENTIONAL - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1228043 - Conventionals No-Prep										
Blank (1228043-BLK1)				Prepared: 12-Jul-12 Analyzed: 13-Jul-12						
Total Solids	U		%							
Duplicate (1228043-DUP1)		**Source: T207046-23**		Prepared: 12-Jul-12 Analyzed: 13-Jul-12						
Total Solids	**57.0**		**%**		**55.7**			**2**	**20**	
Batch 1229038 - Conventionals No-Prep										
Blank (1229038-BLK1)				Prepared: 18-Jul-12 Analyzed: 19-Jul-12						
Total Solids	U		%							
Duplicate (1229038-DUP1)		**Source: T207046-53**		Prepared: 18-Jul-12 Analyzed: 19-Jul-12						
Total Solids	**66.1**		**%**		**65.2**			**1**	**20**	
Batch 1241047 - Conventionals No-Prep										
Blank (1241047-BLK1)				Prepared & Analyzed: 10-Oct-12						
Total Solids	U		%							
Duplicate (1241047-DUP1)		**Source: T207046-29**		Prepared & Analyzed: 10-Oct-12						
Total Solids	**46.0**		**%**		**59.3**			**25**	**20**	
Duplicate (1241047-DUP2)		**Source: T207046-25**		Prepared & Analyzed: 10-Oct-12						
Total Solids	U		%		45.5				20	
Batch 1242062 - Conventionals No-Prep										
Blank (1242062-BLK1)				Prepared: 19-Oct-12 Analyzed: 22-Oct-12						
Total Solids	U		%							

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

CONVENTIONAL - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1242062 - Conventionals No-Prep										
Duplicate (1242062-DUP1)		**Source: T207046-64**		Prepared: 19-Oct-12 Analyzed: 22-Oct-12						
Total Solids	**53.1**		**%**		**63.4**			**18**	**20**	
Duplicate (1242062-DUP2)		**Source: T207046-16**		Prepared: 19-Oct-12 Analyzed: 22-Oct-12						
Total Solids	**54.2**		**%**		**55.4**			**2**	**20**	
Batch 1245018 - Conventionals No-Prep										
Blank (1245018-BLK1)				Prepared: 05-Nov-12 Analyzed: 07-Nov-12						
Total Solids	U		%							
Duplicate (1245018-DUP1)		**Source: T211046-01**		Prepared: 05-Nov-12 Analyzed: 07-Nov-12						
Total Solids	**82.4**		**%**		**83.9**			**2**	**20**	
Duplicate (1245018-DUP2)		**Source: T207046-18**		Prepared: 05-Nov-12 Analyzed: 07-Nov-12						
Total Solids	**30.1**		**%**		**37.9**			**23**	**20**	
Batch 1248037 - Conventionals No-Prep										
Blank (1248037-BLK1)				Prepared & Analyzed: 28-Nov-12						
Total Solids	U		%							
Duplicate (1248037-DUP1)		**Source: T207046-79**		Prepared & Analyzed: 28-Nov-12						
Total Solids	**61.0**		**%**		**61.5**			**0.8**	**20**	
Duplicate (1248037-DUP2)		**Source: T207046-89**		Prepared & Analyzed: 28-Nov-12						
Total Solids	**59.3**		**%**		**60.5**			**2**	**20**	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Metals - Quality Control

Environmental Services Laboratory

Sample ID / Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229024 - Waterbath										
Blank (1229024-BLK1)				Prepared: 23-Jul-12 Analyzed: 24-Jul-12						
Mercury	0.0050 U	0.0050	mg/kg							
Duplicate (1229024-DUP1)		Source: T207046-01		Prepared: 23-Jul-12 Analyzed: 24-Jul-12						
Mercury	**0.165**	**0.0260**	**mg/kg**		**0.196**			**17**	**35**	
Matrix Spike (1229024-MS1)		Source: T207046-01		Prepared: 23-Jul-12 Analyzed: 24-Jul-12						
Mercury	**1.24**	**0.0266**	**mg/kg**	**1.06**	**0.196**	**98**	**75-125**			
Matrix Spike Dup (1229024-MSD1)		Source: T207046-01		Prepared: 23-Jul-12 Analyzed: 24-Jul-12						
Mercury	**1.23**	**0.0266**	**mg/kg**	**1.06**	**0.196**	**97**	**75-125**	**1**	**35**	
Reference (1229024-SRM1)				Prepared: 23-Jul-12 Analyzed: 24-Jul-12						
Mercury	**2.25**	**0.0628**	**mg/kg**	**2.00**		**113**	**51.5-149**			
Batch 1241069 - Waterbath										
Blank (1241069-BLK1)				Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	0.0050 U	0.0050	mg/kg							
Duplicate (1241069-DUP1)		Source: T207046-02		Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**0.0482**	**0.0391**	**mg/kg**		**0.0492**			**2**	**35**	
Matrix Spike (1241069-MS1)		Source: T207046-02		Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**1.35**	**0.0391**	**mg/kg**	**1.56**	**0.0492**	**84**	**75-125**			
Matrix Spike Dup (1241069-MSD1)		Source: T207046-02		Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**1.28**	**0.0368**	**mg/kg**	**1.47**	**0.0492**	**84**	**75-125**	**6**	**35**	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Metals - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1241069 - Waterbath										
Reference (1241069-SRM1)				Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**18.7**	**0.436**	**mg/kg**	**20.0**		**93**	**51.5-149**			
Batch 1241075 - Waterbath										
Blank (1241075-BLK1)				Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
Mercury	0.0050 U	0.0050	mg/kg							
Duplicate (1241075-DUP1)		**Source: T207046-36**		Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
Mercury	**0.289**	**0.0357**	**mg/kg**		**0.318**			**10**	**35**	
Matrix Spike (1241075-MS1)		**Source: T207046-36**		Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
Mercury	**1.71**	**0.0357**	**mg/kg**	**1.43**	**0.318**	**98**	**75-125**			
Matrix Spike Dup (1241075-MSD1)		**Source: T207046-36**		Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
Mercury	**1.67**	**0.0338**	**mg/kg**	**1.35**	**0.318**	**100**	**75-125**	**2**	**35**	
Reference (1241075-SRM1)				Prepared: 22-Oct-12 Analyzed: 23-Oct-12						
Mercury	**20.7**	**0.899**	**mg/kg**	**20.0**		**104**	**51.5-149**			
Batch 1241076 - Waterbath										
Blank (1241076-BLK1)				Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	0.0050 U	0.0050	mg/kg							
Duplicate (1241076-DUP1)		**Source: T207046-79**		Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**0.0458**	**0.0368**	**mg/kg**		**0.0503**			**9**	**35**	

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PW Science and Engineering	Project: **Foss OF230 Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Metals - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1241076 - Waterbath										
Matrix Spike (1241076-MS1)		**Source: T207046-79**		Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**1.17**	**0.0338**	**mg/kg**	**1.35**	**0.0503**	**83**	**75-125**			
Matrix Spike Dup (1241076-MSD1)		**Source: T207046-79**		Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**1.39**	**0.0338**	**mg/kg**	**1.35**	**0.0503**	**99**	**75-125**	**17**	**35**	
Reference (1241076-SRM1)				Prepared: 17-Oct-12 Analyzed: 18-Oct-12						
Mercury	**18.5**	**0.601**	**mg/kg**	**20.0**		**93**	**51.5-149**			

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Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229048 - 3545										
Blank (1229048-BLK1)				Prepared: 18-Jul-12 Analyzed: 27-Jul-12						
Surrogate: 2-Fluorobiphenyl	*2500*		ug/kg wet	*4170*		*59.9*	*39-92*			
2-Methylnaphthalene	65 U	65	ug/kg wet							
Acenaphthene	46 U	46	ug/kg wet							
Acenaphthylene	62 U	62	ug/kg wet							
Anthracene	25 U	25	ug/kg wet							
Benzo(a)anthracene	26 U	26	ug/kg wet							
Benzo(a)pyrene	29 U	29	ug/kg wet							
Benzo(b,k)fluoranthenes	48 U	48	ug/kg wet							
Benzo(g,h,i)perylene	34 U	34	ug/kg wet							
bis(2-Ethylhexyl)phthalate	54 U	54	ug/kg wet							
Butyl benzyl phthalate	50 U	50	ug/kg wet							
Chrysene	35 U	35	ug/kg wet							
Dibenz(a,h)anthracene	35 U	35	ug/kg wet							
Diethylphthalate	**100**	**49**	**ug/kg wet**							
Dimethyl phthalate	46 U	46	ug/kg wet							
Di-n-butylphthalate	51 U	51	ug/kg wet							
Di-n-Octyl phthalate	52 U	52	ug/kg wet							
Fluoranthene	38 U	38	ug/kg wet							
Fluorene	47 U	47	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	43 U	43	ug/kg wet							
Naphthalene	59 U	59	ug/kg wet							
Surrogate: Nitrobenzene-d5	*2600*		ug/kg wet	*4170*		*61.8*	*32-105*			
Phenanthrene	19 U	19	ug/kg wet							
Pyrene	25 U	25	ug/kg wet							
Surrogate: Terphenyl-d14	*3700*		ug/kg wet	*4170*		*87.7*	*49-128*			
Blank (1229048-BLK2)				Prepared: 18-Jul-12 Analyzed: 31-Jul-12						
Surrogate: 2-Fluorobiphenyl	*2500*		ug/kg wet	*4170*		*60.5*	*39-92*			
2-Methylnaphthalene	65 U	65	ug/kg wet							
Acenaphthene	46 U	46	ug/kg wet							
Acenaphthylene	62 U	62	ug/kg wet							
Anthracene	25 U	25	ug/kg wet							
Benzo(a)anthracene	26 U	26	ug/kg wet							

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Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229048 - 3545										
Blank (1229048-BLK2)				Prepared: 18-Jul-12 Analyzed: 31-Jul-12						
Benzo(a)pyrene	29 U	29	ug/kg wet							
Benzo(b,k)fluoranthenes	48 U	48	ug/kg wet							
Benzo(g,h,i)perylene	34 U	34	ug/kg wet							
bis(2-Ethylhexyl)phthalate	54 U	54	ug/kg wet							
Butyl benzyl phthalate	50 U	50	ug/kg wet							
Chrysene	35 U	35	ug/kg wet							
Dibenz(a,h)anthracene	35 U	35	ug/kg wet							
Diethylphthalate	**110**	**49**	**ug/kg wet**							
Dimethyl phthalate	46 U	46	ug/kg wet							
Di-n-butylphthalate	51 U	51	ug/kg wet							
Di-n-Octyl phthalate	52 U	52	ug/kg wet							
Fluoranthene	38 U	38	ug/kg wet							
Fluorene	47 U	47	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	43 U	43	ug/kg wet							
Naphthalene	59 U	59	ug/kg wet							
Surrogate: Nitrobenzene-d5	*2500*		ug/kg wet	*4170*		*60.8*	*32-105*			
Phenanthrene	19 U	19	ug/kg wet							
Pyrene	25 U	25	ug/kg wet							
Surrogate: Terphenyl-d14	*3500*		ug/kg wet	*4170*		*84.8*	*49-128*			
LCS (1229048-BS1)				Prepared: 18-Jul-12 Analyzed: 27-Jul-12						
Surrogate: 2-Fluorobiphenyl	*2800*		ug/kg wet	*4170*		*67.9*	*39-92*			
2-Methylnaphthalene	**2900**	**65**	**ug/kg wet**	**4170**		**68.8**	**35-105**			
Acenaphthene	**3000**	**46**	**ug/kg wet**	**4170**		**71.7**	**44-112**			
Acenaphthylene	**2800**	**62**	**ug/kg wet**	**4170**		**68.0**	**43-111**			
Anthracene	**3300**	**25**	**ug/kg wet**	**4170**		**79.8**	**19-148**			
Benzo(a)anthracene	**3800**	**26**	**ug/kg wet**	**4170**		**92.0**	**55-115**			
Benzo(a)pyrene	**3800**	**29**	**ug/kg wet**	**4170**		**91.0**	**52-121**			
Benzo(b,k)fluoranthenes	**7500**	**48**	**ug/kg wet**	**8330**		**90.0**	**60-120**			
Benzo(g,h,i)perylene	**4000**	**34**	**ug/kg wet**	**4170**		**95.6**	**51-133**			
bis(2-Ethylhexyl)phthalate	**4600**	**54**	**ug/kg wet**	**4170**		**109**	**49-137**			
Butyl benzyl phthalate	**4000**	**50**	**ug/kg wet**	**4170**		**96.4**	**48-135**			
Chrysene	**3700**	**35**	**ug/kg wet**	**4170**		**88.9**	**58-113**			

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Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229048 - 3545										
LCS (1229048-BS1)				Prepared: 18-Jul-12 Analyzed: 27-Jul-12						
Dibenz(a,h)anthracene	4000	35	ug/kg wet	4170		95.9	56-131			
Diethylphthalate	3700	49	ug/kg wet	4170		89.5	51-124			
Dimethyl phthalate	3400	46	ug/kg wet	4170		82.6	55-119			
Di-n-butylphthalate	4000	51	ug/kg wet	4170		97.0	62-122			
Di-n-Octyl phthalate	4200	52	ug/kg wet	4170		101	43-147			
Fluoranthene	3500	38	ug/kg wet	4170		85.0	60-117			
Fluorene	3200	47	ug/kg wet	4170		76.3	47-102			
Indeno(1,2,3-c,d)pyrene	4100	43	ug/kg wet	4170		97.3	55-131			
Naphthalene	2700	59	ug/kg wet	4170		64.5	35-100			
Surrogate: Nitrobenzene-d5	*2900*		ug/kg wet	*4170*		*69.2*	*32-105*			
Phenanthrene	3400	19	ug/kg wet	4170		81.5	60-116			
Pyrene	3600	25	ug/kg wet	4170		87.3	32-129			
Surrogate: Terphenyl-d14	*4200*		ug/kg wet	*4170*		*100*	*49-128*			
Matrix Spike (1229048-MS1)		Source: T207046-48		Prepared: 18-Jul-12 Analyzed: 27-Jul-12						
Surrogate: 2-Fluorobiphenyl	*3600*		ug/kg dry	*4140*		*88.1*	*39-92*			
2-Methylnaphthalene	4000	650	ug/kg dry	4140	900	74.0	35-105			
Acenaphthene	5000 #	460	ug/kg dry	4140	270	115	44-112			
Acenaphthylene	4000	620	ug/kg dry	4140	200	92.0	43-111			
Anthracene	7100	250	ug/kg dry	4140	2300	116	19-148			
Benzo(a)anthracene	21000	260	ug/kg dry	4140	16000	112	55-115			
Benzo(a)pyrene	20000	290	ug/kg dry	4140	15000	125	52-121			
Benzo(b,k)fluoranthenes	47000	470	ug/kg dry	8280	33000	168	60-120			
Benzo(g,h,i)perylene	11000	330	ug/kg dry	4140	10000	4.34	51-133			
bis(2-Ethylhexyl)phthalate	11000	540	ug/kg dry	4140	5100	142	49-137			
Butyl benzyl phthalate	5000	490	ug/kg dry	4140	300	113	48-135			
Chrysene	26000	350	ug/kg dry	4140	20000	142	58-113			
Dibenz(a,h)anthracene	5100	350	ug/kg dry	4140	3000	51.8	56-131			
Diethylphthalate	4200	490	ug/kg dry	4140	190	96.6	51-124			
Dimethyl phthalate	4000	460	ug/kg dry	4140	ND	96.3	55-119			
Di-n-butylphthalate	4700	500	ug/kg dry	4140	540	99.5	62-122			
Di-n-Octyl phthalate	7600 #	510	ug/kg dry	4140	1200	156	43-147			
Fluoranthene	41000 #	370	ug/kg dry	4140	32000	209	60-117			

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Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229048 - 3545										
Matrix Spike (1229048-MS1)		**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 27-Jul-12						
Fluorene	**5600 #**	**470**	**ug/kg dry**	**4140**	**610**	**119**	**47-102**			
Indeno(1,2,3-c,d)pyrene	**10000**	**430**	**ug/kg dry**	**4140**	**9900**	**6.22**	**55-131**			
Naphthalene	**3700**	**580**	**ug/kg dry**	**4140**	**700**	**72.8**	**35-100**			
Surrogate: Nitrobenzene-d5	*3200*		ug/kg dry	*4140*		*76.4*	*32-105*			
Phenanthrene	**22000 #**	**190**	**ug/kg dry**	**4140**	**9900**	**288**	**60-116**			
Pyrene	**36000 #**	**250**	**ug/kg dry**	**4140**	**36000**	**NR**	**32-129**			
Surrogate: Terphenyl-d14	*4100*		ug/kg dry	*4140*		*99.4*	*49-128*			
Matrix Spike (1229048-MS2)		**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 31-Jul-12						
Surrogate: 2-Fluorobiphenyl	*3600*		ug/kg dry	*4140*		*87.1*	*39-92*			
2-Methylnaphthalene	**4000**	**650**	**ug/kg dry**	**4140**	**900**	**74.1**	**35-105**			
Acenaphthene	**5000**	**460**	**ug/kg dry**	**4140**	**270**	**114**	**44-112**			
Acenaphthylene	**4000**	**620**	**ug/kg dry**	**4140**	**200**	**91.0**	**43-111**			
Anthracene	**7100**	**250**	**ug/kg dry**	**4140**	**2300**	**116**	**19-148**			
Benzo(a)anthracene	**20000**	**260**	**ug/kg dry**	**4140**	**16000**	**100**	**55-115**			
Benzo(a)pyrene	**19000**	**290**	**ug/kg dry**	**4140**	**15000**	**105**	**52-121**			
Benzo(b,k)fluoranthenes	**45000**	**470**	**ug/kg dry**	**8280**	**33000**	**152**	**60-120**			
Benzo(g,h,i)perylene	**11000**	**330**	**ug/kg dry**	**4140**	**10000**	**4.82**	**51-133**			
bis(2-Ethylhexyl)phthalate	**10000**	**540**	**ug/kg dry**	**4140**	**5100**	**126**	**49-137**			
Butyl benzyl phthalate	**5100**	**490**	**ug/kg dry**	**4140**	**300**	**116**	**48-135**			
Chrysene	**25000**	**350**	**ug/kg dry**	**4140**	**20000**	**119**	**58-113**			
Dibenz(a,h)anthracene	**5400**	**350**	**ug/kg dry**	**4140**	**3000**	**58.8**	**56-131**			
Diethylphthalate	**4100**	**490**	**ug/kg dry**	**4140**	**190**	**94.4**	**51-124**			
Dimethyl phthalate	**3900**	**460**	**ug/kg dry**	**4140**	**ND**	**95.0**	**55-119**			
Di-n-butylphthalate	**4400**	**500**	**ug/kg dry**	**4140**	**540**	**94.5**	**62-122**			
Di-n-Octyl phthalate	**7700**	**510**	**ug/kg dry**	**4140**	**1200**	**158**	**43-147**			
Fluoranthene	**34000**	**370**	**ug/kg dry**	**4140**	**32000**	**34.6**	**60-117**			
Fluorene	**5400**	**470**	**ug/kg dry**	**4140**	**610**	**115**	**47-102**			
Indeno(1,2,3-c,d)pyrene	**11000**	**430**	**ug/kg dry**	**4140**	**9900**	**19.5**	**55-131**			
Naphthalene	**3700**	**580**	**ug/kg dry**	**4140**	**700**	**72.2**	**35-100**			
Surrogate: Nitrobenzene-d5	*2800*		ug/kg dry	*4140*		*67.4*	*32-105*			
Phenanthrene	**22000**	**190**	**ug/kg dry**	**4140**	**9900**	**293**	**60-116**			
Pyrene	**41000**	**250**	**ug/kg dry**	**4140**	**36000**	**118**	**32-129**			

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229048 - 3545										
Matrix Spike (1229048-MS2)		**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 31-Jul-12						
Surrogate: Terphenyl-d14	*4600*		ug/kg dry	*4140*		*112*	*49-128*			
Matrix Spike Dup (1229048-MSD1)		**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 27-Jul-12						
Surrogate: 2-Fluorobiphenyl	*3700*		ug/kg dry	*4150*		*88.8*	*39-92*			
2-Methylnaphthalene	**4000**	**650**	**ug/kg dry**	**4150**	**900**	**74.6**	**35-105**	**0.850**	**50**	
Acenaphthene	**4300**	**460**	**ug/kg dry**	**4150**	**270**	**97.6**	**44-112**	**15.0**	**50**	
Acenaphthylene	**4100**	**620**	**ug/kg dry**	**4150**	**200**	**94.6**	**43-111**	**2.94**	**50**	
Anthracene	**6800**	**250**	**ug/kg dry**	**4150**	**2300**	**108**	**19-148**	**4.54**	**50**	
Benzo(a)anthracene	**23000 #**	**260**	**ug/kg dry**	**4150**	**16000**	**164**	**55-115**	**10.0**	**50**	
Benzo(a)pyrene	**22000 #**	**290**	**ug/kg dry**	**4150**	**15000**	**164**	**52-121**	**7.75**	**50**	
Benzo(b,k)fluoranthenes	**51000 #**	**480**	**ug/kg dry**	**8300**	**33000**	**225**	**60-120**	**9.61**	**50**	
Benzo(g,h,i)perylene	**14000**	**330**	**ug/kg dry**	**4150**	**10000**	**76.5**	**51-133**	**24.7**	**50**	
bis(2-Ethylhexyl)phthalate	**38000 #**	**540**	**ug/kg dry**	**4150**	**5100**	**786**	**49-137**	**110**	**50**	
Butyl benzyl phthalate	**5700**	**500**	**ug/kg dry**	**4150**	**300**	**129**	**48-135**	**12.7**	**50**	
Chrysene	**27000 #**	**350**	**ug/kg dry**	**4150**	**20000**	**169**	**58-113**	**4.29**	**50**	
Dibenz(a,h)anthracene	**6200**	**350**	**ug/kg dry**	**4150**	**3000**	**76.9**	**56-131**	**18.5**	**50**	
Diethylphthalate	**4300**	**490**	**ug/kg dry**	**4150**	**190**	**99.9**	**51-124**	**3.53**	**50**	
Dimethyl phthalate	**4200**	**460**	**ug/kg dry**	**4150**	**ND**	**101**	**55-119**	**5.00**	**50**	
Di-n-butylphthalate	**5200**	**500**	**ug/kg dry**	**4150**	**540**	**111**	**62-122**	**10.2**	**50**	
Di-n-Octyl phthalate	**9800 #**	**510**	**ug/kg dry**	**4150**	**1200**	**209**	**43-147**	**25.2**	**50**	
Fluoranthene	**44000 #**	**370**	**ug/kg dry**	**4150**	**32000**	**272**	**60-117**	**6.20**	**50**	
Fluorene	**5000 #**	**470**	**ug/kg dry**	**4150**	**610**	**106**	**47-102**	**10.7**	**50**	
Indeno(1,2,3-c,d)pyrene	**13000**	**430**	**ug/kg dry**	**4150**	**9900**	**67.9**	**55-131**	**22.4**	**50**	
Naphthalene	**3700**	**580**	**ug/kg dry**	**4150**	**700**	**72.5**	**35-100**	**0.0566**	**50**	
Surrogate: Nitrobenzene-d5	*3200*		ug/kg dry	*4150*		*77.5*	*32-105*			
Phenanthrene	**18000 #**	**190**	**ug/kg dry**	**4150**	**9900**	**204**	**60-116**	**17.2**	**50**	
Pyrene	**40000**	**250**	**ug/kg dry**	**4150**	**36000**	**89.2**	**32-129**	**10.2**	**50**	
Surrogate: Terphenyl-d14	*4500*		ug/kg dry	*4150*		*108*	*49-128*			

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Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229048 - 3545										
Matrix Spike Dup (1229048-MSD2)	**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 31-Jul-12							
Surrogate: 2-Fluorobiphenyl	*3600*		ug/kg dry	*4150*		*87.9*	*39-92*			
2-Methylnaphthalene	**4000**	**650**	**ug/kg dry**	**4150**	**900**	**74.0**	**35-105**	**0.147**	**50**	
Acenaphthene	**4300**	**460**	**ug/kg dry**	**4150**	**270**	**97.4**	**44-112**	**14.4**	**50**	
Acenaphthylene	**4000**	**620**	**ug/kg dry**	**4150**	**200**	**90.7**	**43-111**	**0.0397**	**50**	
Anthracene	**6500**	**250**	**ug/kg dry**	**4150**	**2300**	**100**	**19-148**	**9.35**	**50**	
Benzo(a)anthracene	**22000 #**	**260**	**ug/kg dry**	**4150**	**16000**	**149**	**55-115**	**9.62**	**50**	
Benzo(a)pyrene	**21000 #**	**290**	**ug/kg dry**	**4150**	**15000**	**137**	**52-121**	**6.70**	**50**	
Benzo(b,k)fluoranthenes	**50000 #**	**480**	**ug/kg dry**	**8300**	**33000**	**204**	**60-120**	**9.10**	**50**	
Benzo(g,h,i)perylene	**10000 #**	**330**	**ug/kg dry**	**4150**	**10000**	**NR**	**51-133**	**4.90**	**50**	
bis(2-Ethylhexyl)phthalate	**32000 #**	**540**	**ug/kg dry**	**4150**	**5100**	**657**	**49-137**	**103**	**50**	
Butyl benzyl phthalate	**5200**	**500**	**ug/kg dry**	**4150**	**300**	**119**	**48-135**	**2.67**	**50**	
Chrysene	**27000 #**	**350**	**ug/kg dry**	**4150**	**20000**	**161**	**58-113**	**6.86**	**50**	
Dibenz(a,h)anthracene	**5200 #**	**350**	**ug/kg dry**	**4150**	**3000**	**53.9**	**56-131**	**3.66**	**50**	
Diethylphthalate	**4200**	**490**	**ug/kg dry**	**4150**	**190**	**95.3**	**51-124**	**1.18**	**50**	
Dimethyl phthalate	**4000**	**460**	**ug/kg dry**	**4150**	**ND**	**96.8**	**55-119**	**2.17**	**50**	
Di-n-butylphthalate	**4900**	**500**	**ug/kg dry**	**4150**	**540**	**104**	**62-122**	**8.67**	**50**	
Di-n-Octyl phthalate	**7900 #**	**510**	**ug/kg dry**	**4150**	**1200**	**163**	**43-147**	**2.70**	**50**	
Fluoranthene	**35000**	**370**	**ug/kg dry**	**4150**	**32000**	**72.1**	**60-117**	**4.50**	**50**	
Fluorene	**4900**	**470**	**ug/kg dry**	**4150**	**610**	**102**	**47-102**	**10.2**	**50**	
Indeno(1,2,3-c,d)pyrene	**10000 #**	**430**	**ug/kg dry**	**4150**	**9900**	**11.5**	**55-131**	**3.11**	**50**	
Naphthalene	**3700**	**580**	**ug/kg dry**	**4150**	**700**	**72.4**	**35-100**	**0.484**	**50**	
Surrogate: Nitrobenzene-d5	*2900*		ug/kg dry	*4150*		*70.9*	*32-105*			
Phenanthrene	**18000 #**	**190**	**ug/kg dry**	**4150**	**9900**	**200**	**60-116**	**18.9**	**50**	
Pyrene	**43000 #**	**250**	**ug/kg dry**	**4150**	**36000**	**180**	**32-129**	**6.19**	**50**	
Surrogate: Terphenyl-d14	*4700*		ug/kg dry	*4150*		*114*	*49-128*			
Batch 1229049 - 3545										
Blank (1229049-BLK1)			Prepared: 18-Jul-12 Analyzed: 03-Aug-12							
Surrogate: 2-Fluorobiphenyl	*2100*		ug/kg wet	*4170*		*50.2*	*26-107*			
Aroclor-1016	6 U	6	ug/kg wet							
Aroclor-1221	6 U	6	ug/kg wet							
Aroclor-1232	6 U	6	ug/kg wet							

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1229049 - 3545										
Blank (1229049-BLK1)				Prepared: 18-Jul-12 Analyzed: 03-Aug-12						
Aroclor-1242	6 U	6	ug/kg wet							
Aroclor-1248	6 U	6	ug/kg wet							
Aroclor-1254	6 U	6	ug/kg wet							
Aroclor-1260	6 U	6	ug/kg wet							
Surrogate: Terphenyl-d14	*3000*		ug/kg wet	*4170*		*70.8*	*42-123*			
LCS (1229049-BS1)				Prepared: 18-Jul-12 Analyzed: 03-Aug-12						
Surrogate: 2-Fluorobiphenyl	*1900*		ug/kg wet	*4170*		*44.6*	*26-107*			
Aroclor-1254	**2600**	**6**	**ug/kg wet**	**3330**		**76.7**	**0-200**			
Surrogate: Terphenyl-d14	*4400*		ug/kg wet	*4170*		*105*	*42-123*			
Matrix Spike (1229049-MS1)		**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 03-Aug-12						
Surrogate: 2-Fluorobiphenyl	*3100*		ug/kg dry	*4160*		*73.4*	*26-107*			
Aroclor-1254	**3400**	**12**	**ug/kg dry**	**3330**	**ND**	**103**	**0-200**			
Surrogate: Terphenyl-d14	*4600*		ug/kg dry	*4160*		*109*	*42-123*			
Matrix Spike Dup (1229049-MSD1)		**Source: T207046-48**		Prepared: 18-Jul-12 Analyzed: 03-Aug-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg dry	*4160*		*70.1*	*26-107*			
Aroclor-1254	**2900**	**12**	**ug/kg dry**	**3320**	**ND**	**88.3**	**0-200**	**15.8**	**200**	
Surrogate: Terphenyl-d14	*4100*		ug/kg dry	*4160*		*99.4*	*42-123*			
Batch 1230037 - 3545										
Blank (1230037-BLK1)				Prepared: 24-Jul-12 Analyzed: 27-Jul-12						
Surrogate: 2-Fluorobiphenyl	*2700*		ug/kg wet	*4170*		*64.7*	*39-92*			
2-Methylnaphthalene	65 U	65	ug/kg wet							
Acenaphthene	46 U	46	ug/kg wet							
Acenaphthylene	62 U	62	ug/kg wet							
Anthracene	25 U	25	ug/kg wet							
Benzo(a)anthracene	26 U	26	ug/kg wet							
Benzo(a)pyrene	29 U	29	ug/kg wet							
Benzo(b,k)fluoranthenes	48 U	48	ug/kg wet							
Benzo(g,h,i)perylene	34 U	34	ug/kg wet							
bis(2-Ethylhexyl)phthalate	54 U	54	ug/kg wet							

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326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1230037 - 3545										
Blank (1230037-BLK1)				Prepared: 24-Jul-12 Analyzed: 27-Jul-12						
Butyl benzyl phthalate	50 U	50	ug/kg wet							
Chrysene	35 U	35	ug/kg wet							
Dibenz(a,h)anthracene	35 U	35	ug/kg wet							
Diethylphthalate	**92 J**	**49**	**ug/kg wet**							
Dimethyl phthalate	46 U	46	ug/kg wet							
Di-n-butylphthalate	51 U	51	ug/kg wet							
Di-n-Octyl phthalate	52 U	52	ug/kg wet							
Fluoranthene	38 U	38	ug/kg wet							
Fluorene	47 U	47	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	43 U	43	ug/kg wet							
Naphthalene	59 U	59	ug/kg wet							
Surrogate: Nitrobenzene-d5	*2800*		ug/kg wet	*4170*		*67.8*	*32-105*			
Phenanthrene	19 U	19	ug/kg wet							
Pyrene	25 U	25	ug/kg wet							
Surrogate: Terphenyl-d14	*3200*		ug/kg wet	*4170*		*76.2*	*49-128*			
Blank (1230037-BLK2)				Prepared: 24-Jul-12 Analyzed: 31-Jul-12						
Surrogate: 2-Fluorobiphenyl	*2700*		ug/kg wet	*4170*		*65.7*	*39-92*			
2-Methylnaphthalene	65 U	65	ug/kg wet							
Acenaphthene	46 U	46	ug/kg wet							
Acenaphthylene	62 U	62	ug/kg wet							
Anthracene	25 U	25	ug/kg wet							
Benzo(a)anthracene	26 U	26	ug/kg wet							
Benzo(a)pyrene	29 U	29	ug/kg wet							
Benzo(b,k)fluoranthenes	48 U	48	ug/kg wet							
Benzo(g,h,i)perylene	34 U	34	ug/kg wet							
bis(2-Ethylhexyl)phthalate	54 U	54	ug/kg wet							
Butyl benzyl phthalate	50 U	50	ug/kg wet							
Chrysene	35 U	35	ug/kg wet							
Dibenz(a,h)anthracene	35 U	35	ug/kg wet							
Diethylphthalate	**90 J**	**49**	**ug/kg wet**							
Dimethyl phthalate	46 U	46	ug/kg wet							
Di-n-butylphthalate	51 U	51	ug/kg wet							

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1230037 - 3545										
Blank (1230037-BLK2)				Prepared: 24-Jul-12 Analyzed: 31-Jul-12						
Di-n-Octyl phthalate	52 U	52	ug/kg wet							
Fluoranthene	38 U	38	ug/kg wet							
Fluorene	47 U	47	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	43 U	43	ug/kg wet							
Naphthalene	59 U	59	ug/kg wet							
Surrogate: Nitrobenzene-d5	*2800*		ug/kg wet	*4170*		*67.7*	*32-105*			
Phenanthrene	19 U	19	ug/kg wet							
Pyrene	25 U	25	ug/kg wet							
Surrogate: Terphenyl-d14	*3000*		ug/kg wet	*4170*		*73.2*	*49-128*			
Batch 1230038 - 3545										
Blank (1230038-BLK1)				Prepared: 24-Jul-12 Analyzed: 03-Aug-12						
Surrogate: 2-Fluorobiphenyl	*2000*		ug/kg wet	*4170*		*48.5*	*26-107*			
Aroclor-1016	6 U	6	ug/kg wet							
Aroclor-1221	6 U	6	ug/kg wet							
Aroclor-1232	6 U	6	ug/kg wet							
Aroclor-1242	6 U	6	ug/kg wet							
Aroclor-1248	6 U	6	ug/kg wet							
Aroclor-1254	6 U	6	ug/kg wet							
Aroclor-1260	6 U	6	ug/kg wet							
Surrogate: Terphenyl-d14	*3400*		ug/kg wet	*4170*		*82.3*	*42-123*			
Batch 1242045 - 3545										
Blank (1242045-BLK2)				Prepared: 15-Oct-12 Analyzed: 23-Oct-12						
Surrogate: 2-Fluorobiphenyl	*1800*		ug/kg wet	*4170*		*43.1*	*26-107*			
Aroclor-1016	20 U	20	ug/kg wet							
Aroclor-1221	20 U	20	ug/kg wet							
Aroclor-1232	20 U	20	ug/kg wet							
Aroclor-1242	20 U	20	ug/kg wet							
Aroclor-1248	18 U	18	ug/kg wet							
Aroclor-1254	18 U	18	ug/kg wet							
Aroclor-1260	18 U	18	ug/kg wet							

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Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1242045 - 3545										
Blank (1242045-BLK2)				Prepared: 15-Oct-12 Analyzed: 23-Oct-12						
Surrogate: Terphenyl-d14	*3400*		ug/kg wet	*4170*		*81.0*	*42-123*			
LCS (1242045-BS2)				Prepared: 15-Oct-12 Analyzed: 23-Oct-12						
Surrogate: 2-Fluorobiphenyl	*1700*		ug/kg wet	*4170*		*40.3*	*26-107*			
Aroclor-1254	**2000**	**19**	**ug/kg wet**	**3330**		**58.8**	**0-200**			
Surrogate: Terphenyl-d14	*3100*		ug/kg wet	*4170*		*74.9*	*42-123*			
Matrix Spike (1242045-MS1)		**Source: T207046-45**		Prepared: 15-Oct-12 Analyzed: 19-Oct-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg dry	*3870*		*73.9*	*26-107*			
Aroclor-1254	**3300**	**6**	**ug/kg dry**	**3100**	**770**	**82.3**	**0-200**			
Surrogate: Terphenyl-d14	*4000*		ug/kg dry	*3870*		*102*	*42-123*			
Matrix Spike Dup (1242045-MSD1)		**Source: T207046-45**		Prepared: 15-Oct-12 Analyzed: 19-Oct-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg dry	*4110*		*72.0*	*26-107*			
Aroclor-1254	**3500**	**9**	**ug/kg dry**	**3290**	**770**	**83.5**	**0-200**	**5.79**	**200**	
Surrogate: Terphenyl-d14	*4200*		ug/kg dry	*4110*		*103*	*42-123*			
Batch 1244027 - 3545										
Blank (1244027-BLK1)				Prepared: 22-Oct-12 Analyzed: 01-Nov-12						
2-Methylnaphthalene	78 U	78	ug/kg wet							
Acenaphthene	60 U	60	ug/kg wet							
Acenaphthylene	69 U	69	ug/kg wet							
Anthracene	58 U	58	ug/kg wet							
Benzo(a)anthracene	57 U	57	ug/kg wet							
Benzo(a)pyrene	64 U	64	ug/kg wet							
Benzo(b,k)fluoranthenes	106 U	106	ug/kg wet							
Benzo(g,h,i)perylene	93 U	93	ug/kg wet							
bis(2-Ethylhexyl)phthalate	71 U	71	ug/kg wet							
Butyl benzyl phthalate	74 U	74	ug/kg wet							
Dibenz(a,h)anthracene	86 U	86	ug/kg wet							
Diethylphthalate	58 U	58	ug/kg wet							
Dimethyl phthalate	54 U	54	ug/kg wet							
Di-n-butylphthalate	65 U	65	ug/kg wet							

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Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

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Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1244027 - 3545										
Blank (1244027-BLK1)				Prepared: 22-Oct-12 Analyzed: 01-Nov-12						
Di-n-Octyl phthalate	92 U	92	ug/kg wet							
Fluoranthene	64 U	64	ug/kg wet							
Fluorene	57 U	57	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	83 U	83	ug/kg wet							
Phenanthrene	58 U	58	ug/kg wet							
Surrogate: Pyrene-d10	*2870*		ug/kg wet	*4170*		*68.9*	*50-150*			
Surrogate: Terphenyl-d14	*3460*		ug/kg wet	*4170*		*83.0*	*50-150*			
LCS (1244027-BS1)				Prepared: 22-Oct-12 Analyzed: 01-Nov-12						
2-Methylnaphthalene	**2550**	**65**	**ug/kg wet**	**4170**		**61.2**	**50-150**			
Acenaphthene	**3030**	**50**	**ug/kg wet**	**4170**		**72.8**	**50-150**			
Acenaphthylene	**2670**	**57**	**ug/kg wet**	**4170**		**64.0**	**50-150**			
Anthracene	**3830**	**48**	**ug/kg wet**	**4170**		**92.0**	**50-150**			
Benzo(a)anthracene	**3680**	**48**	**ug/kg wet**	**4170**		**88.4**	**50-150**			
Benzo(a)pyrene	**3980**	**54**	**ug/kg wet**	**4170**		**95.6**	**50-150**			
Benzo(b,k)fluoranthenes	**8040**	**89**	**ug/kg wet**	**8330**		**96.5**	**50-150**			
Benzo(g,h,i)perylene	**3700**	**77**	**ug/kg wet**	**4170**		**88.8**	**50-150**			
bis(2-Ethylhexyl)phthalate	**4040**	**59**	**ug/kg wet**	**4170**		**97.0**	**50-150**			
Butyl benzyl phthalate	**3730**	**62**	**ug/kg wet**	**4170**		**89.6**	**50-150**			
Dibenz(a,h)anthracene	**3760**	**72**	**ug/kg wet**	**4170**		**90.2**	**50-150**			
Diethylphthalate	**3480**	**48**	**ug/kg wet**	**4170**		**83.6**	**50-150**			
Dimethyl phthalate	**2910**	**45**	**ug/kg wet**	**4170**		**69.8**	**50-150**			
Di-n-butylphthalate	**4010**	**54**	**ug/kg wet**	**4170**		**96.2**	**50-150**			
Di-n-Octyl phthalate	**3920**	**77**	**ug/kg wet**	**4170**		**94.0**	**50-150**			
Fluoranthene	**3800**	**53**	**ug/kg wet**	**4170**		**91.2**	**50-150**			
Fluorene	**3050**	**48**	**ug/kg wet**	**4170**		**73.2**	**50-150**			
Indeno(1,2,3-c,d)pyrene	**4110**	**69**	**ug/kg wet**	**4170**		**98.6**	**50-150**			
Phenanthrene	**4170**	**48**	**ug/kg wet**	**4170**		**100**	**50-150**			
Surrogate: Pyrene-d10	*3580*		ug/kg wet	*4170*		*85.8*	*50-150*			
Surrogate: Terphenyl-d14	*3720*		ug/kg wet	*4170*		*89.2*	*50-150*			

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1244027 - 3545										
Matrix Spike (1244027-MS1)		**Source: T207046-11**		Prepared: 22-Oct-12 Analyzed: 01-Nov-12						
2-Methylnaphthalene	**3440**	**62**	**ug/kg dry**	**3980**	**166**	**82.2**	**50-150**			
Acenaphthene	**3530**	**47**	**ug/kg dry**	**3980**	**528**	**75.3**	**50-150**			
Acenaphthylene	**3060**	**55**	**ug/kg dry**	**3980**	**ND**	**76.8**	**50-150**			
Anthracene	**3630**	**46**	**ug/kg dry**	**3980**	**607**	**76.0**	**50-150**			
Benzo(a)anthracene	**4080**	**46**	**ug/kg dry**	**3980**	**875**	**80.6**	**50-150**			
Butyl benzyl phthalate	**5800**	**59**	**ug/kg dry**	**3980**	**552**	**132**	**50-150**			
Diethylphthalate	**3850**	**46**	**ug/kg dry**	**3980**	**ND**	**96.6**	**50-150**			
Dimethyl phthalate	**3580**	**43**	**ug/kg dry**	**3980**	**47**	**88.8**	**50-150**			
Di-n-butylphthalate	**3930**	**52**	**ug/kg dry**	**3980**	**426**	**87.9**	**50-150**			
Fluoranthene	**3940**	**51**	**ug/kg dry**	**3980**	**1570**	**59.6**	**50-150**			
Fluorene	**3710**	**45**	**ug/kg dry**	**3980**	**394**	**83.3**	**50-150**			
Surrogate: Pyrene-d10	*4020*		ug/kg dry	*3980*		*101*	*50-150*			
Surrogate: Terphenyl-d14	*4750*		ug/kg dry	*3980*		*119*	*50-150*			
Matrix Spike (1244027-MS2)		**Source: T207046-11**		Prepared: 22-Oct-12 Analyzed: 02-Nov-12						
Benzo(a)pyrene	**4300**	**1020**	**ug/kg dry**	**3980**	**1030**	**82.1**	**50-150**			
Benzo(b,k)fluoranthenes	**7800**	**1690**	**ug/kg dry**	**7960**	**1770**	**75.8**	**50-150**			
Benzo(g,h,i)perylene	**6690**	**1480**	**ug/kg dry**	**3980**	**1300**	**135**	**50-150**			
bis(2-Ethylhexyl)phthalate	**26600 #**	**1130**	**ug/kg dry**	**3980**	**35300**	**NR**	**50-150**			
Dibenz(a,h)anthracene	**5730**	**1370**	**ug/kg dry**	**3980**	**110**	**141**	**50-150**			
Di-n-Octyl phthalate	**3820**	**1470**	**ug/kg dry**	**3980**	**ND**	**96.0**	**50-150**			
Fluorene	**4300**	**910**	**ug/kg dry**	**3980**	**394**	**98.1**	**50-150**			
Indeno(1,2,3-c,d)pyrene	**6370**	**1310**	**ug/kg dry**	**3980**	**1140**	**131**	**50-150**			
Phenanthrene	**4620**	**921**	**ug/kg dry**	**3980**	**2590**	**50.9**	**50-150**			
Matrix Spike Dup (1244027-MSD1)		**Source: T207046-11**		Prepared: 22-Oct-12 Analyzed: 01-Nov-12						
Acenaphthene	**3130**	**49**	**ug/kg dry**	**4080**	**528**	**63.7**	**50-150**	**12.0**	**50**	
Acenaphthylene	**2700**	**56**	**ug/kg dry**	**4080**	**ND**	**66.2**	**50-150**	**12.3**	**50**	
Anthracene	**3270**	**47**	**ug/kg dry**	**4080**	**607**	**65.3**	**50-150**	**10.3**	**50**	
Diethylphthalate	**3000**	**47**	**ug/kg dry**	**4080**	**ND**	**73.6**	**50-150**	**24.6**	**50**	
Dimethyl phthalate	**3300**	**44**	**ug/kg dry**	**4080**	**47**	**79.6**	**50-150**	**8.26**	**50**	
Di-n-butylphthalate	**3070**	**53**	**ug/kg dry**	**4080**	**426**	**64.8**	**50-150**	**24.5**	**50**	
Fluorene	**2890**	**47**	**ug/kg dry**	**4080**	**394**	**61.1**	**50-150**	**24.8**	**50**	

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1244027 - 3545										
Matrix Spike Dup (1244027-MSD2)		**Source: T207046-11**		Prepared: 22-Oct-12 Analyzed: 02-Nov-12						
2-Methylnaphthalene	**3590**	**1270**	**ug/kg dry**	**4080**	**166**	**83.9**	**50-150**	**2.52**	**50**	
Benzo(a)anthracene	**4080**	**939**	**ug/kg dry**	**4080**	**875**	**78.6**	**50-150**	**1.40**	**50**	
Benzo(a)pyrene	**4250**	**1050**	**ug/kg dry**	**4080**	**1030**	**78.7**	**50-150**	**1.26**	**50**	
Benzo(b,k)fluoranthenes	**7840**	**1740**	**ug/kg dry**	**8170**	**1770**	**74.4**	**50-150**	**0.456**	**50**	
Benzo(g,h,i)perylene	**6040**	**1510**	**ug/kg dry**	**4080**	**1300**	**116**	**50-150**	**10.1**	**50**	
bis(2-Ethylhexyl)phthalate	**25500 #**	**1160**	**ug/kg dry**	**4080**	**35300**	**NR**	**50-150**	**4.30**	**50**	
Butyl benzyl phthalate	**4410**	**1210**	**ug/kg dry**	**4080**	**552**	**94.5**	**50-150**	**1.12**	**50**	
Dibenz(a,h)anthracene	**5390**	**1400**	**ug/kg dry**	**4080**	**110**	**129**	**50-150**	**6.18**	**50**	
Di-n-Octyl phthalate	**3760**	**1510**	**ug/kg dry**	**4080**	**ND**	**92.0**	**50-150**	**1.74**	**50**	
Fluoranthene	**5060**	**1050**	**ug/kg dry**	**4080**	**1570**	**85.6**	**50-150**	**2.52**	**50**	
Fluorene	**4080**	**933**	**ug/kg dry**	**4080**	**394**	**90.3**	**50-150**	**5.18**	**50**	
Indeno(1,2,3-c,d)pyrene	**5880**	**1350**	**ug/kg dry**	**4080**	**1140**	**116**	**50-150**	**8.01**	**50**	
Phenanthrene	**4570 #**	**945**	**ug/kg dry**	**4080**	**2590**	**48.5**	**50-150**	**0.992**	**50**	
Surrogate: Pyrene-d10	*3100*		ug/kg dry	*4080*		*76.0*	*50-150*			
Surrogate: Terphenyl-d14	*3590*		ug/kg dry	*4080*		*88.0*	*50-150*			
Batch 1244050 - 3545										
Blank (1244050-BLK1)				Prepared: 23-Oct-12 Analyzed: 05-Nov-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg wet	*5000*		*59.3*	*26-107*			
Aroclor-1016	7 U	7	ug/kg wet							
Aroclor-1221	7 U	7	ug/kg wet							
Aroclor-1232	7 U	7	ug/kg wet							
Aroclor-1242	7 U	7	ug/kg wet							
Aroclor-1248	6 U	6	ug/kg wet							
Aroclor-1254	6 U	6	ug/kg wet							
Aroclor-1260	6 U	6	ug/kg wet							
Surrogate: Terphenyl-d14	*4200*		ug/kg wet	*5000*		*83.0*	*42-123*			

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246028 - 3545										
Blank (1246028-BLK1)				Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg wet	*4170*		*71.0*	*26-107*			
Aroclor-1016	11 U	11	ug/kg wet							
Aroclor-1221	11 U	11	ug/kg wet							
Aroclor-1232	11 U	11	ug/kg wet							
Aroclor-1242	11 U	11	ug/kg wet							
Aroclor-1254	10 U	10	ug/kg wet							
Surrogate: Terphenyl-d14	*3400*		ug/kg wet	*4170*		*80.6*	*42-123*			
Blank (1246028-BLK2)				Prepared: 09-Nov-12 Analyzed: 28-Nov-12						
Surrogate: 2-Fluorobiphenyl	*2800*		ug/kg wet	*4170*		*66.7*	*26-107*			
Aroclor-1248	10 U	10	ug/kg wet							
Aroclor-1260	10 U	10	ug/kg wet							
Surrogate: Terphenyl-d14	*2800*		ug/kg wet	*4170*		*66.2*	*42-123*			
LCS (1246028-BS1)				Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*2500*		ug/kg wet	*4170*		*60.0*	*26-107*			
Aroclor-1254	**2400**	**10**	**ug/kg wet**	**3330**		**72.0**	**0-200**			
Surrogate: Terphenyl-d14	*3900*		ug/kg wet	*4170*		*94.1*	*42-123*			
Matrix Spike (1246028-MS1)		**Source: T211046-02**		Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*1100*		ug/kg dry	*3930*		*27.4*	*26-107*			
Aroclor-1254	**1400**	**9**	**ug/kg dry**	**3150**	**ND**	**44.4**	**0-200**			
Surrogate: Terphenyl-d14	*1700*		ug/kg dry	*3930*		*43.2*	*42-123*			
Matrix Spike Dup (1246028-MSD1)		**Source: T211046-02**		Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*1100*		ug/kg dry	*3780*		*30.2*	*26-107*			
Aroclor-1254	**1300**	**9**	**ug/kg dry**	**3020**	**ND**	**43.6**	**0-200**	**5.80**	**200**	
Surrogate: Terphenyl-d14	*1400*		ug/kg dry	*3780*		*37.0*	*42-123*			#

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246073 - 3545										
Blank (1246073-BLK1)				Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*2600*		ug/kg wet	*4170*		*61.7*	*39-92*			
2-Methylnaphthalene	65 U	65	ug/kg wet							
Acenaphthene	46 U	46	ug/kg wet							
Acenaphthylene	62 U	62	ug/kg wet							
Anthracene	25 U	25	ug/kg wet							
Benzo(a)anthracene	26 U	26	ug/kg wet							
Benzo(a)pyrene	29 U	29	ug/kg wet							
Benzo(b,k)fluoranthenes	48 U	48	ug/kg wet							
Benzo(g,h,i)perylene	34 U	34	ug/kg wet							
bis(2-Ethylhexyl)phthalate	54 U	54	ug/kg wet							
Butyl benzyl phthalate	50 U	50	ug/kg wet							
Chrysene	35 U	35	ug/kg wet							
Dibenz(a,h)anthracene	35 U	35	ug/kg wet							
Diethylphthalate	49 U	49	ug/kg wet							
Dimethyl phthalate	46 U	46	ug/kg wet							
Di-n-butylphthalate	51 U	51	ug/kg wet							
Di-n-Octyl phthalate	52 U	52	ug/kg wet							
Fluoranthene	38 U	38	ug/kg wet							
Fluorene	47 U	47	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	43 U	43	ug/kg wet							
Naphthalene	59 U	59	ug/kg wet							
Surrogate: Nitrobenzene-d5	*2500*		ug/kg wet	*4170*		*58.9*	*32-105*			
Phenanthrene	19 U	19	ug/kg wet							
Pyrene	25 U	25	ug/kg wet							
Surrogate: Pyrene-d10	*3100*		ug/kg wet	*4170*		*73.2*	*50-150*			
Surrogate: Terphenyl-d14	*3600*		ug/kg wet	*4170*		*85.8*	*49-128*			
LCS (1246073-BS1)				Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*2700*		ug/kg wet	*4170*		*65.2*	*39-92*			
2-Methylnaphthalene	**2700**	**65**	**ug/kg wet**	**4170**		**64.4**	**35-105**			
Acenaphthene	**2900**	**46**	**ug/kg wet**	**4170**		**70.2**	**44-112**			
Acenaphthylene	**2700**	**62**	**ug/kg wet**	**4170**		**64.5**	**43-111**			

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246073 - 3545										
LCS (1246073-BS1)				Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Anthracene	**3100**	**25**	**ug/kg wet**	**4170**		**75.2**	**19-148**			
Benzo(a)anthracene	**3400**	**26**	**ug/kg wet**	**4170**		**81.4**	**55-115**			
Benzo(a)pyrene	**3500**	**29**	**ug/kg wet**	**4170**		**83.0**	**52-121**			
Benzo(b,k)fluoranthenes	**7000**	**48**	**ug/kg wet**	**8330**		**83.6**	**60-120**			
Benzo(g,h,i)perylene	**3700**	**34**	**ug/kg wet**	**4170**		**88.2**	**51-133**			
bis(2-Ethylhexyl)phthalate	**3300**	**54**	**ug/kg wet**	**4170**		**78.8**	**49-137**			
Butyl benzyl phthalate	**3300**	**50**	**ug/kg wet**	**4170**		**78.9**	**48-135**			
Chrysene	**3300**	**35**	**ug/kg wet**	**4170**		**79.2**	**58-113**			
Dibenz(a,h)anthracene	**3800**	**35**	**ug/kg wet**	**4170**		**91.2**	**56-131**			
Diethylphthalate	**3400**	**49**	**ug/kg wet**	**4170**		**81.6**	**51-124**			
Dimethyl phthalate	**3300**	**46**	**ug/kg wet**	**4170**		**79.4**	**55-119**			
Di-n-butylphthalate	**3200**	**51**	**ug/kg wet**	**4170**		**77.4**	**62-122**			
Di-n-Octyl phthalate	**3500**	**52**	**ug/kg wet**	**4170**		**85.2**	**43-147**			
Fluoranthene	**3300**	**38**	**ug/kg wet**	**4170**		**78.8**	**60-117**			
Fluorene	**3100**	**47**	**ug/kg wet**	**4170**		**74.3**	**47-102**			
Indeno(1,2,3-c,d)pyrene	**3700**	**43**	**ug/kg wet**	**4170**		**88.4**	**55-131**			
Naphthalene	**2500**	**59**	**ug/kg wet**	**4170**		**59.8**	**35-100**			
Surrogate: Nitrobenzene-d5	*2500*		ug/kg wet	*4170*		*60.1*	*32-105*			
Phenanthrene	**3400**	**19**	**ug/kg wet**	**4170**		**80.7**	**60-116**			
Pyrene	**3100**	**25**	**ug/kg wet**	**4170**		**75.1**	**32-129**			
Surrogate: Pyrene-d10	*3300*		ug/kg wet	*4170*		*78.3*	*50-150*			
Surrogate: Terphenyl-d14	*3500*		ug/kg wet	*4170*		*84.9*	*49-128*			
LCS (1246073-BS2)				Prepared: 09-Nov-12 Analyzed: 26-Nov-12						
Surrogate: 2-Fluorobiphenyl	*2700*		ug/kg wet	*4170*		*64.9*	*39-92*			
2-Methylnaphthalene	**2600**	**65**	**ug/kg wet**	**4170**		**63.5**	**35-105**			
Acenaphthene	**2800**	**46**	**ug/kg wet**	**4170**		**68.3**	**44-112**			
Acenaphthylene	**2700**	**62**	**ug/kg wet**	**4170**		**64.9**	**43-111**			
Anthracene	**2800**	**25**	**ug/kg wet**	**4170**		**66.6**	**19-148**			
Benzo(a)anthracene	**3300**	**26**	**ug/kg wet**	**4170**		**79.6**	**55-115**			
Benzo(a)pyrene	**3400**	**29**	**ug/kg wet**	**4170**		**80.6**	**52-121**			
Benzo(b,k)fluoranthenes	**6900**	**48**	**ug/kg wet**	**8330**		**82.9**	**60-120**			
Benzo(g,h,i)perylene	**3500**	**34**	**ug/kg wet**	**4170**		**83.4**	**51-133**			

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246073 - 3545										
LCS (1246073-BS2)				Prepared: 09-Nov-12 Analyzed: 26-Nov-12						
bis(2-Ethylhexyl)phthalate	3200	54	ug/kg wet	4170		77.0	49-137			
Butyl benzyl phthalate	3200	50	ug/kg wet	4170		77.7	48-135			
Chrysene	3000	35	ug/kg wet	4170		73.1	58-113			
Dibenz(a,h)anthracene	3400	35	ug/kg wet	4170		80.8	56-131			
Diethylphthalate	3300	49	ug/kg wet	4170		79.7	51-124			
Dimethyl phthalate	3300	46	ug/kg wet	4170		79.4	55-119			
Di-n-butylphthalate	3100	51	ug/kg wet	4170		73.3	62-122			
Di-n-Octyl phthalate	3400	52	ug/kg wet	4170		80.8	43-147			
Fluoranthene	3000	38	ug/kg wet	4170		72.2	60-117			
Fluorene	3100	47	ug/kg wet	4170		74.9	47-102			
Indeno(1,2,3-c,d)pyrene	3700	43	ug/kg wet	4170		87.9	55-131			
Naphthalene	2500	59	ug/kg wet	4170		59.5	35-100			
Surrogate: Nitrobenzene-d5	*2500*		ug/kg wet	*4170*		*59.8*	*32-105*			
Phenanthrene	3100	19	ug/kg wet	4170		74.1	60-116			
Pyrene	3100	25	ug/kg wet	4170		75.4	32-129			
Surrogate: Pyrene-d10	*3300*		ug/kg wet	*4170*		*78.6*	*50-150*			
Surrogate: Terphenyl-d14	*3500*		ug/kg wet	*4170*		*83.3*	*49-128*			
Matrix Spike (1246073-MS1)		Source: T207046-21		Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg dry	*3860*		*76.4*	*39-92*			
2-Methylnaphthalene	3000	60	ug/kg dry	3860	ND	76.6	35-105			
Acenaphthene	3000	43	ug/kg dry	3860	51	76.8	44-112			
Acenaphthylene	2800	58	ug/kg dry	3860	ND	73.0	43-111			
Anthracene	3100	23	ug/kg dry	3860	93	77.2	19-148			
Benzo(a)anthracene	3300	25	ug/kg dry	3860	330	77.2	55-115			
Benzo(a)pyrene	3500	27	ug/kg dry	3860	320	82.0	52-121			
Benzo(b,k)fluoranthenes	7300	44	ug/kg dry	7710	730	85.5	60-120			
Benzo(g,h,i)perylene	4000	31	ug/kg dry	3860	470	92.8	51-133			
bis(2-Ethylhexyl)phthalate	17000 #	50	ug/kg dry	3860	5100	300	49-137			
Butyl benzyl phthalate	3600	46	ug/kg dry	3860	850	72.1	48-135			
Chrysene	3100	33	ug/kg dry	3860	480	69.0	58-113			
Dibenz(a,h)anthracene	4100	32	ug/kg dry	3860	72	104	56-131			
Diethylphthalate	3100	45	ug/kg dry	3860	ND	80.1	51-124			

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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246073 - 3545										
Matrix Spike (1246073-MS1)		**Source: T207046-21**		Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Dimethyl phthalate	**3100**	**43**	**ug/kg dry**	**3860**	**650**	**64.8**	**55-119**			
Di-n-butylphthalate	**3000**	**47**	**ug/kg dry**	**3860**	**450**	**67.4**	**62-122**			
Di-n-Octyl phthalate	**14000 #**	**48**	**ug/kg dry**	**3860**	**140**	**356**	**43-147**			
Fluoranthene	**3000 #**	**35**	**ug/kg dry**	**3860**	**740**	**58.8**	**60-117**			
Fluorene	**3100**	**44**	**ug/kg dry**	**3860**	**73**	**79.3**	**47-102**			
Indeno(1,2,3-c,d)pyrene	**4600**	**40**	**ug/kg dry**	**3860**	**310**	**112**	**55-131**			
Naphthalene	**2700**	**54**	**ug/kg dry**	**3860**	**130**	**66.9**	**35-100**			
Surrogate: Nitrobenzene-d5	*2800*		ug/kg dry	*3860*		*72.1*	*32-105*			
Phenanthrene	**3500**	**17**	**ug/kg dry**	**3860**	**700**	**71.9**	**60-116**			
Pyrene	**4000**	**23**	**ug/kg dry**	**3860**	**1100**	**75.4**	**32-129**			
Surrogate: Pyrene-d10	*3800*		ug/kg dry	*3860*		*98.4*	*50-150*			
Surrogate: Terphenyl-d14	*4200*		ug/kg dry	*3860*		*109*	*49-128*			
Matrix Spike (1246073-MS2)		**Source: T207046-21**		Prepared: 09-Nov-12 Analyzed: 26-Nov-12						
Surrogate: 2-Fluorobiphenyl	*3700*		ug/kg dry	*3860*		*96.3*	*39-92*			
2-Methylnaphthalene	**3500**	**300**	**ug/kg dry**	**3860**	**ND**	**89.9**	**35-105**			
Acenaphthene	**3700**	**210**	**ug/kg dry**	**3860**	**51**	**95.1**	**44-112**			
Acenaphthylene	**3700**	**290**	**ug/kg dry**	**3860**	**ND**	**95.5**	**43-111**			
Anthracene	**3700**	**120**	**ug/kg dry**	**3860**	**93**	**93.5**	**19-148**			
Benzo(a)anthracene	**3400**	**120**	**ug/kg dry**	**3860**	**330**	**79.4**	**55-115**			
Benzo(a)pyrene	**3700**	**140**	**ug/kg dry**	**3860**	**320**	**86.7**	**52-121**			
Benzo(b,k)fluoranthenes	**8100**	**220**	**ug/kg dry**	**7710**	**730**	**95.0**	**60-120**			
Benzo(g,h,i)perylene	**4700**	**160**	**ug/kg dry**	**3860**	**470**	**110**	**51-133**			
bis(2-Ethylhexyl)phthalate	**23000 #**	**250**	**ug/kg dry**	**3860**	**5100**	**458**	**49-137**			
Butyl benzyl phthalate	**3900**	**230**	**ug/kg dry**	**3860**	**850**	**80.2**	**48-135**			
Chrysene	**3700**	**160**	**ug/kg dry**	**3860**	**480**	**84.4**	**58-113**			
Dibenz(a,h)anthracene	**4400**	**160**	**ug/kg dry**	**3860**	**72**	**112**	**56-131**			
Diethylphthalate	**3600**	**230**	**ug/kg dry**	**3860**	**ND**	**94.2**	**51-124**			
Dimethyl phthalate	**3600**	**220**	**ug/kg dry**	**3860**	**650**	**76.1**	**55-119**			
Di-n-butylphthalate	**3800**	**230**	**ug/kg dry**	**3860**	**450**	**86.5**	**62-122**			
Di-n-Octyl phthalate	**24000 #**	**240**	**ug/kg dry**	**3860**	**140**	**628**	**43-147**			
Fluoranthene	**4000**	**170**	**ug/kg dry**	**3860**	**740**	**85.1**	**60-117**			
Fluorene	**3900**	**220**	**ug/kg dry**	**3860**	**73**	**99.6**	**47-102**			

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326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
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Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246073 - 3545										
Matrix Spike (1246073-MS2)	**Source: T207046-21**		Prepared: 09-Nov-12 Analyzed: 26-Nov-12							
Indeno(1,2,3-c,d)pyrene	**4700**	**200**	**ug/kg dry**	**3860**	**310**	**114**	**55-131**			
Naphthalene	**3200**	**270**	**ug/kg dry**	**3860**	**130**	**79.1**	**35-100**			
Surrogate: Nitrobenzene-d5	*2900*		ug/kg dry	*3860*		*75.8*	*32-105*			
Phenanthrene	**4100**	**87**	**ug/kg dry**	**3860**	**700**	**88.6**	**60-116**			
Pyrene	**4600**	**120**	**ug/kg dry**	**3860**	**1100**	**92.0**	**32-129**			
Surrogate: Pyrene-d10	*4000*		ug/kg dry	*3860*		*103*	*50-150*			
Surrogate: Terphenyl-d14	*4500*		ug/kg dry	*3860*		*118*	*49-128*			
Matrix Spike Dup (1246073-MSD1)	**Source: T207046-21**		Prepared: 09-Nov-12 Analyzed: 20-Nov-12							
Surrogate: 2-Fluorobiphenyl	*2800*		ug/kg dry	*3750*		*75.3*	*39-92*			
2-Methylnaphthalene	**2900**	**59**	**ug/kg dry**	**3750**	**ND**	**77.6**	**35-105**	**1.43**	**50**	
Acenaphthene	**2900**	**42**	**ug/kg dry**	**3750**	**51**	**77.0**	**44-112**	**2.45**	**50**	
Acenaphthylene	**2800**	**56**	**ug/kg dry**	**3750**	**ND**	**73.8**	**43-111**	**1.69**	**50**	
Anthracene	**3000**	**22**	**ug/kg dry**	**3750**	**93**	**78.7**	**19-148**	**0.804**	**50**	
Benzo(a)anthracene	**3200**	**24**	**ug/kg dry**	**3750**	**330**	**77.2**	**55-115**	**2.40**	**50**	
Benzo(a)pyrene	**3400**	**26**	**ug/kg dry**	**3750**	**320**	**81.2**	**52-121**	**3.35**	**50**	
Benzo(b,k)fluoranthenes	**7200**	**43**	**ug/kg dry**	**7510**	**730**	**86.1**	**60-120**	**1.88**	**50**	
Benzo(g,h,i)perylene	**3900**	**30**	**ug/kg dry**	**3750**	**470**	**91.7**	**51-133**	**3.44**	**50**	
bis(2-Ethylhexyl)phthalate	**7500**	**49**	**ug/kg dry**	**3750**	**5100**	**65.7**	**49-137**	**75.2**	**50**	
Butyl benzyl phthalate	**3400**	**45**	**ug/kg dry**	**3750**	**850**	**67.8**	**48-135**	**6.73**	**50**	
Chrysene	**3000**	**32**	**ug/kg dry**	**3750**	**480**	**67.5**	**58-113**	**4.11**	**50**	
Dibenz(a,h)anthracene	**3900**	**32**	**ug/kg dry**	**3750**	**72**	**102**	**56-131**	**3.65**	**50**	
Diethylphthalate	**3000**	**44**	**ug/kg dry**	**3750**	**ND**	**80.7**	**51-124**	**2.05**	**50**	
Dimethyl phthalate	**3200**	**42**	**ug/kg dry**	**3750**	**650**	**67.3**	**55-119**	**0.863**	**50**	
Di-n-butylphthalate	**3200**	**46**	**ug/kg dry**	**3750**	**450**	**72.4**	**62-122**	**3.87**	**50**	
Di-n-Octyl phthalate	**3200**	**46**	**ug/kg dry**	**3750**	**140**	**82.1**	**43-147**	**125**	**50**	
Fluoranthene	**2800 #**	**34**	**ug/kg dry**	**3750**	**740**	**56.1**	**60-117**	**5.59**	**50**	
Fluorene	**3000**	**43**	**ug/kg dry**	**3750**	**73**	**79.1**	**47-102**	**2.91**	**50**	
Indeno(1,2,3-c,d)pyrene	**4500**	**39**	**ug/kg dry**	**3750**	**310**	**112**	**55-131**	**2.65**	**50**	
Naphthalene	**2700**	**53**	**ug/kg dry**	**3750**	**130**	**69.5**	**35-100**	**0.972**	**50**	
Surrogate: Nitrobenzene-d5	*2700*		ug/kg dry	*3750*		*71.4*	*32-105*			
Phenanthrene	**3400**	**17**	**ug/kg dry**	**3750**	**700**	**72.5**	**60-116**	**1.44**	**50**	
Pyrene	**3800**	**23**	**ug/kg dry**	**3750**	**1100**	**74.4**	**32-129**	**2.96**	**50**	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1246073 - 3545										
Matrix Spike Dup (1246073-MSD1)		**Source: T207046-21**		Prepared: 09-Nov-12 Analyzed: 20-Nov-12						
Surrogate: Pyrene-d10	*3600*		ug/kg dry	*3750*		*95.6*	*50-150*			
Surrogate: Terphenyl-d14	*3800*		ug/kg dry	*3750*		*102*	*49-128*			
Matrix Spike Dup (1246073-MSD2)		**Source: T207046-21**		Prepared: 09-Nov-12 Analyzed: 26-Nov-12						
Surrogate: 2-Fluorobiphenyl	*3500*		ug/kg dry	*3750*		*94.6*	*39-92*			#
2-Methylnaphthalene	**3400**	**290**	**ug/kg dry**	**3750**	**ND**	**91.5**	**35-105**	**1.03**	**50**	
Acenaphthene	**3700**	**210**	**ug/kg dry**	**3750**	**51**	**97.6**	**44-112**	**0.108**	**50**	
Acenaphthylene	**3700**	**280**	**ug/kg dry**	**3750**	**ND**	**97.4**	**43-111**	**0.716**	**50**	
Anthracene	**3600**	**110**	**ug/kg dry**	**3750**	**93**	**94.7**	**19-148**	**1.44**	**50**	
Benzo(a)anthracene	**3400**	**120**	**ug/kg dry**	**3750**	**330**	**82.5**	**55-115**	**0.954**	**50**	
Benzo(a)pyrene	**3600**	**130**	**ug/kg dry**	**3750**	**320**	**86.1**	**52-121**	**3.09**	**50**	
Benzo(b,k)fluoranthenes	**7700**	**220**	**ug/kg dry**	**7510**	**730**	**93.3**	**60-120**	**4.13**	**50**	
Benzo(g,h,i)perylene	**4400**	**150**	**ug/kg dry**	**3750**	**470**	**105**	**51-133**	**6.50**	**50**	
bis(2-Ethylhexyl)phthalate	**9900**	**240**	**ug/kg dry**	**3750**	**5100**	**129**	**49-137**	**78.5**	**50**	
Butyl benzyl phthalate	**3900**	**220**	**ug/kg dry**	**3750**	**850**	**80.9**	**48-135**	**1.44**	**50**	
Chrysene	**3500**	**160**	**ug/kg dry**	**3750**	**480**	**80.5**	**58-113**	**6.47**	**50**	
Dibenz(a,h)anthracene	**4200**	**160**	**ug/kg dry**	**3750**	**72**	**110**	**56-131**	**4.49**	**50**	
Diethylphthalate	**3700**	**220**	**ug/kg dry**	**3750**	**ND**	**99.3**	**51-124**	**2.56**	**50**	
Dimethyl phthalate	**3600**	**210**	**ug/kg dry**	**3750**	**650**	**80.0**	**55-119**	**1.90**	**50**	
Di-n-butylphthalate	**3900**	**230**	**ug/kg dry**	**3750**	**450**	**91.8**	**62-122**	**2.86**	**50**	
Di-n-Octyl phthalate	**5100**	**230**	**ug/kg dry**	**3750**	**140**	**133**	**43-147**	**130**	**50**	
Fluoranthene	**3900**	**170**	**ug/kg dry**	**3750**	**740**	**83.5**	**60-117**	**3.77**	**50**	
Fluorene	**3900 #**	**210**	**ug/kg dry**	**3750**	**73**	**103**	**47-102**	**0.248**	**50**	
Indeno(1,2,3-c,d)pyrene	**4400**	**190**	**ug/kg dry**	**3750**	**310**	**110**	**55-131**	**5.45**	**50**	
Naphthalene	**3200**	**260**	**ug/kg dry**	**3750**	**130**	**82.9**	**35-100**	**1.86**	**50**	
Surrogate: Nitrobenzene-d5	*2800*		ug/kg dry	*3750*		*75.3*	*32-105*			
Phenanthrene	**4000**	**85**	**ug/kg dry**	**3750**	**700**	**88.5**	**60-116**	**2.34**	**50**	
Pyrene	**4700**	**110**	**ug/kg dry**	**3750**	**1100**	**96.4**	**32-129**	**1.51**	**50**	
Surrogate: Pyrene-d10	*3900*		ug/kg dry	*3750*		*104*	*50-150*			
Surrogate: Terphenyl-d14	*4300*		ug/kg dry	*3750*		*115*	*49-128*			

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1249014 - 3545										
Blank (1249014-BLK1)				Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2700*		ug/kg wet	*5000*		*53.5*	*39-92*			
2-Methylnaphthalene	78 U	78	ug/kg wet							
Acenaphthene	56 U	56	ug/kg wet							
Acenaphthylene	75 U	75	ug/kg wet							
Anthracene	30 U	30	ug/kg wet							
Benzo(a)anthracene	32 U	32	ug/kg wet							
Benzo(a)pyrene	35 U	35	ug/kg wet							
Benzo(b,k)fluoranthenes	57 U	57	ug/kg wet							
Benzo(g,h,i)perylene	40 U	40	ug/kg wet							
bis(2-Ethylhexyl)phthalate	65 U	65	ug/kg wet							
Butyl benzyl phthalate	60 U	60	ug/kg wet							
Chrysene	42 U	42	ug/kg wet							
Dibenz(a,h)anthracene	42 U	42	ug/kg wet							
Diethylphthalate	59 U	59	ug/kg wet							
Dimethyl phthalate	56 U	56	ug/kg wet							
Di-n-butylphthalate	61 U	61	ug/kg wet							
Di-n-Octyl phthalate	62 U	62	ug/kg wet							
Fluoranthene	45 U	45	ug/kg wet							
Fluorene	57 U	57	ug/kg wet							
Indeno(1,2,3-c,d)pyrene	52 U	52	ug/kg wet							
Naphthalene	70 U	70	ug/kg wet							
Phenanthrene	23 U	23	ug/kg wet							
Pyrene	30 U	30	ug/kg wet							
Surrogate: Pyrene-d10	*3100*		ug/kg wet	*5000*		*61.6*	*50-150*			
Surrogate: Terphenyl-d14	*3400*		ug/kg wet	*5000*		*68.1*	*49-128*			
LCS (1249014-BS1)				Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg wet	*5000*		*57.6*	*39-92*			
2-Methylnaphthalene	**2600**	**78**	**ug/kg wet**	**5000**		**52.8**	**35-105**			
Acenaphthene	**3200**	**56**	**ug/kg wet**	**5000**		**63.8**	**44-112**			
Acenaphthylene	**3000**	**75**	**ug/kg wet**	**5000**		**60.1**	**43-111**			
Anthracene	**3800**	**30**	**ug/kg wet**	**5000**		**75.7**	**19-148**			
Benzo(a)anthracene	**4100**	**32**	**ug/kg wet**	**5000**		**81.9**	**55-115**			

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1249014 - 3545										
LCS (1249014-BS1)				Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Benzo(a)pyrene	4100	35	ug/kg wet	5000		81.6	52-121			
Benzo(b,k)fluoranthenes	8200	57	ug/kg wet	10000		82.3	60-120			
Benzo(g,h,i)perylene	4100	40	ug/kg wet	5000		82.5	51-133			
bis(2-Ethylhexyl)phthalate	4000	65	ug/kg wet	5000		81.0	49-137			
Butyl benzyl phthalate	4100	60	ug/kg wet	5000		82.4	48-135			
Chrysene	3900	42	ug/kg wet	5000		77.6	58-113			
Dibenz(a,h)anthracene	4000	42	ug/kg wet	5000		80.0	56-131			
Diethylphthalate	4100	59	ug/kg wet	5000		82.4	51-124			
Dimethyl phthalate	3900	56	ug/kg wet	5000		79.0	55-119			
Di-n-butylphthalate	4000	61	ug/kg wet	5000		79.4	62-122			
Di-n-Octyl phthalate	4300	62	ug/kg wet	5000		85.7	43-147			
Fluoranthene	4000	45	ug/kg wet	5000		79.5	60-117			
Fluorene	3700	57	ug/kg wet	5000		73.2	47-102			
Indeno(1,2,3-c,d)pyrene	4000	52	ug/kg wet	5000		80.1	55-131			
Naphthalene	2600	70	ug/kg wet	5000		51.0	35-100			
Phenanthrene	4100	23	ug/kg wet	5000		82.2	60-116			
Pyrene	3800	30	ug/kg wet	5000		75.5	32-129			
Surrogate: Pyrene-d10	*3900*		ug/kg wet	*5000*		*78.3*	*50-150*			
Surrogate: Terphenyl-d14	*4200*		ug/kg wet	*5000*		*83.3*	*49-128*			
Matrix Spike (1249014-MS1)		**Source: T207046-73**		Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg dry	*3900*		*76.9*	*39-92*			
2-Methylnaphthalene	2900	61	ug/kg dry	3900	ND	74.3	35-105			
Acenaphthene	3300	43	ug/kg dry	3900	140	81.3	44-112			
Acenaphthylene	2800	58	ug/kg dry	3900	ND	71.8	43-111			
Anthracene	4100	23	ug/kg dry	3900	760	85.4	19-148			
Benzo(a)anthracene	5800	25	ug/kg dry	3900	2000	99.0	55-115			
Benzo(a)pyrene	5700	27	ug/kg dry	3900	2100	91.6	52-121			
Benzo(b,k)fluoranthenes	12000	45	ug/kg dry	7810	3900	99.3	60-120			
Benzo(g,h,i)perylene	4200	31	ug/kg dry	3900	1200	76.5	51-133			
bis(2-Ethylhexyl)phthalate	6000	51	ug/kg dry	3900	2600	88.0	49-137			
Butyl benzyl phthalate	4400	47	ug/kg dry	3900	ND	113	48-135			
Chrysene	6000	33	ug/kg dry	3900	2500	89.5	58-113			

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1249014 - 3545										
Matrix Spike (1249014-MS1)		**Source: T207046-73**		Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Dibenz(a,h)anthracene	**3600**	**33**	**ug/kg dry**	**3900**	**260**	**85.1**	**56-131**			
Diethylphthalate	**3400**	**46**	**ug/kg dry**	**3900**	**ND**	**87.1**	**51-124**			
Dimethyl phthalate	**3400**	**44**	**ug/kg dry**	**3900**	**84**	**85.5**	**55-119**			
Di-n-butylphthalate	**3200**	**47**	**ug/kg dry**	**3900**	**ND**	**83.0**	**62-122**			
Di-n-Octyl phthalate	**3800**	**48**	**ug/kg dry**	**3900**	**ND**	**96.3**	**43-147**			
Fluoranthene	**7300**	**35**	**ug/kg dry**	**3900**	**4000**	**85.6**	**60-117**			
Fluorene	**3500**	**44**	**ug/kg dry**	**3900**	**190**	**83.8**	**47-102**			
Indeno(1,2,3-c,d)pyrene	**4400**	**40**	**ug/kg dry**	**3900**	**1100**	**86.7**	**55-131**			
Naphthalene	**2700**	**55**	**ug/kg dry**	**3900**	**ND**	**70.2**	**35-100**			
Phenanthrene	**7400**	**18**	**ug/kg dry**	**3900**	**3200**	**106**	**60-116**			
Pyrene	**12000**	**24**	**ug/kg dry**	**3900**	**6500**	**139**	**32-129**			
Surrogate: Pyrene-d10	*4900*		ug/kg dry	*3900*		*125*	*50-150*			
Surrogate: Terphenyl-d14	*5400*		ug/kg dry	*3900*		*139*	*49-128*			
Matrix Spike (1249014-MS2)		**Source: T207046-73**		Prepared: 03-Dec-12 Analyzed: 18-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg dry	*3900*		*73.5*	*39-92*			
2-Methylnaphthalene	**3000**	**61**	**ug/kg dry**	**3900**	**ND**	**76.8**	**35-105**			
Acenaphthene	**3300**	**43**	**ug/kg dry**	**3900**	**140**	**80.0**	**44-112**			
Acenaphthylene	**2900**	**58**	**ug/kg dry**	**3900**	**ND**	**73.5**	**43-111**			
Anthracene	**3800**	**23**	**ug/kg dry**	**3900**	**760**	**79.1**	**19-148**			
Benzo(a)anthracene	**5700**	**25**	**ug/kg dry**	**3900**	**2000**	**95.3**	**55-115**			
Benzo(a)pyrene	**5100**	**27**	**ug/kg dry**	**3900**	**2100**	**77.1**	**52-121**			
Benzo(b,k)fluoranthenes	**10000**	**45**	**ug/kg dry**	**7810**	**3900**	**84.0**	**60-120**			
Benzo(g,h,i)perylene	**4300**	**31**	**ug/kg dry**	**3900**	**1200**	**79.0**	**51-133**			
bis(2-Ethylhexyl)phthalate	**5800**	**51**	**ug/kg dry**	**3900**	**2600**	**83.3**	**49-137**			
Butyl benzyl phthalate	**4500**	**47**	**ug/kg dry**	**3900**	**ND**	**116**	**48-135**			
Chrysene	**5600**	**33**	**ug/kg dry**	**3900**	**2500**	**80.6**	**58-113**			
Dibenz(a,h)anthracene	**3600**	**33**	**ug/kg dry**	**3900**	**260**	**85.5**	**56-131**			
Diethylphthalate	**3600**	**46**	**ug/kg dry**	**3900**	**ND**	**91.4**	**51-124**			
Dimethyl phthalate	**3500**	**44**	**ug/kg dry**	**3900**	**84**	**86.9**	**55-119**			
Di-n-butylphthalate	**3200**	**47**	**ug/kg dry**	**3900**	**ND**	**82.8**	**62-122**			
Di-n-Octyl phthalate	**3000**	**48**	**ug/kg dry**	**3900**	**ND**	**75.8**	**43-147**			
Fluoranthene	**7300**	**35**	**ug/kg dry**	**3900**	**4000**	**85.0**	**60-117**			

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1249014 - 3545										
Matrix Spike (1249014-MS2)	**Source: T207046-73**			Prepared: 03-Dec-12 Analyzed: 18-Dec-12						
Fluorene	**3500**	**44**	**ug/kg dry**	**3900**	**190**	**85.7**	**47-102**			
Indeno(1,2,3-c,d)pyrene	**4600**	**40**	**ug/kg dry**	**3900**	**1100**	**89.9**	**55-131**			
Naphthalene	**2800**	**55**	**ug/kg dry**	**3900**	**ND**	**71.7**	**35-100**			
Surrogate: Nitrobenzene-d5	*2700*		ug/kg dry	*3900*		*69.4*	*32-105*			
Phenanthrene	**7000**	**18**	**ug/kg dry**	**3900**	**3200**	**97.3**	**60-116**			
Pyrene	**12000**	**24**	**ug/kg dry**	**3900**	**6500**	**148**	**32-129**			
Surrogate: Pyrene-d10	*5000*		ug/kg dry	*3900*		*127*	*50-150*			
Surrogate: Terphenyl-d14	*5500*		ug/kg dry	*3900*		*141*	*49-128*			
Matrix Spike Dup (1249014-MSD1)	**Source: T207046-73**			Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg dry	*3960*		*77.0*	*39-92*			
2-Methylnaphthalene	**2900**	**62**	**ug/kg dry**	**3960**	**ND**	**73.8**	**35-105**	**0.771**	**50**	
Acenaphthene	**3200**	**44**	**ug/kg dry**	**3960**	**140**	**78.1**	**44-112**	**2.46**	**50**	
Acenaphthylene	**2900**	**59**	**ug/kg dry**	**3960**	**ND**	**73.4**	**43-111**	**3.72**	**50**	
Anthracene	**3700**	**24**	**ug/kg dry**	**3960**	**760**	**73.2**	**19-148**	**11.2**	**50**	
Benzo(a)anthracene	**4900**	**25**	**ug/kg dry**	**3960**	**2000**	**74.3**	**55-115**	**17.1**	**50**	
Benzo(a)pyrene	**4900**	**28**	**ug/kg dry**	**3960**	**2100**	**71.5**	**52-121**	**14.1**	**50**	
Benzo(b,k)fluoranthenes	**9900**	**45**	**ug/kg dry**	**7920**	**3900**	**75.9**	**60-120**	**16.1**	**50**	
Benzo(g,h,i)perylene	**3800**	**32**	**ug/kg dry**	**3960**	**1200**	**65.8**	**51-133**	**9.51**	**50**	
bis(2-Ethylhexyl)phthalate	**6500**	**51**	**ug/kg dry**	**3960**	**2600**	**98.4**	**49-137**	**7.40**	**50**	
Butyl benzyl phthalate	**4500**	**47**	**ug/kg dry**	**3960**	**ND**	**115**	**48-135**	**2.70**	**50**	
Chrysene	**5000**	**33**	**ug/kg dry**	**3960**	**2500**	**62.8**	**58-113**	**18.4**	**50**	
Dibenz(a,h)anthracene	**3500**	**33**	**ug/kg dry**	**3960**	**260**	**80.7**	**56-131**	**3.60**	**50**	
Diethylphthalate	**3500**	**47**	**ug/kg dry**	**3960**	**ND**	**88.4**	**51-124**	**2.92**	**50**	
Dimethyl phthalate	**4200**	**44**	**ug/kg dry**	**3960**	**84**	**105**	**55-119**	**21.5**	**50**	
Di-n-butylphthalate	**3200**	**48**	**ug/kg dry**	**3960**	**ND**	**82.0**	**62-122**	**0.186**	**50**	
Di-n-Octyl phthalate	**4000**	**49**	**ug/kg dry**	**3960**	**ND**	**100**	**43-147**	**5.24**	**50**	
Fluoranthene	**5500 #**	**36**	**ug/kg dry**	**3960**	**4000**	**40.0**	**60-117**	**27.4**	**50**	
Fluorene	**3400**	**45**	**ug/kg dry**	**3960**	**190**	**81.7**	**47-102**	**1.06**	**50**	
Indeno(1,2,3-c,d)pyrene	**4100**	**41**	**ug/kg dry**	**3960**	**1100**	**75.8**	**55-131**	**8.99**	**50**	
Naphthalene	**2800**	**56**	**ug/kg dry**	**3960**	**ND**	**70.4**	**35-100**	**1.72**	**50**	
Phenanthrene	**5500 #**	**18**	**ug/kg dry**	**3960**	**3200**	**56.7**	**60-116**	**29.4**	**50**	
Pyrene	**10000**	**24**	**ug/kg dry**	**3960**	**6500**	**91.4**	**32-129**	**16.5**	**50**	

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PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1249014 - 3545										
Matrix Spike Dup (1249014-MSD1)	**Source: T207046-73**			Prepared: 03-Dec-12 Analyzed: 14-Dec-12						
Surrogate: Pyrene-d10	*5100*		ug/kg dry	*3960*		*130*	*50-150*			
Surrogate: Terphenyl-d14	*5800*		ug/kg dry	*3960*		*146*	*49-128*			
Matrix Spike Dup (1249014-MSD2)	**Source: T207046-73**			Prepared: 03-Dec-12 Analyzed: 18-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2800*		ug/kg dry	*3960*		*69.5*	*39-92*			
2-Methylnaphthalene	**2900**	**62**	ug/kg dry	**3960**	**ND**	**74.1**	**35-105**	**2.23**	**50**	
Acenaphthene	**3000**	**44**	ug/kg dry	**3960**	**140**	**72.8**	**44-112**	**7.63**	**50**	
Acenaphthylene	**2800**	**59**	ug/kg dry	**3960**	**ND**	**69.9**	**43-111**	**3.59**	**50**	
Anthracene	**3400**	**24**	ug/kg dry	**3960**	**760**	**67.6**	**19-148**	**11.2**	**50**	
Benzo(a)anthracene	**4600**	**25**	ug/kg dry	**3960**	**2000**	**66.0**	**55-115**	**21.5**	**50**	
Benzo(a)pyrene	**4500**	**28**	ug/kg dry	**3960**	**2100**	**61.0**	**52-121**	**12.4**	**50**	
Benzo(b,k)fluoranthenes	**9200**	**45**	ug/kg dry	**7920**	**3900**	**67.8**	**60-120**	**12.1**	**50**	
Benzo(g,h,i)perylene	**3300**	**32**	ug/kg dry	**3960**	**1200**	**52.6**	**51-133**	**26.3**	**50**	
bis(2-Ethylhexyl)phthalate	**5500**	**51**	ug/kg dry	**3960**	**2600**	**73.6**	**49-137**	**5.99**	**50**	
Butyl benzyl phthalate	**4000**	**47**	ug/kg dry	**3960**	**ND**	**101**	**48-135**	**12.0**	**50**	
Chrysene	**4600 #**	**33**	ug/kg dry	**3960**	**2500**	**53.5**	**58-113**	**20.1**	**50**	
Dibenz(a,h)anthracene	**3100**	**33**	ug/kg dry	**3960**	**260**	**71.9**	**56-131**	**14.6**	**50**	
Diethylphthalate	**3300**	**47**	ug/kg dry	**3960**	**ND**	**82.8**	**51-124**	**8.37**	**50**	
Dimethyl phthalate	**4000**	**44**	ug/kg dry	**3960**	**84**	**97.8**	**55-119**	**12.9**	**50**	
Di-n-butylphthalate	**3100**	**48**	ug/kg dry	**3960**	**ND**	**78.2**	**62-122**	**4.26**	**50**	
Di-n-Octyl phthalate	**3000**	**49**	ug/kg dry	**3960**	**ND**	**74.8**	**43-147**	**0.0579**	**50**	
Fluoranthene	**4900 #**	**36**	ug/kg dry	**3960**	**4000**	**23.0**	**60-117**	**39.7**	**50**	
Fluorene	**3300**	**45**	ug/kg dry	**3960**	**190**	**77.9**	**47-102**	**7.57**	**50**	
Indeno(1,2,3-c,d)pyrene	**3600**	**41**	ug/kg dry	**3960**	**1100**	**65.3**	**55-131**	**22.5**	**50**	
Naphthalene	**2700**	**56**	ug/kg dry	**3960**	**ND**	**68.0**	**35-100**	**3.84**	**50**	
Surrogate: Nitrobenzene-d5	*2600*		ug/kg dry	*3960*		*66.6*	*32-105*			
Phenanthrene	**5100 #**	**18**	ug/kg dry	**3960**	**3200**	**46.9**	**60-116**	**31.9**	**50**	
Pyrene	**9600**	**24**	ug/kg dry	**3960**	**6500**	**77.7**	**32-129**	**24.6**	**50**	
Surrogate: Pyrene-d10	*4800*		ug/kg dry	*3960*		*120*	*50-150*			
Surrogate: Terphenyl-d14	*5300*		ug/kg dry	*3960*		*133*	*49-128*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lori G. Zbrzalski
Reviewed By

PW Science and Engineering	Project: Foss OF230 Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	18-Jan-13 12:18

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1249016 - 3545										
Blank (1249016-BLK1)				Prepared: 03-Dec-12 Analyzed: 21-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2500*		ug/kg wet	*4170*		*60.7*	*26-107*			
Aroclor-1016	5 U	5	ug/kg wet							
Aroclor-1221	5 U	5	ug/kg wet							
Aroclor-1232	5 U	5	ug/kg wet							
Aroclor-1242	5 U	5	ug/kg wet							
Aroclor-1248	5 U	5	ug/kg wet							
Aroclor-1254	5 U	5	ug/kg wet							
Aroclor-1260	5 U	5	ug/kg wet							
Surrogate: Terphenyl-d14	*2800*		ug/kg wet	*4170*		*67.0*	*42-123*			
LCS (1249016-BS1)				Prepared: 03-Dec-12 Analyzed: 21-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg wet	*4170*		*72.0*	*26-107*			
Aroclor-1254	**2400**	**5**	**ug/kg wet**	**3330**		**71.5**	**0-200**			
Surrogate: Terphenyl-d14	*3400*		ug/kg wet	*4170*		*81.6*	*42-123*			
Matrix Spike (1249016-MS1)		**Source: T207046-54**		Prepared: 03-Dec-12 Analyzed: 21-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3000*		ug/kg dry	*3950*		*75.1*	*26-107*			
Aroclor-1254	**2700**	**5**	**ug/kg dry**	**3160**	**24**	**83.2**	**0-200**			
Surrogate: Terphenyl-d14	*3700*		ug/kg dry	*3950*		*92.6*	*42-123*			
Matrix Spike Dup (1249016-MSD1)		**Source: T207046-54**		Prepared: 03-Dec-12 Analyzed: 21-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg dry	*4020*		*73.4*	*26-107*			
Aroclor-1254	**1900**	**5**	**ug/kg dry**	**2090**	**24**	**89.8**	**0-200**	**33.2**	**200**	
Surrogate: Terphenyl-d14	*4200*		ug/kg dry	*4020*		*105*	*42-123*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lori A. Zboralski
Reviewed By

Notes and Definitions

UJ	Analyte not detected at or above the associated estimated value
J	The result is an estimated concentration.
#	The result is outside the QC limits.
U	Analyte Not Detected at or above the associated value
UJ	Analyte Not Detected at or above the associated estimated value
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): ~~21~~ 18
Expedited (days):
Due Date: ~~8/1/2012 15:00~~ 18

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD3A-A	7/11/2012	9:54	BE G	S	2	1	1	-01
FD3A-A-6777662	7/11/2012	8:50	✓ G	S	2	1	1	-02
FD3A-A-6777664	7/11/2012	9:35	✓ G	S	2	1	1	-03
FD3A-A-6777632	N/A	N/A	G	S	2			-04
FD3A-A-6777630	7/11/2012	9:53	✓ G	S	2	1	1	-05
FD3A-B	7/11/2012	10:52	BE G	S	2	1	1	-06
FD3A-B-6777640	N/A	N/A	G	S	2			
FD3A-B-6777639	N/A	N/A	G	S	2			
FD3A-B-6777631	N/A	N/A	G	S	2			
FD3A-C			G	S	2			
FD3A-C-6767516			G	S	2			
FD3A-C-6767525			G	S	2			

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
[signature]	7/11/12 1250	Bill Essmeier	7-11-12	12:50	
Relinquished By	Date/Time	Received By	Date/Time	Comments: login Reviewed: KN 120ul12	
Relinquished By	Date/Time	Received By	Date/Time		
Cooler Numbers and Temperatures					

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
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fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD3A-F-6766735			G	S	2			
FD3A-F-6776950			G	S	2			
FD3A-F-6766524			G	S	2			
FD3A-G	7/11/2012	6:15	BE G	S	2	1	1	-40
FD3A-G-6766372	7/11/2012	7:46	✓ G	S	2	1	1	-41
FD3A-G-6766398	7/11/2012	8:10	✓ G	S	2	1	1	-42
FD3A-G-6766415	7/11/2012	8:11	✓ G	S	2	1	1	-43
FD3A-G-6766426	7/11/2012	7:20	✓ G	S	2	1	1	-44
FD3A-G-6766559	7/11/2012	7:02	✓ G	S	2	1	1	-45
FD3A-G-6766568	7/11/2012	6:52	✓ G	S	2	1	1	-46
FD3A-G-6766753	7/11/2012	6:45	✓ G	S	2	1	1	-47
FD3A-H	7/11/2012	6:15	BE G	S	2	1	1	-48

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/11/12 1250	Bill Ermeier	7-11-12 12:50

Sample Kit Prepared By: Date/Time:

Comments: login reviewed: KN 12Jul12

Cooler Numbers and Temperatures:

Matrix Codes: S=Soil,W=Water

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COC Number
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Sampler	
Project Name	Foss OF230 Source Tracing
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Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD3A-H-6766797	7/11/2012	5:51	G	S	2	1	1	-49
FD3A-H-6516598	7/11/2012	6:00	G	S	2	1	1	-50
FD3A-H-6776949	7/11/2012	5:38	G	S	2	1	1	-51
FD3A-H-6767615	7/11/2012	6:12	G	S	2	1	1	-52
FD18-A			G	S	2			
FD18-A-6766313			G	S	2			
FD18-A-6768513			G	S	2			
FD18-A-6768360			G	S	2			
FD18-B			G	S	2			
FD18-B-6766321			G	S	2			
FD18-B-6766245			G	S	2			
FD18-B-6768243			G	S	2			

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/11/12 1250	Bill Essmeier	7-11-12

Sample Kit Prepared By: 12:50
Date/Time:
Comments: login reviewed : AN 12JUL12

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
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COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1									Sample Comments
FD3A-A	7/11/2012	9:54	G	S	2	1	1									-01
FD3A-A-6777662	7/11/2012	8:50	G	S	2	1	1									
FD3A-A-6777664	7/11/2012	9:35	G	S	2	1	1									
FD3A-A-6777632	N/A	N/A	G	S	2											
FD3A-A-6777630	7/11/2012	9:53	G	S	2	1	1									
FD3A-B	7/11/2012	10:52	G	S	2	1	1									-06
FD3A-B-6777640	N/A	N/A	G	S	2											
FD3A-B-6777639	N/A	N/A	G	S	2											
FD3A-B-6777631	N/A	N/A	G	S	2											
FD3A-C	**7/12/2012**	**8:20**	BE **G**	**S**	**2**	**1**	**1**									-10
FD3A-C-6767516	**7/12/2012**	~~10:09~~ 7:19	G 7:19	**S**	**2**	**1**	**1**									
FD3A-C-6767525	N/A	N/A	G	S	2											

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/12/12 1345	Bill Essmann	7-12-12

Sample Kit Prepared By | Date/Time

Comments: login Reviewed: KN 12JUL12

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD3A-C-6767533	7/12/2012	7:54	✓ G	S	2	1	1	
FD3A-C-6767542	7/12/2012	8:10	✓ G	S	2	1	1	
FD3A-C-6767550	7/12/2012	8:14	✓ G	S	2	1	1	
FD3A-C-6766354	7/12/2012	8:18	✓ G	S	2	1	1	
FD3A-D	7/12/2012	6:36	BE G	S	2	1	1	-17
FD3A-D-6778358	7/12/2012	5:48	✓ G	S	2	1	1	
FD3A-D-6766125	n/a	n/a	G	S	2			
FD3A-D-6766167	n/a	n/a	G	S	2			
FD3A-D-6512463	7/12/2012	6:12	✓ G	S	2	1	1	
FD3A-D-6778361	7/12/2012	6:35	✓ G	S	2	1	1	
FD3A-E	7/12/2012	10:36	BE G	S	2	1	1	-23
FD3A-E-6766071	n/a	n/a	G	S	2			

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/12/12 1345	Bill Cassmeier	7-12-12

Sample Kit Prepared By | Date/Time

Comments: login reviewed : KN 12JUL12

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

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Client Contact	Mary Henley
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State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD3A-E-6766134	**7/12/2012**	**8:55**	✓ G	S	2	1	1	
FD3A-E-6775901	**7/12/2012**	**9:22**	✓ G	S	2	1	1	
FD3A-E-6775902	**7/12/2012**	**9:52**	✓ G	S	2	1	1	
FD3A-E-6766262	7/12/2012	n/a	G	S	2			
FD3A-E-6766142	**7/12/2012**	**10:12**	✓ G	S	2	1	1	
FD3A-E-6766271	**7/12/2012**	**10:35**	✓ G	S	2	1	1	
FD3A-F	**7/12/2012**	**12:21**	BE G	S	2	1	1	-31
FD3A-F-6766363	7/12/2012	n/a	G	S	2			
FD3A-F-6766533	**7/12/2012**	~~11:30~~	G 1149	S	2	1	1	
FD3A-F-6766679	**7/12/2012**	~~11:49~~ n/a	G	S	2	~~1~~	~~1~~	
FD3A-F-6766706	7/12/2012	n/a	G	S	2			
FD3A-F-6778363	7/12/2012	~~n/a~~	✓ 12:09 G	S	2	1	1	

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/12/12 1345	Bill Essmann	7-12-12

Sample Kit Prepared By | Date/Time

Comments: login reviewed: KN 12JUL12

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD3A-F-6766735	7/12/2012	~~12:09~~	G 12:20	S	2	1	1	
FD3A-F-6776950	7/12/2012	~~12:21~~	~~12:20~~ G n/a	S	2	~~1~~	~~1~~	
FD3A-F-6766524	7/12/2012	~~n/a~~ 11:30	G 11:30	S	2	1	1	
FD3A-G	7/11/2012	6:15	G	S	2	1	1	-40
FD3A-G-6766372	7/11/2012	7:46	G	S	2	1	1	
FD3A-G-6766398	7/11/2012	8:10	G	S	2	1	1	
FD3A-G-6766415	7/11/2012	8:11	G	S	2	1	1	
FD3A-G-6766426	7/11/2012	7:20	G	S	2	1	1	
FD3A-G-6766559	7/11/2012	7:02	G	S	2	1	1	
FD3A-G-6766568	7/11/2012	6:52	G	S	2	1	1	
FD3A-G-6766753	7/11/2012	6:45	G	S	2	1	1	
FD3A-H	7/11/2012	6:15	G	S	2	1	1	-48

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
[signature]	7/12/12 1345	Bill Eisweiler	7-12-12		
Relinquished By	Date/Time	Received By	Date/Time	Comments: login Renewed 2 KN 12JUL12	
Relinquished By	Date/Time	Received By	Date/Time		

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
* FD18-A BE	7/17/2012	6:26	G	S	2	1	1	-53
FD18-A-6766313 ✓	7/17/2012	6:25	G	S	2	1	1	
FD18-A-6768513 ✓	7/17/2012	6:00	G	S	2	1	1	
FD18-A-6768360	N/A	N/A	G	S	2			
* FD18-B BE	7/17/2012	7:58	G	S	2	1	1	-57
FD18-B-6766321 ✓	7/17/2012	6:39	G	S	2	1	1	
FD18-B-6766245	N/A	N/A	G	S	2			
FD18-B-6768243 ✓	7/17/2012	7:05	G	S	2	1	1	

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/17/12 12:20	Bill Eumeier	7-17-12

Sample Kit Prepared By
Date/Time
Comments: Login Reviewed: KN 17Jul12

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water
Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

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326 East D Street
Tacoma
WA, 98421-1801
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fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD18-B-6520884	N/A	N/A	G	S	2			
FD18-B-6768234	7/17/2012	7:30	G	S	2	1	1	
FD18-B-6774948	N/A	N/A	G	S	2			
FD18-B-6768225	7/17/2012	7:55	G	S	2	1	1	
FD18-B-6768078	N/A	N/A	G	S	2			
FD18-B-6752007	N/A	N/A	G	S	2			
FD18-B-6768216	N/A	N/A	G	S	2			
FD18-C-2 BE	7/17/2012	10:05	G	S	2	1	1	-68
FD18-C-6768208			G	S	2			
FD18-C-6768190			G	S	2			
FD18-C-6768182			G	S	2			
FD18-C-6768173			G	S	2			

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/17/12 1200	Bill Essmier	7-17-12

Sample Kit Prepared By | Date/Time

Comments: Login Reviewed: KN 17 JUL 12

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

Change

~~FD-18~~ FD18C → FD18-C-2

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD18-C-6768164			G	S	2			
FD18-C-6768147	7/17/2012	8:50	G	S	2	1	1	
FD18-C-6768138	7/17/2012	9:20	G	S	2	1	1	
FD18-C-6768121	7/17/2012	9:48	G	S	2	1	1	
FD18-C-6768104	7/17/2012	10:04	G	S	2	1	1	
FD18-D-1			G	S	2			-78
FD18-D-6762377			G	S	2			
FD18-D-6762174			G	S	2			
FD18-D-6762184			G	S	2			
FD18-D-6762213			G	S	2			
FD18-D-6762222			G	S	2			
FD18-D-6777905			G	S	2			

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/17/12 2:00	Bill Essmier	7-17-12

Sample Kit Prepared By | Date/Time

Comments: Login Reviewed: 17 Jul 12 KN

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

Tacoma

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fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

	Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
	FD18-D-6777906 ✓	7/18/2012	11:04	G	S	2	1	1	
	FD18-D-6762270	N/A	N/A	G	S	2			
	FD18-D-6768027 ✓	7/18/2012	11:23	G	S	2	1	1	
	FD18-D-6768035	N/A	N/A	G	S	2			
89	FD18-D-6768044 ✓	7/18/2012	11:42	G	S	2	1	1	
	FD18-D-6768061	N/A	N/A	G	S	2			
91	FD18-D-6768069 ✓	7/18/2012	11:57	G	S	2	1	1	
*	FD18-C-1 BS	7/18/2012	6:38	G	S	2	1	1	-92
*	FD18-D-2 BS	7/18/2012	11:06	G	S	2	1	1	-93

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/18/12 1335	[signature]	18 JUL 12

Sample Kit Prepared By | Date/Time

Comments: Reviewed Bill E

Cooler Numbers and Temperatures

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

new samples.

CHAIN OF CUSTODY

Tacoma

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Tacoma
WA, 98421-1801

phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Preservation Code 1	Sample Comments
FD18-B-6520884	N/A	N/A	G	S	2			
FD18-B-6768234	7/17/2012	7:30	G	S	2	1	1	
FD18-B-6774948	N/A	N/A	G	S	2			
FD18-B-6768225	7/17/2012	7:55	G	S	2	1	1	
FD18-B-6768078	N/A	N/A	G	S	2			
FD18-B-6752007	N/A	N/A	G	S	2			
FD18-B-6768216	N/A	N/A	G	S	2			
FD18-C-2	7/17/2012	10:05	G	S	2	1	1	
FD18-C-6768208 BE	7/18/2012	5:51	G	S	2	1	1	
FD18-C-6768190	N/A	N/A	G	S	2			
FD18-C-6768182 BE	7/18/2012	6:14	G	S	2	1	1	
FD18-C-6768173	N/A	N/A	G	S	2			

Submitted 7/17/12 [illegible]

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
[signature]	7/18/12 13:35	Ken [signature]	18 Jul 12		
Relinquished By	Date/Time	Received By	Date/Time	Comments: Reviewed Bill E	
Relinquished By	Date/Time	Received By	Date/Time		

Cooler Numbers and Temperatures

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

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COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Metals - 250 mL; Semi-VOA - 500 mL

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Preservation Code

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	1	1									Sample Comments
FD18-C-6768164	7/18/2012	10:04	G	S	2	1	1									
FD18-C-6768147	7/17/2012	8:50	G	S	2	1	1									
FD18-C-6768138	7/17/2012	9:20	G	S	2	1	1									
FD18-C-6768121	7/17/2012	9:48	G	S	2	1	1									
FD18-C-6768104	7/17/2012	10:04	G	S	2	1	1									
FD18-D-1	7/18/2012	11:58	G	S	2	1	1									-78
FD18-D-6762377	7/18/2012	9:31	G	S	2	1	1									
FD18-D-6762174	N/A	N/A	G	S	2											
FD18-D-6762184	7/18/2012	9:51	G	S	2	1	1									
FD18-D-6762213	7/18/2012	10:14	G	S	2	1	1									
FD18-D-6762222	7/18/2012	10:40	G	S	2	1	1									
FD18-D-6777905	N/A	N/A	G	S	2											

Submitted 7/17/12

Relinquished By	Date/Time	Received By	Date/Time
[signature]	7/18/12 1335	[signature]	18JUL12
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Sample Kit Prepared By | Date/Time

Comments: Received Bill E

Cooler Numbers and Temperatures

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

Changed KN 18JUL12

Name Change FD-18-D → FD18-D-1

CHAIN OF CUSTODY

Tacoma

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326 East D Street
Tacoma
WA, 98421-1801

phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: Mercury, phthalates, PCBs, PAHs, Sample Number - JAZ

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 11/5/2012 ~~8/1/2012 15:00~~

Check email + correlate

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	1										Sample Comments
FD18-B-6766321	7/17/2012	6:39	G	S	2										-58	Frozen 7/12/12 thawed 10/8/2018 JAZ 10/8/2018
FD18-B-6768243	7/17/2012	7:05	G	S	2										-60	
FD18-B-6768234	7/17/2012	7:30	G	S	2										-62	
FD18-B-6768225	7/17/2012	7:55	G	S	2										-64	
FD18-D-6762377	7/18/2012	9:31	G	S	2	X										
FD18-D-6762184	7/18/2012	9:51	G	S	2	X										
FD18-D-6762213	7/18/2012	10:14	G	S	2	X										
FD18-D-6762222	7/18/2012	10:40	G	S	2	X										
FD18-D-6777906	7/18/2012	11:04	G	S	2	X										

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time	Comments	
Relinquished By	Date/Time	Received By	Date/Time		
Cooler Numbers and Temperatures					

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

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COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: Mercury, phthalates, PCBs, PAHs

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	1									Sample Comments
FD18-B-6766321	7/17/2012	6:39	58 G	S	2		X	X								
FD18-B-6768243	7/17/2012	7:05	60 G	S	2		X	X								
FD18-B-6768234	7/17/2012	7:30	62 G	S	2		X	X								
FD18-B-6768225	7/17/2012	7:55	64 G	S	2		X	X								
FD18-D-6762377	7/18/2012	9:31	79 G	S	2	X										
FD18-D-6762184	7/18/2012	9:51	81 G	S	2	X										
FD18-D-6762213	7/18/2012	10:14	82 G	S	2	X										
FD18-D-6762222	7/18/2012	10:40	83 G	S	2	X										
FD18-D-6777906	7/18/2012	11:04	84 G	S	2	X										

Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Sample Kit Prepared By | Date/Time

Comments

Cooler Numbers and Temperatures

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

32 samples

PCB only

CHAIN OF CUSTODY

Tacoma

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326 East D Street
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fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: ~~8/1/2012 15:00~~ 11/5/2012

Sample Number - HJ

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Mercury	phthalates	PCBs	PAHs						Sample Number	Sample Comments
						Preservation Code										
						1	1									
FD3A-G-6766372	7/11/2012	7:46	G	S	2	X		X							-41	
FD3A-G-6766398	7/11/2012	8:10	G	S	2	X		X							-42	
FD3A-G-6766415	7/11/2012	8:11	G	S	2	X		X							-43	
FD3A-G-6766426	7/11/2012	7:20	G	S	2	X		X							-44	
FD3A-G-6766559	7/11/2012	7:02	G	S	2	X		X							-45	
FD3A-G-6766568	7/11/2012	6:52	G	S	2	X		X							-46	
FD3A-G-6766753	7/11/2012	6:45	G	S	2	X		X							-47	
FD3A-H-6766797	7/11/2012	5:51	G	S	2				X							
FD3A-H-6516598	7/11/2012	6:00	G	S	2				X							
FD3A-H-6776949	7/11/2012	5:38	G	S	2				X							
FD3A-H-6767615	7/11/2012	6:12	G	S	2				X							

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time	Comments	
Relinquished By	Date/Time	Received By	Date/Time		
Cooler Numbers and Temperatures					

Matrix Codes: S=Soil,W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

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COC Number
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Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
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State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Mercury, phthalates, PCBs, PAHs

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Mercury (Preservation Code 1)	phthalates (Preservation Code 1)	PCBs	PAHs	Sample Comments
FD3A-A-6777662	7/11/2012	8:50	02 G	S	2	X	X		X	ORGANICS Jars flowed 10/15/12
FD3A-A-6777664	7/11/2012	9:35	03 G	S	2	X	X		X	
FD3A-A-6777630	7/11/2012	9:53	06 G	S	2	X	X		X	
FD3A-C-6767516	7/12/2012	10:09	11 G	S	2	X	X			
FD3A-C-6767533	7/12/2012	7:54	13 G	S	2	X	X			
FD3A-C-6767542	7/12/2012	8:10	14 G	S	2	X	X			
FD3A-C-6767550	7/12/2012	8:14	15 G	S	2	X	X			
FD3A-C-6766354	7/12/2012	8:18	16 G	S	2	X	X			
							~~X~~			

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time	Comments	
Relinquished By	Date/Time	Received By	Date/Time		
Cooler Numbers and Temperatures					

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

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COC Number
Lab Work Order Number T207046

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Client Contact	Mary Henley
Address	326 East D Street
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Phone	(253) 502-2113
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Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Mercury; phthalates; PCBs; PAHs

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval. Standard (days): 21. Expedited (days): . Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Mercury (Preservation Code 1)	phthalates (Preservation Code 1)	PCBs	PAHs	Sample Comments
FD3A-E-6766134	7/12/2012	8:55	25 G	S	2	X		X		ORGANICS thawed 10/10/12
FD3A-E-6775901	7/12/2012	9:22	26 G	S	2	X		X		
FD3A-E-6775902	7/12/2012	9:52	27 G	S	2	X		X		
FD3A-E-6766142	7/12/2012	10:12	~~28~~ G 29	S	2	X		X		
FD3A-E-6766271	7/12/2012	10:35	30 G	S	2	X		X		
FD3A-F-6766533	7/12/2012	11:30	33 G	S	2	X		X		
~~FD3A-F-6766679~~	~~7/12/2012~~	~~11:49~~	~~34 G~~	S	2	X		X		
FD3A-F-6766735	7/12/2012	12:09	37 G	S	2	X		X		
~~FD3A-F-6776950~~	~~7/12/2012~~	~~12:21~~	~~38 G~~	S	2	X		X		

	Date/Time	Received By	Date/Time
Relinquished By			
Relinquished By			
Relinquished By			

Sample Kit Prepared By | Date/Time

Comments

Cooler Numbers and Temperatures

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

F6778363
~~F6~~
F 6766524

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T207046

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF230 Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: Mercury, phthalates, PCBs, PAHs

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.
Standard (days): 21
Expedited (days):
Due Date: 8/1/2012 15:00

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	1									Sample Comments
FD3A-G-6766372	7/11/2012	7:46	41 G	S	2	X		X								ORGANICS shipped 10/10/12
FD3A-G-6766398	7/11/2012	8:10	42 G	S	2	X		X								
FD3A-G-6766415 ✓	7/11/2012	8:11	43 G	S	2	X		X								
FD3A-G-6766426	7/11/2012	7:20	44 G	S	2	X		X								
FD3A-G-6766559	7/11/2012	7:02	45 G	S	2	X		X								
FD3A-G-6766568 ✓	7/11/2012	6:52	46 G	S	2	X		X								
FD3A-G-6766753	7/11/2012	6:45	47 G	S	2	X		X								
FD3A-H-6766797	7/11/2012	5:51	49 G	S	2				X							
FD3A-H-6516598	7/11/2012	6:00	50 G	S	2				X							
FD3A-H-6776949	7/11/2012	5:38	51 G	S	2				X							
FD3A-H-6767615	7/11/2012	6:12	52 G	S	2				X							

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time	Comments	
Relinquished By	Date/Time	Received By	Date/Time		
Cooler Numbers and Temperatures					

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

CHAIN OF CUSTODY

Tacoma

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801

phone (253) 502-2130
fax (253) 502-2170

Page 3 of 9

COC Number
Lab Work Order Number T207046

Client Name: PW Science and Engineering	Project Name: Foss OF230 Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: Mercury, phthalates, PCBs, PAHs, Sample Number - faz

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days): 21

Expedited (days):

Due Date: ~~8/1/2012 15:00~~ 11/5/2012

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	1									Sample Comments
FD3A-E-6766134	7/12/2012	8:55	G	S	2	X		X							-25	Frozen 7/12/12 thawed 10/8/2012 faz 10/8/2012
FD3A-E-6775901	7/12/2012	9:22	G	S	2	X		X							-26	
FD3A-E-6775902	7/12/2012	9:52	G	S	2	X		X							-27	
FD3A-E-6766142	7/12/2012	10:12	G	S	2	X		X							-29	
FD3A-E-6766271	7/12/2012	10:35	G	S	2	X		X							-30	
FD3A-F-6766533	7/12/2012	11:30	G	S	2	X		X							-33	
* FD3A-F-6766679	7/12/2012	11:49	G	S	2	X		X							-34	
FD3A-F-6766735	7/12/2012	12:09	G	S	2	X		X							-37	
* FD3A-F-6776950	7/12/2012	12:21	G	S	2	X		X							-38	

Relinquished By	Date/Time	Received By	Date/Time	Sample Kit Prepared By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time	Comments	
Relinquished By	Date/Time	Received By	Date/Time		
Cooler Numbers and Temperatures					

Matrix Codes: S=Soil, W=Water

Preserv. Codes: 1=Cool <6°C

Environmental Services Laboratory

Analysis QC Variance

Date: January 18, 2013

Department: Organics

Affected Analysis (if applicable): S8270_BNA

Analyst: Leonora Litzi-Davis Instrument: 5975SV5

Issue : High and low MS/MSD recoveries for Foss Source Tracing samples.

LabNumber	Analyte	Recovery	LCL	UCL	Analyzed	Dilution
1229048-MS2	Acenaphthene	114	44	112	7/31/2012	5
1229048-MSD2	Benzo(a)anthracene	149	55	115	7/31/2012	5
1229048-MSD2	Benzo(a)pyrene	137	52	121	7/31/2012	5
1229048-MS2	Benzo(b,k)fluoranthenes	152	60	120	7/31/2012	5
1229048-MSD2	Benzo(b,k)fluoranthenes	204	60	120	7/31/2012	5
1229048-MS2	Benzo(g,h,i)perylene	4.8	51	133	7/31/2012	5
1229048-MSD2	bis(2-Ethylhexyl)phthalate	657	49	137	7/31/2012	5
1229048-MS2	Chrysene	119	58	113	7/31/2012	5
1229048-MSD2	Chrysene	161	58	113	7/31/2012	5
1229048-MS2	Di-n-Octyl phthalate	156	43	147	7/31/2012	5
1229048-MSD2	Di-n-Octyl phthalate	163	43	147	7/31/2012	5
1229048-MS1	Fluoranthene	209	60	117	7/27/2012	5
1229048-MS2	Fluorene	115	47	102	7/31/2012	5
1229048-MS2	Indeno(1,2,3-c,d)pyrene	19.5	55	131	7/31/2012	5
1229048-MS1	Phenanthrene	288	60	116	7/27/2012	5
1229048-MSD2	Phenanthrene	200	60	116	7/31/2012	5

Investigation Findings: Oil in sample matrix interferes with late eluting internal standards and source sample T207046-48 had PAHs at 2.5 to 4 times the amount spiked.

Action Taken (or Data Qualification): Extracts were reanalyzed after system maintenance. Alumina cleanup was not performed for this project. The best recovery was reported. No data was qualified for MS/MSD recoveries.

Is this recurring? Yes. This has been a consistent problem for sediment traps. Alumina Cleanup generally resolves this issue and is used when stringent QC goals are needed.

Approved:

Senior Analyst

Lori A. Zboralski

QA Manager

Assistant Division Manager

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Environmental Services Laboratory

Analysis QC Variance

Date: November 28, 2012

Department: Organics

Affected Analysis (if applicable):S8270_BNA

Analyst: Leonora Litzi-Davis Instrument: 5975SV5

Issue : Internal standard recoveries were low for several Foss OF230 Source Tracing samples.

Sample		Analysis	Analyte	%R	Low Limit	High Limit	Associated compounds
T207046-39	FD3A-F-6766524	S8270_BNA	Perylene-d12	39.60	50	200	Di-n-Octyl phthalate
T207046-49	FD3A-H-6766797	S8270_BNA	Perylene-d12	49.40	50	200	Di-n-Octyl phthalate
T207046-52	FD3A-H-6767615	S8270_BNA	Perylene-d12	37.90	50	200	Di-n-Octyl phthalate, Dibenz(a,h)anthracene
T207046-51	FD3A-H-6776949	S8270_BNA	Chrysene-d12	46.20	50	200	Butyl benzyl phthalate
T207046-51	FD3A-H-6776949	S8270_BNA	Perylene-d12	37.90	50	200	Di-n-Octyl phthalate

Action Taken (or Data Qualification): The GPC cleaned extracts were analyzed straight and at a dilution of 1:5 or 1:20. Alumina cleanup can remove some of the heavy oil interference but was not employed for this project. Results for detected compounds were reported from the dilutions with passing internal standards. The associated compounds listed were not detected in the dilutions and will be reported from the original analysis with the qualifier J added -

Is this recurring? Yes in this matrix. No control charts available for internal standards.

Approved:

Senior Analyst

Lori A. Zboralski

QA Manager

Assistant Division Manager

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Environmental Services Laboratory

Analysis QC Variance

Date: November 14, 2012

Department: Organics

Affected Analysis (if applicable):8270SIM

Analyst:YB Instrument:

Issue : Low Internal Standards

Investigation Findings: The following samples had internal standards below control limits.

Lab Number	Analyte	Recovery	LCL	UCL
1244027-MS1	Perylene-d12	40.8	50	200
1244027-MSD1	Chrysene-d12	40.3	50	200
1244027-MSD1	Perylene-d12	30.2	50	200
T207046-02	Chrysene-d12	35.1	50	200
T207046-02	Perylene-d12	19.3	50	200
T207046-03	Chrysene-d12	14.2	50	200
T207046-03	Perylene-d12	9.28	50	200
T207046-05	Perylene-d12	10.5	50	200
T207046-11	Phenanthrene-d10	42.8	50	200
T207046-11	Chrysene-d12	11.1	50	200
T207046-11	Perylene-d12	8.34	50	200
T207046-13	Chrysene-d12	12.5	50	200
T207046-13	Perylene-d12	9.60	50	200
T207046-14	Phenanthrene-d10	49.3	50	200
T207046-14	Chrysene-d12	11.3	50	200
T207046-14	Perylene-d12	8.34	50	200
T207046-15	Chrysene-d12	12.6	50	200
T207046-15	Perylene-d12	8.82	50	200
T207046-16	Phenanthrene-d10	47.3	50	200
T207046-16	Chrysene-d12	10.8	50	200
T207046-16	Perylene-d12	8.24	50	200
T207046-58	Chrysene-d12	28.7	50	200
T207046-58	Perylene-d12	18.3	50	200
T207046-60	Chrysene-d12	29.1	50	200
T207046-60	Perylene-d12	11.7	50	200
T207046-62	Chrysene-d12	17.7	50	200
T207046-62	Perylene-d12	12.1	50	200
T207046-62RE1	Perylene-d12	44.9	50	200
T207046-64	Chrysene-d12	17.4	50	200
T207046-64	Perylene-d12	10.4	50	200
T207046-64RE1	Perylene-d12	46.9	50	200

Environmental Services Laboratory

Analysis QC Variance

Date: November 28, 2012

Department: Organics

Affected Analysis (if applicable): S8270_BNA

Analyst: Leonora Litzi-Davis Instrument: 5975SV5

Issue: MS recoveries and RPDs were high for two phthalates in the Foss OF230 Source Tracing sample T207046-21 FD3A-D-6512463.

Sample	Analysis	Analyte	IResult	FResult		Added	%R	Low Limit	High Limit	RPD
1246073 -MS2	S8270_BNA	bis(2-Ethylhexyl) phthalate	49.17	23000	ug/kg	3860	458	49	137	78.5
1246073 -MS2	S8270_BNA	Di-n-Octyl phthalate	52.62	24000	ug/kg	3860	628	43	147	125

Action Taken (or Data Qualification): The GPC cleaned MS and MSD extracts were analyzed straight and at a dilution of 1:5. These compounds were over the calibration range in the original MS analysis and are reported from the dilution. (MS2) MSD results were within calibration range and within limits for both analyses. High recoveries and RPD most likely due to inconsistent sediment matrix. Data is usually not qualified based on high MS recoveries or RPD with passing MSD.

Is this recurring? See attached control charts. It is not a regular occurrence but has happened before. Very small pieces of plastic are occasionally found in this matrix and could be a source of inconsistent phthalate results. CRYOMILL MAY resolve this issue

No data is qualified on just the MS recoveries outside of limits since the MSD recoveries were within limits - 1/22/13

Approved:

Senior Analyst

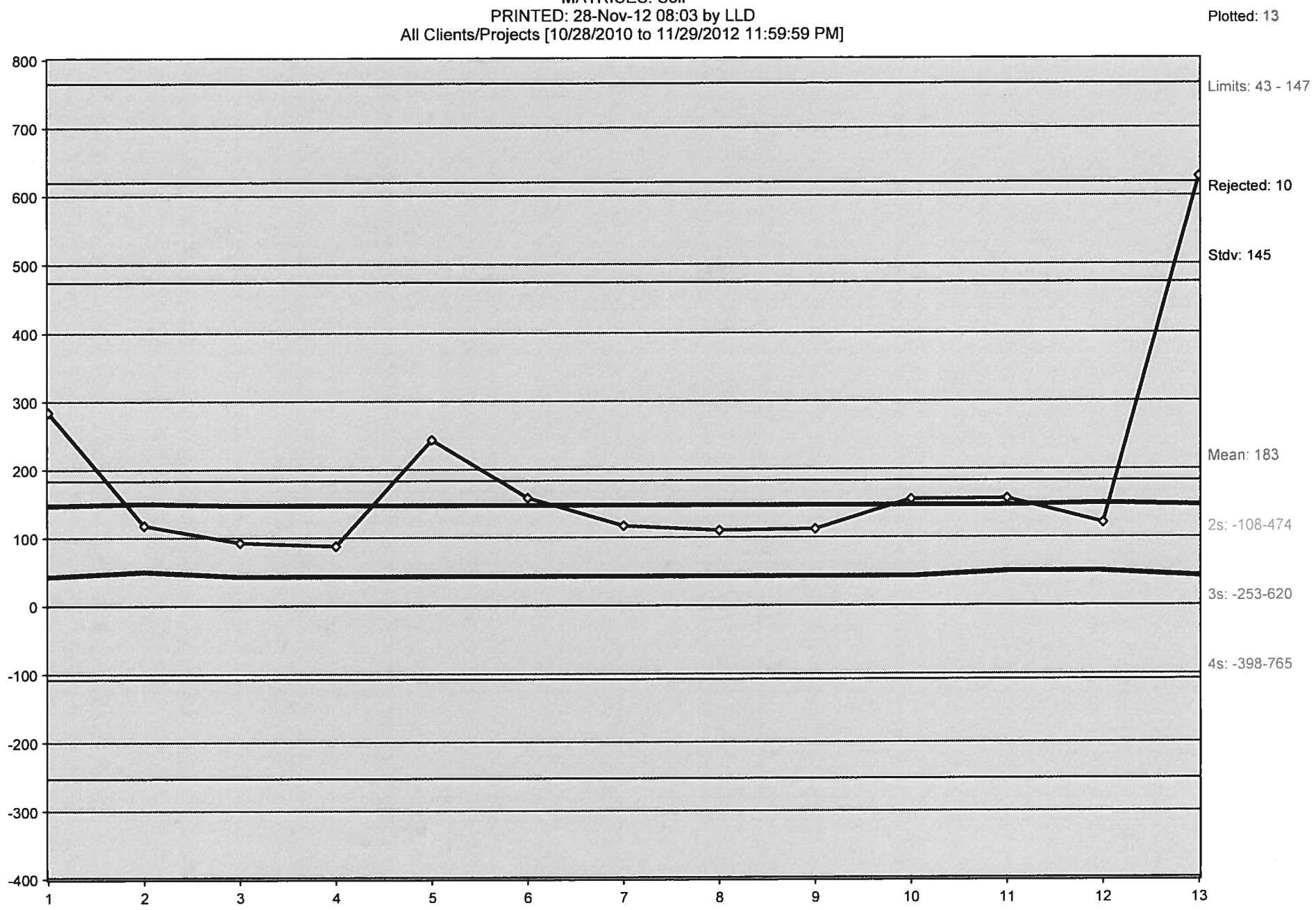
Lori A. Zbonalski

QA Manager

Assistant Division Manager

G:\Corrective and Preventative Actions\1246073_MS BEP DiN high.docx

LAB: Environmental Services Laboratory
CHART: MS %R
ANALYTE: DI-N-OCTYL PHTHALATE
ANALYSES: S8270_BNA
MATRICES: Soil
PRINTED: 28-Nov-12 08:03 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]



LAB **Environmental Services Laboratory**
CHART MS %R
ANALYTE DI-N-OCTYL PHTHALATE
ANALYSES S8270_BNA
MATRICES Soil
PRINTED: 28-Nov-12 08:03 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]
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LCL	-253	PLOTTED	13		
UCL	620	REJECTED	10		
RPDL	620	LIMIT1	43		
MEAN	183	LIMIT2	147		
STDDEV	145				
S2LCL	-108	S3LCL	-253	S4LCL	-398
S2UCL	474	S3UCL	620	S4UCL	765

-

Rejec	Batch	Extracte	Analyzed	SampleID	Analysis	Matrix	Extractio	Instrumen	Extracted By	Analyst	Spike	Source	Result	%R	Control	Qualifier
	1107035	11-Feb-11	15-Feb-11	1107035-MS1	S8270_BNA	Soil	3545	5975SV2	HJW	YB	49000	T102015-09	140000	284	43-147	
	1112028	16-Mar-11	24-Mar-11	1112028-MS1	S8270_BNA	Soil	3545	5975SV2	HJW	LLD	4150	T103050-02	4900	118	50-150	
	1115019	31-Mar-11	18-Apr-11	1115019-MS1	S8270_BNA	Soil	3545	5975SV2	MA	YB	4890	T103175-02	4500	92.6	43-147	
	1127025	27-Jun-11	06-Jul-11	1127025-MS1	S8270_BNA	Soil	3545	5975CVOC	MA	YB	3730	T106147-01 (640)	3900	87.7	43-147	
X	1127025	27-Jun-11	06-Jul-11	1127025-MS2	S8270_BNA	Soil	3545	5975CVOC	MA	YB	3730	T106147-01 (646)	6300	124	43-147	
	1136043	02-Sep-11	28-Sep-11	1136043-MS6	S8270_BNA	Soil	3545	5975SV4	HJW	LLD	4160	T108156-01	10000	243	43-147	
	1139043	21-Sep-11	26-Oct-11	1139043-MS3	S8270_BNA	Soil	3545	5975SV3	HJW	YB	4110	T108158-02	6500	158	43-147	
X	1206094	29-Feb-12	08-Mar-12	1206094-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14	53000	133	43-147	
	1206094	29-Feb-12	08-Mar-12	1206094-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14	47000	117	43-147	
X	1206094	29-Feb-12	15-Mar-12	1206094-MS3	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14	80000	198	43-147	
	1224060	15-Jun-12	25-Jun-12	1224060-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	23800	T206066-01	26000	110	43-147	
X	1224060	15-Jun-12	25-Jun-12	1224060-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	23800	T206066-01	36000	150	43-147	
X	1227010	02-Jul-12	10-Jul-12	1227010-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	25000	T206159-03 (4700)		-18.8	43-147	
	1227010	02-Jul-12	10-Jul-12	1227010-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	25000	T206159-03 (4700)	33000	112	43-147	
	1229048	18-Jul-12	27-Jul-12	1229048-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4140	T207046-48 (1200)	6800	156	43-147	
X	1229048	18-Jul-12	31-Jul-12	1229048-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4140	T207046-48 (1200)	7000	158	43-147	
X	1234090	24-Aug-12	05-Sep-12	1234090-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	6300	151	50-150	
	1234090	24-Aug-12	14-Sep-12	1234090-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	6500	157	50-147	
X	1234090	24-Aug-12	18-Sep-12	1234090-MS3	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	6600	160	50-147	
	1238022	18-Sep-12	04-Oct-12	1238022-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208055-08	5000	121	50-150	
X	1238022	18-Sep-12	15-Oct-12	1238022-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208055-08	5800	139	50-147	
X	1246073	09-Nov-12	20-Nov-12	1246073-MS1	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3860	T207046-21 (140)	14000	356	43-147	
	1246073	09-Nov-12	26-Nov-12	1246073-MS2	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3860	T207046-21 (140)	24000	628	43-147	

LAB: Environmental Services Laboratory
CHART: MS/MSD RPD
ANALYTE: DI-N-OCTYL PHTHALATE
ANALYSES: S8270_BNA
MATRICES: Soil
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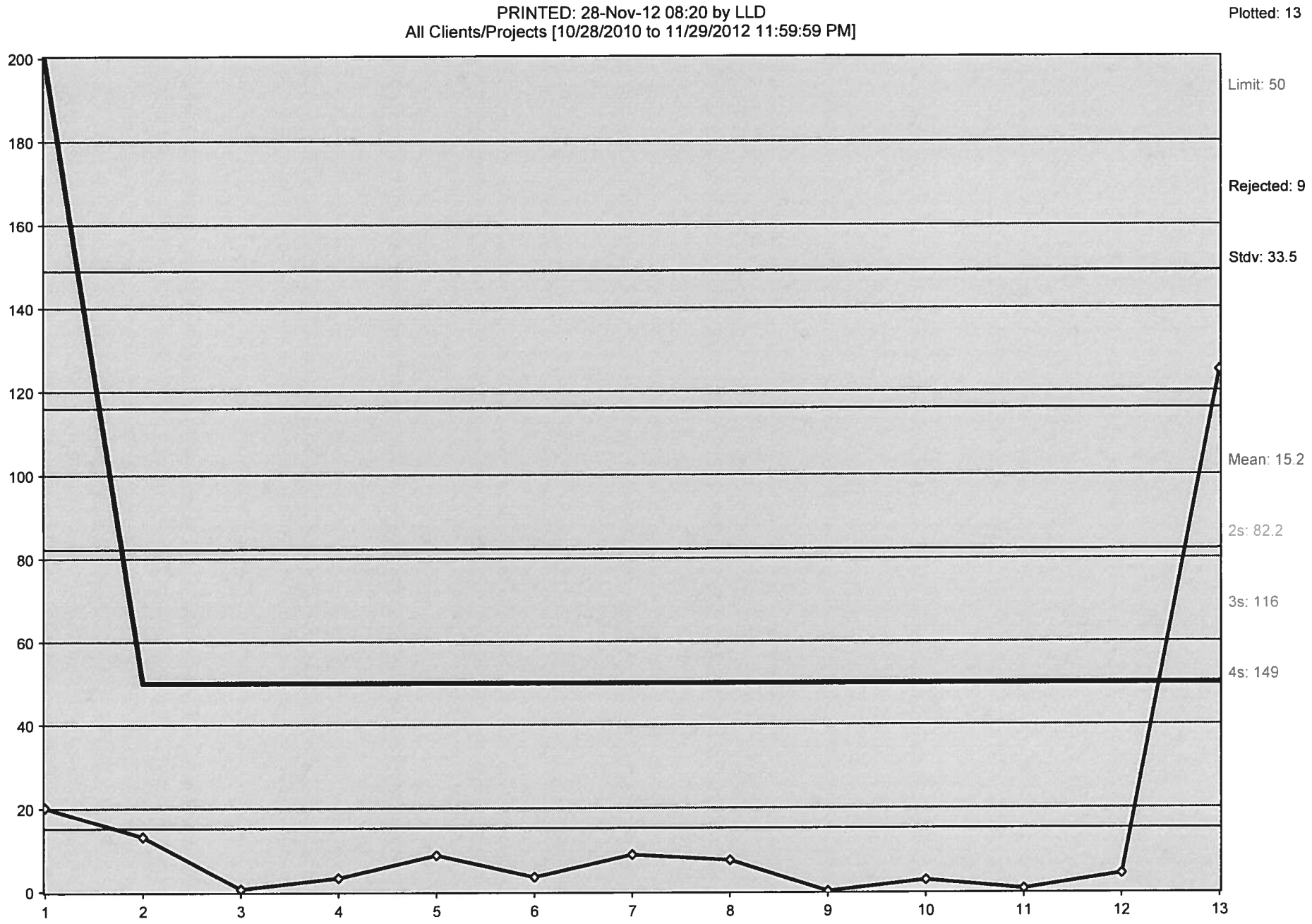
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]



LAB **Environmental Services Laboratory**
CHART MS/MSD RPD
ANALYTE DI-N-OCTYL PHTHALATE
ANALYSES S8270_BNA
MATRICES Soil
PRINTED: 28-Nov-12 08:20 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]
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LCL	0	PLOTTED	13		
UCL	116	REJECTED	9		
RPDL	116	LIMIT1	50		
MEAN	15.2	LIMIT2	50		
STDDEV	33.5				
S2LCL	0	S3LCL	0	S4LCL	0
S2UCL	82.2	S3UCL	116	S4UCL	149

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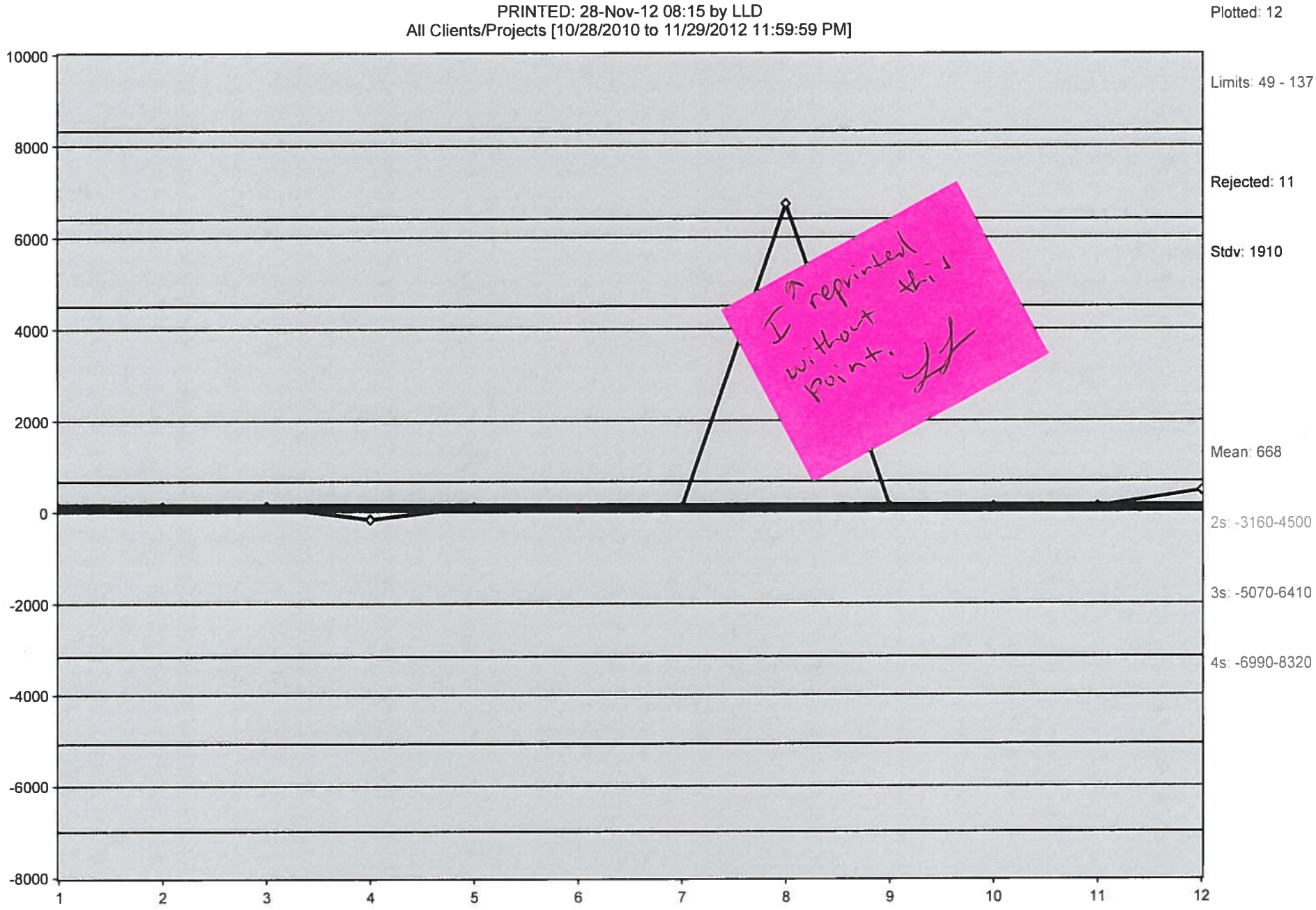
Reje	Batch	Extract	Analyze	SampleID	Analysis	Matrix	Extraction	Instrument	Extracted	Analyst	Spike	Source	Result	%R	Dup	Dup %	RPD	Control	Qualifier
	1107035	11-Feb-11	15-Feb-11	1107035-MSD	S8270_BNA	Soil	3545	5975SV2	HJW	YB	49300	T102015-09	170000	346	140000	284	20.2	200	
	1112028	16-Mar-11	29-Mar-11	1112028-MSD	S8270_BNA	Soil	3545	5975SV2	HJW	LLD	4160	T103050-02	4300	103	4900	118	13.2	50	
	1115019	31-Mar-11	18-Apr-11	1115019-MSD	S8270_BNA	Soil	3545	5975SV2	MA	YB	4910	T103175-02	4600	92.6	4500	92.6	0.594	50	
	1127025	27-Jun-11	06-Jul-11	1127025-MSD	S8270_BNA	Soil	3545	5975CVOA	MA	YB	3860	T106147-01	(640)	81.6	3900	87.7	3.23	50	
X	1127025	27-Jun-11	06-Jul-11	1127025-MSD	S8270_BNA	Soil	3545	5975CVOA	MA	YB	3860	T106147-01	(640)	110	5300	124	8.06	50	
	1136043	02-Sep-12	18-Sep-11	1136043-MSD	S8270_BNA	Soil	3545	5975SV4	HJW	LLD	4140	T108156-01	9300	224	10000	243	8.71	50	
	1139043	21-Sep-12	26-Oct-11	1139043-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	4120	T108158-02	6700	163	6500	158	3.45	50	
X	1206094	29-Feb-12	08-Mar-12	1206094-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	35400	T201086-14	48000	137	53000	133	9.58	50	
	1206094	29-Feb-12	08-Mar-12	1206094-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	35400	T201086-14	43000	122	47000	117	8.82	50	
X	1206094	29-Feb-12	15-Mar-12	1206094-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	35400	T201086-14	67000	191	80000	198	16.4	50	
	1224060	15-Jun-12	15-Jun-12	1224060-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24600	T206066-01	28000	114	26000	110	7.46	50	
X	1224060	15-Jun-12	15-Jun-12	1224060-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24600	T206066-01	38000	154	36000	150	6.26	50	
X	1227010	02-Jul-12	10-Jul-12	1227010-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24900	T206159-03	(4700)	78.6	33000	112	29.2	50	
	1227010	02-Jul-12	10-Jul-12	1227010-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24900	T206159-03	(4700)	-18.9	0	-18.8		50	
X	1229048	18-Jul-12	27-Jul-12	1229048-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4150	T207046-48	(9200)	209	7600	156	25.2	50	
	1229048	18-Jul-12	31-Jul-12	1229048-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4150	T207046-48	(7900)	163	7700	158	2.7	50	
X	1234090	24-Aug-12	05-Sep-12	1234090-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	5900	141	6300	151	6.53	50	
	1234090	24-Aug-12	14-Sep-12	1234090-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	6500	156	6500	157	0.618	50	
X	1234090	24-Aug-12	18-Sep-12	1234090-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	6700	161	6600	160	0.828	50	
	1238022	18-Sep-12	04-Oct-12	1238022-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4150	T208055-08	4800	116	5000	121	4.26	50	
	1246073	09-Nov-12	20-Nov-12	1246073-MSD	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3750	T207046-21	(320)	82.1	14000	356	125	50	
X	1246073	09-Nov-12	26-Nov-12	1246073-MSD	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3750	T207046-21	(540)	133	24000	628	130	50	

LAB: Environmental Services Laboratory
CHART: MS %R
ANALYTE: BIS(2-ETHYLHEXYL)PHTHALATE
ANALYSES: S8270_BNA
MATRICES: Soil
PRINTED: 28-Nov-12 08:15 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]



LAB **Environmental Services Laboratory**
CHART MS %R
ANALYTE BIS(2-ETHYLHEXYL)PHTHALATE
ANALYSES S8270_BNA
MATRICES Soil
PRINTED: 28-Nov-12 08:15 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]
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LCL	-5070	PLOTTED	12		
UCL	6410	REJECTED	11		
RPDL	6410	LIMIT1	49		
MEAN	668	LIMIT2	137		
STDDEV	1910				
S2LCL	-3160	S3LCL	-5070	S4LCL	-6990
S2UCL	4500	S3UCL	6410	S4UCL	8320

-

Rejec	Batch	Extracte	Analyzed	SampleID	Analysis	Matrix	Extraction	Instrumen	Extracted By	Analyst	Spike	Source	Result	%R	Control	Qualifier
X	1107035	11-Feb-11	15-Feb-11	1107035-MS1	S8270_BNA	Soil	3545	5975SV2	HJW	YB	49000	T102015-09 (34	000000	-241	49-137	
	1112028	16-Mar-11	29-Mar-11	1112028-MS1	S8270_BNA	Soil	3545	5975SV2	HJW	LLD	4150	T103050-02 (16	0	99 9	50-150	
	1115019	31-Mar-11	18-Apr-11	1115019-MS1	S8270_BNA	Soil	3545	5975SV2	MA	YB	4890	T103175-02 (19	0	120	49-137	
	1127025	27-Jun-11	06-Jul-11	1127025-MS1	S8270_BNA	Soil	3545	5975CVOC	MA	YB	3730	T106147-01 (52	000	128	49-137	
X	1127025	27-Jun-11	06-Jul-11	1127025-MS2	S8270_BNA	Soil	3545	5975CVOC	MA	YB	3730	T106147-01 (52	000	197	49-137	
	1136043	02-Sep-11	21-Sep-11	1136043-MS3	S8270_BNA	Soil	3545	5975SV4	HJW	LLD	4160	T108156-01 (34	0	-164	49-137	
	1139043	21-Sep-11	26-Oct-11	1139043-MS3	S8270_BNA	Soil	3545	5975SV3	HJW	YB	4110	T108158-02 (82	000	107	49-137	
X	1206094	29-Feb-12	08-Mar-12	1206094-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14 (83	000	102	49-137	
	1206094	29-Feb-12	08-Mar-12	1206094-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14 (83	000	77.9	49-137	
X	1206094	29-Feb-12	15-Mar-12	1206094-MS3	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14 (83	000	153	49-137	
	1224060	15-Jun-12	25-Jun-12	1224060-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	23800	T206066-01 (23	000	98 4	49-137	
X	1224060	15-Jun-12	25-Jun-12	1224060-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	23800	T206066-01 (23	000	138	49-137	
	1227010	02-Jul-12	10-Jul-12	1227010-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	25000	T206159-03 (13	000000	6730	49-137	
X	1227010	02-Jul-12	10-Jul-12	1227010-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	25000	T206159-03 (13	000000	2350	49-137	
X	1229048	18-Jul-12	27-Jul-12	1229048-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4140	T207046-48 (51	000	142	49-137	
	1229048	18-Jul-12	31-Jul-12	1229048-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4140	T207046-48 (51	000	126	49-137	
X	1234090	24-Aug-12	05-Sep-12	1234090-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01 (21	0	147	50-137	
X	1234090	24-Aug-12	14-Sep-12	1234090-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01 (21	0	157	50-137	
	1234090	24-Aug-12	18-Sep-12	1234090-MS3	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01 (21	0	117	50-150	
X	1238022	18-Sep-12	04-Oct-12	1238022-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208055-08 (15	0	99 2	50-150	
	1238022	18-Sep-12	15-Oct-12	1238022-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208055-08 (15	0	117	50-137	
X	1246073	09-Nov-12	20-Nov-12	1246073-MS1	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3860	T207046-21 (51	000	300	49-137	
	1246073	09-Nov-12	26-Nov-12	1246073-MS2	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3860	T207046-21 (51	000	458	49-137	

LAB: Environmental Services Laboratory
CHART: MS/MSD RPD
ANALYTE: BIS(2-ETHYLHEXYL)PHTHALATE
ANALYSES: S8270_BNA
MATRICES: Soil
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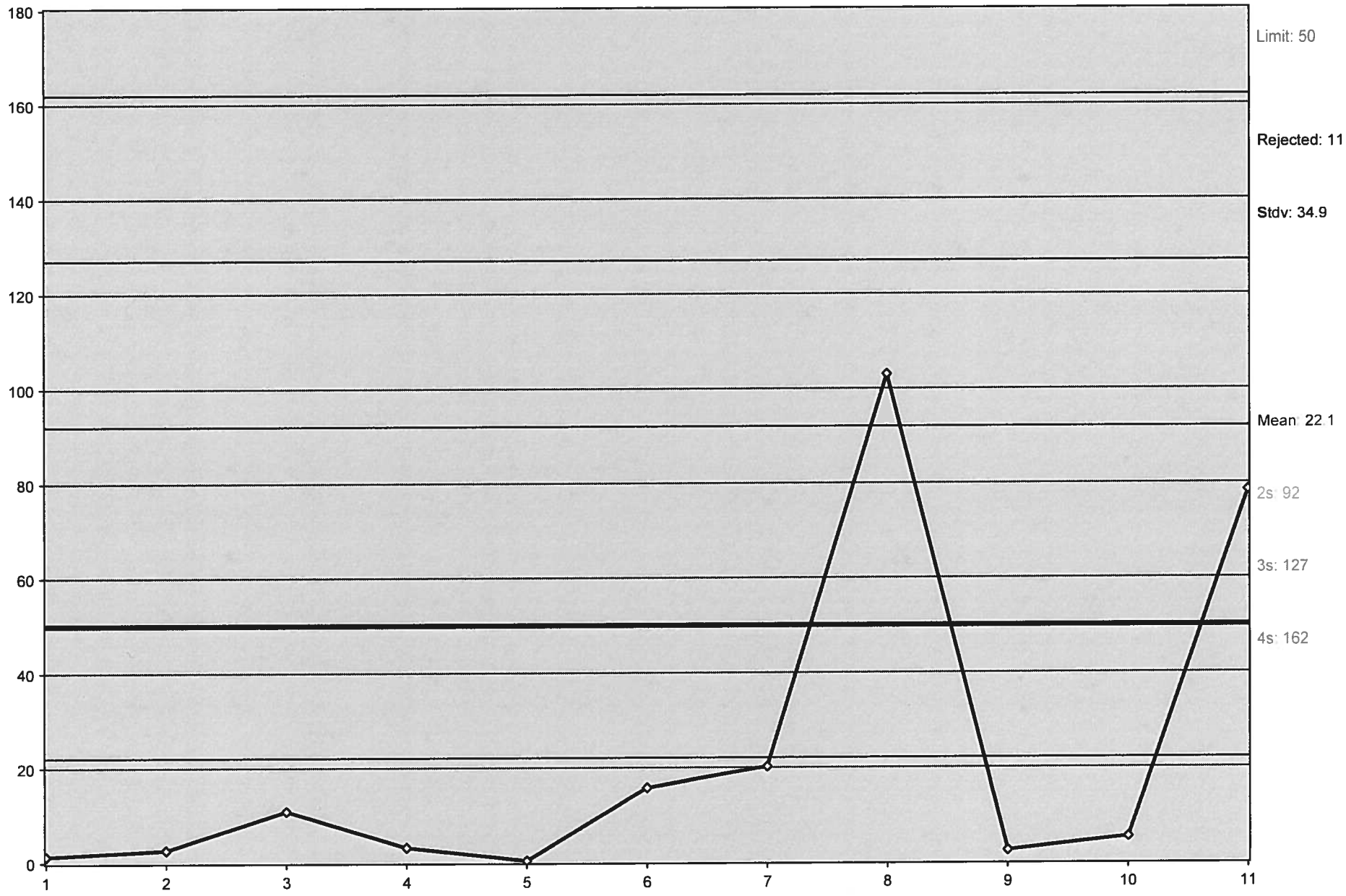

LAB **Environmental Services Laboratory**
CHART MS/MSD RPD
ANALYTE BIS(2-ETHYLHEXYL)PHTHALATE
ANALYSES S8270_BNA
MATRICES Soil
PRINTED: 28-Nov-12 08:13 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]
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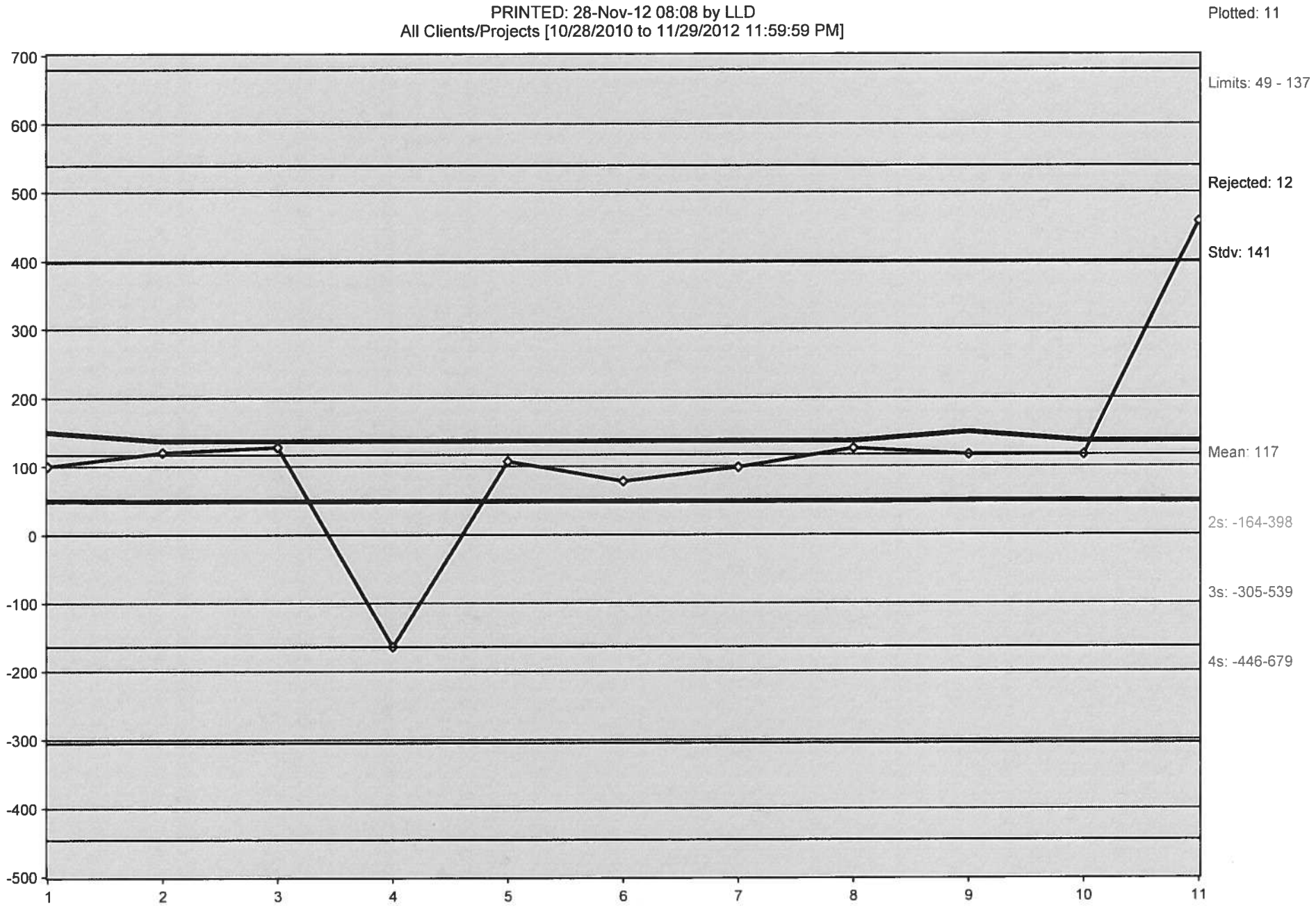
LCL	0	PLOTTED	11		
UCL	127	REJECTED	11		
RPDL	127	LIMIT1	50		
MEAN	22.1	LIMIT2	50		
STDDEV	34.9				
S2LCL	0	S3LCL	0	S4LCL	0
S2UCL	92	S3UCL	127	S4UCL	162

-

Reje	Batch	Extract	Analyze	SampleID	Analysis	Matrix	Extraction	Instrument	Extracted	Analyst	Spike	Source	Result	%R	Dup	Dup %	RPD	Control	Qualifier
X	1107035	11-Feb-11	15-Feb-11	1107035-MSD	S8270_BNA	Soil	3545	5975SV2	HJW	YB	49300	T102015-09	(3400000)	1170	3300000	-241	19.1	200	
	1112028	16-Mar-12	29-Mar-11	1112028-MSD	S8270_BNA	Soil	3545	5975SV2	HJW	LLD	4160	T103050-02	(5600)	101	5700	99.9	1.29	50	
	1115019	31-Mar-11	5-Apr-11	1115019-MSD	S8270_BNA	Soil	3545	5975SV2	MA	YB	4910	T103175-02	(7600)	115	7800	120	2.63	50	
	1127025	27-Jun-11	6-Jul-11	1127025-MSD	S8270_BNA	Soil	3545	5975CVOA	MA	YB	3860	T106147-01	(8200)	97.6	10000	128	10.9	50	
X	1127025	27-Jun-11	6-Jul-11	1127025-MSD	S8270_BNA	Soil	3545	5975CVOA	MA	YB	3860	T106147-01	(5200)	136	13000	197	18.4	50	
X	1136043	02-Sep-11	21-Sep-11	1136043-MSD	S8270_BNA	Soil	3545	5975SV4	HJW	LLD	4140	T108156-01	(34000)	-225	27000	-164	9.79	50	
	1139043	21-Sep-11	26-Oct-11	1139043-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	4120	T108158-02	(5200)	97	13000	107	3.17	50	
X	1206094	29-Feb-12	8-Mar-12	1206094-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	35400	T201086-14	(83000)	89.9	120000	102	7.67	50	
	1206094	29-Feb-12	8-Mar-12	1206094-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	35400	T201086-14	(83000)	87.4	110000	77.9	0.329	50	
X	1206094	29-Feb-12	5-Mar-12	1206094-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	35400	T201086-14	(83000)	132	140000	153	10.7	50	
	1224060	15-Jun-12	5-Jun-12	1224060-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24600	T206066-01	(2800)	113	26000	98.4	15.8	50	
X	1224060	15-Jun-12	5-Jun-12	1224060-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24600	T206066-01	(2900)	150	35000	138	11.3	50	
	1227010	02-Jul-12	10-Jul-12	1227010-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24900	T206159-03	(1800000)	951	1900000	2350	20.2	50	
X	1227010	02-Jul-12	10-Jul-12	1227010-MSD	S8270_BNA	Soil	3545	5975SV3	HJW	YB	24900	T206159-03	(2300000)	3110	3000000	6730	35.5	50	
X	1229048	18-Jul-12	27-Jul-12	1229048-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4150	T207046-48	(5600)	786	11000	142	110	50	
	1229048	18-Jul-12	31-Jul-12	1229048-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4150	T207046-48	(5200)	657	10000	126	103	50	
X	1234090	24-Aug-12	5-Sep-12	1234090-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	(2600)	157	8200	147	4.98	50	
X	1234090	24-Aug-12	4-Sep-12	1234090-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	(2300)	150	8600	157	3.34	50	
	1234090	24-Aug-12	8-Sep-12	1234090-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01	(2100)	121	7000	117	2.42	50	
	1238022	18-Sep-12	4-Oct-12	1238022-MSD	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4150	T208055-08	(5300)	92.4	5600	99.2	5.3	50	
X	1246073	09-Nov-12	20-Nov-12	1246073-MSD	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3750	T207046-21	(5500)	65.7	17000	300	75.2	50	
	1246073	09-Nov-12	26-Nov-12	1246073-MSD	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3750	T207046-21	(9900)	129	23000	458	78.5	50	

LAB: Environmental Services Laboratory
CHART: MS %R
ANALYTE: BIS(2-ETHYLHEXYL)PHTHALATE
ANALYSES: S8270_BNA
MATRICES: Soil
PRINTED: 28-Nov-12 08:08 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]



LAB **Environmental Services Laboratory**
CHART MS %R
ANALYTE BIS(2-ETHYLHEXYL)PHTHALATE
ANALYSES S8270_BNA
MATRICES Soil
PRINTED: 28-Nov-12 08:08 by LLD
All Clients/Projects [10/28/2010 to 11/29/2012 11:59:59 PM]
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LCL	-305	PLOTTED	11		
UCL	539	REJECTED	12		
RPDL	539	LIMIT1	49		
MEAN	117	LIMIT2	137		
STDDEV	141				
S2LCL	-164	S3LCL	-305	S4LCL	-446
S2UCL	398	S3UCL	539	S4UCL	679

-

Reject	Batch	Extracted	Analyzed	SampleID	Analysis	Matrix	Extraction	Instrument	Extracted By	Analyst	Spike	Source	Result	%R	Control	Qualifier
X	1107035	11-Feb-11	15-Feb-11	1107035-MS1	S8270_BNA	Soil	3545	5975SV2	HJW	YB	49000	T102015-09 (34000000	0	-241	49-137	
	1112028	16-Mar-11	29-Mar-11	1112028-MS1	S8270_BNA	Soil	3545	5975SV2	HJW	LLD	4150	T103050-02 (16600	0	99.9	50-150	
	1115019	31-Mar-11	18-Apr-11	1115019-MS1	S8270_BNA	Soil	3545	5975SV2	MA	YB	4890	T103175-02 (19000	0	120	49-137	
	1127025	27-Jun-11	06-Jul-11	1127025-MS1	S8270_BNA	Soil	3545	5975CVOC	MA	YB	3730	T106147-01 (5200	0	128	49-137	
X	1127025	27-Jun-11	06-Jul-11	1127025-MS2	S8270_BNA	Soil	3545	5975CVOC	MA	YB	3730	T106147-01 (5200	0	197	49-137	
	1136043	02-Sep-11	21-Sep-11	1136043-MS3	S8270_BNA	Soil	3545	5975SV4	HJW	LLD	4160	T108156-01 (3400	0	-164	49-137	
	1139043	21-Sep-11	26-Oct-11	1139043-MS3	S8270_BNA	Soil	3545	5975SV3	HJW	YB	4110	T108158-02 (8200	0	107	49-137	
X	1206094	29-Feb-12	08-Mar-12	1206094-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14 (83000	0	102	49-137	
	1206094	29-Feb-12	08-Mar-12	1206094-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14 (83000	0	77.9	49-137	
X	1206094	29-Feb-12	15-Mar-12	1206094-MS3	S8270_BNA	Soil	3545	5975SV3	HJW	YB	40200	T201086-14 (83000	0	153	49-137	
	1224060	15-Jun-12	25-Jun-12	1224060-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	23800	T206066-01 (2300	0	98.4	49-137	
X	1224060	15-Jun-12	25-Jun-12	1224060-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	23800	T206066-01 (2300	0	138	49-137	
X	1227010	02-Jul-12	10-Jul-12	1227010-MS2	S8270_BNA	Soil	3545	5975SV3	HJW	YB	25000	T206159-03 (1300000	0	6730	49-137	
X	1227010	02-Jul-12	10-Jul-12	1227010-MS1	S8270_BNA	Soil	3545	5975SV3	HJW	YB	25000	T206159-03 (1300000	0	2350	49-137	
X	1229048	18-Jul-12	27-Jul-12	1229048-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4140	T207046-48 (5100	0	142	49-137	
	1229048	18-Jul-12	31-Jul-12	1229048-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4140	T207046-48 (5100	0	126	49-137	
X	1234090	24-Aug-12	05-Sep-12	1234090-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01 (2100	0	147	50-137	
X	1234090	24-Aug-12	14-Sep-12	1234090-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01 (2100	0	157	50-137	
	1234090	24-Aug-12	18-Sep-12	1234090-MS3	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208053-01 (2100	0	117	50-150	
X	1238022	18-Sep-12	04-Oct-12	1238022-MS1	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208055-08 (1500	0	99.2	50-150	
	1238022	18-Sep-12	15-Oct-12	1238022-MS2	S8270_BNA	Soil	3545	5975SV5	HJW	LLD	4160	T208055-08 (1500	0	117	50-137	
X	1246073	09-Nov-12	20-Nov-12	1246073-MS1	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3860	T207046-21 (5100	0	300	49-137	
	1246073	09-Nov-12	26-Nov-12	1246073-MS2	S8270_BNA	Soil	3545	5975SV5	MA	LLD	3860	T207046-21 (5100	0	458	49-137	

Environmental Services Laboratory

Analysis QC Variance

Date: August 7,2012

Department: Organics

Affected Analysis (if applicable): S8270_BNA

Analyst: Leonora Litzi-Davis Instrument: 5975SV5

Issue : Diethylphthalate was detected above the MDL in both extraction blanks for Foss Source Tracing samples.

LabNumber	Analyte	Reported Result ug/Kg	Analyzed
1229048-BLK1	Diethylphthalate	100	7/27/2012
1230037-BLK2	Diethylphthalate	90	7/31/2012
T207046-01	Diethylphthalate	300J	7/27/2012
T207046-06	Diethylphthalate	190	7/27/2012
T207046-10	Diethylphthalate	190J	7/27/2012
T207046-17	Diethylphthalate	210	7/27/2012
T207046-23	Diethylphthalate	200	7/27/2012
T207046-31	Diethylphthalate	200	7/27/2012
T207046-48	Diethylphthalate	190J	7/27/2012
T207046-68	Diethylphthalate	160J	7/27/2012
T207046-78	Diethylphthalate	180J	7/27/2012
T207046-92RE1	Diethylphthalate	170J	7/31/2012
T207046-93	Diethylphthalate	180J	7/27/2012

Investigation Findings: Diethylphthalate has not been detected in blanks associated with recent water extractions. Recent soil blanks have contained Diethylphthalate just below the reporting limit. More recent soil blanks that did not originally require analysis for Diethylphthalate were analyzed and Diethylphthalate was detected near or above the MDL. Products used for the ASE extraction but not water extractions were analyzed. Diethylphthalate was detected at 90% of the contamination level in the cellulose ASE cell filters and 10% in the syringe filters used to remove particulate after the ASE extraction. The cellulose filters were stored in the plastic zip lock bag in which they were received in December 2010. Syringe filters are usually rinsed with about 1 mL Methylene Chloride prior to use. A large peak identified as Propionic acid, 3,3'-thiodi-, didodecyl ester eluting after all the targets is also being detected in all extracts processed through the syringe filters.

as not detected ~~at~~ the estimated result level for

Action Taken (or Data Qualification): Blank extracts were reanalyzed and the lowest result was reported. Data will be qualified ~~as~~ U for this compound. Cellulose filters will be cleaned using Methylene Chloride in a soxhlet, reanalyzed and stored in a clean glass sample jar. Syringe filters will receive a Methylene Chloride rinse of about 5 mL

Environmental Services Laboratory

Analysis QC Variance

Date: August 7, 2012

Department: Organics

Affected Analysis (if applicable): S8270_BNA

Analyst: Leonora Litzi-Davis Instrument: 5975SV5

Issue : High surrogate recoveries for Foss Source Tracing samples.

LabNumber	Surrogate	Recovery	LCL	UCL	Analyzed	Dilution
T207046-01RE1	Terphenyl-d14	147	49	128	7/31/2012	5
*T207046-06RE1	Terphenyl-d14	158 *	49	128	7/31/2012	5
*T207046-10RE1	Terphenyl-d14	155 *	49	128	7/31/2012	5
T207046-17	Terphenyl-d14	143	49	128	7/27/2012	1
*T207046-23	Terphenyl-d14	158*	49	128	7/27/2012	1
T207046-31	Terphenyl-d14	137	49	128	7/27/2012	1

Investigation Findings: Oil in sample matrix interferes with late eluting internal standards.

Action Taken (or Data Qualification): Extracts were reanalyzed at a dilution if target responses were high enough or straight if target responses were low. The best recovery was reported. No data qualification required for one surrogate out of limits.

— When compared to the Foss Sediment QC criteria of 50-150 - only those with "*" above are outside the limits LAZ 8/9/2012

Is this recurring? Yes, in oily matrices. Alumina cleanup was not performed for this project.

No data is qualified. LAZ 8/9/2012

Approved:

Senior Analyst

Lori A. Zonalski

QA Manager

Assistant Division Manager

L:\Corrective and Preventative Actions\T207046 S8270_BNA high surrogates.dotx.docx

Environmental Services Laboratory

Analysis QC Variance

Date: August 7,2012

Department: Organics

Affected Analysis (if applicable): S8270_BNA

Analyst: Leonora Litzi-Davis Instrument: 5975SV5

Issue : Low Internal Standard recoveries for Foss Source Tracing samples.

LabNumber	Analyte	Recovery	Reported Result	Analyzed	Dilution
T207046-31	Chrysene-d12	49.3		7/27/2012	1
	Butyl benzyl phthalate		380	7/27/2012	1
T207046-48	Chrysene-d12	47.6		7/27/2012	1
	Butyl benzyl phthalate		300	7/27/2012	1
T207046-57	Chrysene-d12	48.7		7/27/2012	1
	Butyl benzyl phthalate		170J	7/27/2012	1
1229048-MS2	Perylene-d12	39.8		7/31/2012	5
	Benzo(b,k)fluoranthenes		45000	7/31/2012	5
	Benzo(a)pyrene		19000	7/31/2012	5
	Indeno(1,2,3-c,d)pyrene		11000	7/31/2012	5
	Dibenz(a,h)anthracene		5400	7/31/2012	5
	Benzo(g,h,i)perylene		11000	7/31/2012	5
1229048-MSD2	Perylene-d12	39.2		7/31/2012	5
	Di-n-Octyl phthalate		7900	7/31/2012	5
	Benzo(b,k)fluoranthenes		50000	7/31/2012	5
	Benzo(a)pyrene		21000	7/31/2012	5
T207046-06	Perylene-d12	49.5		7/27/2012	1
	Indeno(1,2,3-c,d)pyrene		150	7/27/2012	1
	Dibenz(a,h)anthracene		49J	7/27/2012	1
T207046-10	Perylene-d12	44.3		7/27/2012	1
	Indeno(1,2,3-c,d)pyrene		260	7/27/2012	1
	Dibenz(a,h)anthracene		82J	7/27/2012	1
T207046-17	Perylene-d12	42.1		7/27/2012	1
	Dibenz(a,h)anthracene		93J	7/27/2012	1
T207046-23	Perylene-d12	37.6		7/27/2012	1
	Di-n-Octyl phthalate		100U	7/27/2012	1
	Dibenz(a,h)anthracene		70U	7/27/2012	1
T207046-31	Perylene-d12	34		7/27/2012	1
	Di-n-Octyl phthalate		650	7/27/2012	1
	Dibenz(a,h)anthracene		160J	7/27/2012	1
T207046-40	Perylene-d12	34.6		7/27/2012	1
	Di-n-Octyl phthalate		100U	7/27/2012	1
	Dibenz(a,h)anthracene		280	7/27/2012	1
T207046-53RE1	Perylene-d12	46.7		7/31/2012	1
	Indeno(1,2,3-c,d)pyrene		390	7/31/2012	1
	Di-n-Octyl phthalate		260	7/31/2012	1
	Benzo(a)pyrene		510	7/31/2012	1

Environmental Services Laboratory

Analysis QC Variance

Date: December 28, 2012

Department: Organics

Affected Analysis (if applicable): 8270_BNA

Analyst: YB

Instrument: 5975SV3

Issue : Internal standard failures

Investigation Findings: The following Internal standards were out of required control limits.

LabNumber	Analyte	Recovery	LCL	UCL
T207046-55	Acenaphthene-d10	46.9	50	200
T207046-55	Phenanthrene-d10	46.3	50	200
T207046-69	Acenaphthene-d10	47.1	50	200
T207046-69	Phenanthrene-d10	45.7	50	200
T207046-71	Acenaphthene-d10	45.4	50	200
T207046-71	Phenanthrene-d10	44.1	50	200
T207046-73	Acenaphthene-d10	42.7	50	200
T207046-73	Phenanthrene-d10	43.0	50	200
T207046-73	Chrysene-d12	49.0	50	200
T207046-74	Acenaphthene-d10	40.0	50	200
T207046-74	Phenanthrene-d10	39.8	50	200
T207046-74	Chrysene-d12	47.2	50	200
T207046-75	Acenaphthene-d10	42.2	50	200
T207046-75	Phenanthrene-d10	42.3	50	200
T207046-75	Chrysene-d12	46.7	50	200
T207046-76	Acenaphthene-d10	42.6	50	200
T207046-76	Phenanthrene-d10	43.7	50	200
T207046-76	Chrysene-d12	47.1	50	200
T207046-77	Acenaphthene-d10	41.0	50	200
T207046-77	Phenanthrene-d10	43.3	50	200
T207046-77	Chrysene-d12	38.1	50	200
T207046-87	Acenaphthene-d10	37.8	50	200
T207046-87	Phenanthrene-d10	38.3	50	200
T207046-87	Chrysene-d12	43.3	50	200
T207046-89	Acenaphthene-d10	35.5	50	200
T207046-89	Phenanthrene-d10	36.8	50	200
T207046-89	Chrysene-d12	41.9	50	200
T207046-91	Acenaphthene-d10	31.6	50	200
T207046-91	Phenanthrene-d10	32.5	50	200
T207046-91	Chrysene-d12	41.4	50	200

Environmental Services Laboratory

Analysis QC Variance

Date: December 31, 2012

Department: Organics

Affected Analysis (if applicable): 8270_BNA

Analyst: YB

Instrument: 5975SV3

Issue : Internal standard failures

Sample	Analyte	%R	Low Limit	High Limit
T207046-54	Chrysene-d12	49.50	50	200
T207046-55	Chrysene-d12	41.90	50	200
T207046-77	Chrysene-d12	30.90	50	200
T207046-77	Perylene-d12	21.40	50	200
T207046-76	Chrysene-d12	38.20	50	200
T207046-76	Perylene-d12	23.80	50	200
T207046-73RE1	Chrysene-d12	41.60	50	200
T207046-73RE1	Perylene-d12	39.70	50	200
T207046-71	Chrysene-d12	39.70	50	200
T207046-69	Chrysene-d12	43.10	50	200
T207046-87	Chrysene-d12	31.30	50	200
T207046-87	Perylene-d12	21.90	50	200
T207046-89	Chrysene-d12	33.00	50	200
T207046-89	Perylene-d12	21.50	50	200
T207046-91	Chrysene-d12	35.20	50	200
T207046-91	Perylene-d12	22.50	50	200
1249014-MS1	Chrysene-d12	42.10	50	200
1249014-MS2	Chrysene-d12	46.00	50	200
1249014-MS2	Perylene-d12	45.00	50	200
1249014-MSD1	Chrysene-d12	36.90	50	200

Action Taken (or Data Qualification):
Samples were diluted and reanalyzed. Diluted samples were within limits. w/ higher PQLs

Is this recurring?

Yes. Matrix effects are a problem with catch basin samples. In most cases samples require dilution or clean-up.

Approved:

Senior Environmental Lab Analyst

Lori A. Zboralski

QA Manager

Assistant Division Manager

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Tacoma
City of Tacoma
Public Works Department

July 6, 2012

SENT VIA CERTIFIED MAIL

Kevin McAlpin
Sheer Vision Company
17404 Meridian East, Suite F
Puyallup, WA 98375

Subject: Warning Letter – Illicit discharge of sudsy water to the municipal stormwater system

Mr. Kevin McAlpin:

On June 6, 2012 City of Tacoma Environmental Compliance staff observed and photo documented the discharge of soapy water to the municipal storm water system from a roof cleaning operation at The Greater Tacoma Convention and Trade Center building located at 1500 Broadway Street, Tacoma WA.

The sudsy discharge does not conform to the requirements established in the Tacoma Municipal Code (TMC) Chapter 12.08.080 Prohibited, allowable and conditional discharges – Storm. According to this section of TMC,

> "No person shall throw, drain, spill, or otherwise discharge, cause, or allow others under its control to throw, drain, spill, or otherwise discharge in the municipal storm drain system and/or surface and ground waters any materials other than stormwater".

The prohibited discharge was observed entering a catch basin along South 15th Street that drains to Outfall 230 that empties into the Thea Foss Waterway - a federal Superfund site - without the benefit of treatment.

The proper management of wastewater generated from pressure washing activity is addressed in the enclosed Best Management Practice (BMP). This information along with other storm water BMPs can be found on our web site at http://www.cityoftacoma.org/Page.aspx?hid=17791.

The City of Tacoma is required to implement a stormwater pollution prevention program in accordance with Washington State Department of Ecology permit requirements. This requirement is met as we respond to, investigate and control illicit discharges to the municipal storm water system. Future prohibited discharges to the stormwater system may result in escalating enforcement actions including, but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

If you have any questions, please contact Environmental Compliance Source Control Representative Mark Schuler at mschuler@cityoftacoma.org or (253) 502-2174.

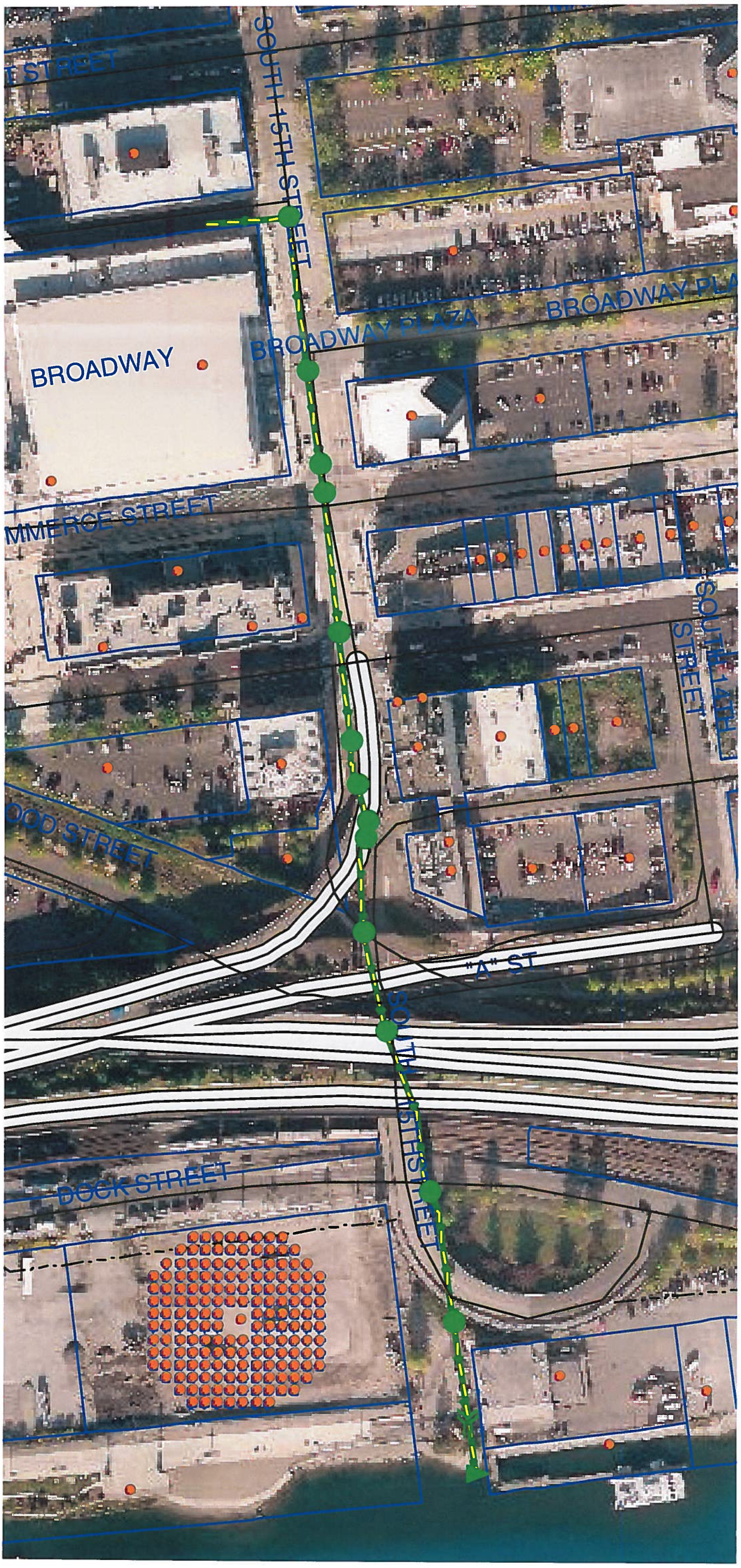
Sincerely,

for Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:MS:cfp
Enclosures: Excerpts from TMC 12.08.080, Drainage map, BMP 2011 Combined Washing BMPs

cc: Jon Houg, Mgr. Greater Tacoma Convention and Trade Center

Sent by First Class and Certified Mail: 7003 1010 0004 3561 0041
http://wspwit02/storminspect/spills/asp/results.asp?id=12-0484


T STREET
SOUTH 15TH STREET
BROADWAY PLAZA
BROADWAY PLA
BROADWAY
MMERCE STREET
SOUTH 14TH STREET
OOD STREET
"A" ST
SOUTH 15TH STREET
DOCK STREET

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kevin McAlpin
Sheer Vision Company
17404 Meridian East, Suite F
Puyallup, WA 98375

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x [signature] ☒ Agent ☐ Addressee

B. Received by (*Printed Name*) Hannah Terry
C. Date of Delivery 7/7/12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number
(*Transfer from service label*) 7003 1010 0004 3561 0041

PS Form 3811, February 2004 Domestic Return Receipt

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

City of Tacoma
Environmental Services
326 East D Street
Tacoma WA 98421-1801
Attn: Schuler

Table A.2-1
2012 Pipe Maintenance Activities for OF230

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
05/23/2012	15TH & FAWCETT - TV FOR CONNETIONS	Clean	ES ENGINEER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
01/10/2012	NO4_2 SANITARY ASSET AREA CLN & TV	Clean Main		230	FS_05	306'
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
05/14/2012	1006 E HARRISON - TV	Clean	STANDBY LEAD	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	

Table A.2-1
2012 Pipe Maintenance Activities for OF230

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
01/10/2012	NO4_2 SANITARY ASSET AREA CLN & TV	Educt Manhole		230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean Manhole	ES ENGINER	230	FS_05	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	Repair Sanitary Side Service	CREW	230	FS_05	
08/27/2012	STORM BC 1 SEG YEARLY YAKIMA 37-38TH ST	Inspect/Bait Manhole		230	FS_05	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Inspect/Bait Manhole	CONSTRUCTION	230	FS_05	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Inspect/Bait Manhole	CONSTRUCTION	230	FS_05	
06/27/2012	2900 CENTER ST - CLEAN FOR TV	Inspect/Bait Manhole	CREW	230	FS_05	
08/27/2012	STORM BC 1 SEG YEARLY 68-70TH PAC AVE	Inspect/Bait Manhole		230	FS_05	
06/04/2012	S 17th & MLK/ S 16th & J TV SOIL NAILS	Inspect/Bait Manhole	CONSTUCTION	230	FS_05	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Inspect/Bait Manhole	CONSTRUCTION	230	FS_05	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Inspect/Bait Manhole	CONSTRUCTION	230	FS_05	
07/16/2012	STORM BC 2 SEG YEARLY 17-19TH SHERIDAN	Inspect/Bait Manhole		230	FS_05	
08/08/2012	STORM BC 2 SEG YEARLY 17-19TH SHERIDAN	Inspect/Bait Manhole		230	FS_05	
09/17/2012	BC 1 SEG YEARLY, 1214 YAKIMA AVE	Inspect/Bait Manhole		230	FS_05	
10/08/2012	STORM BC 2 SEG YEARLY 21-23RD MLK	Inspect/Bait Manhole		230	FS_05	
04/03/2012	2915 SO ALDER - WATER OVERFLOWING	Inspect/Bait Manhole	CUSTOMER	230	FS_05	CHECKED MH'S
01/25/2012	SINKHOLE S 23RD; ASH-HOSMER - CLN FOR TV	Inspect/Bait Manhole	STREETS	230	FS_05	
05/04/2012	1102 COMMERCE- STORM MAIN PLUGGED	Inspect/Bait Manhole	CUSTOMER	230	FS_05	

Table A.2-1
2012 Pipe Maintenance Activities for OF230

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/19/2012	3816 SO. UNION--STORM M/H UP	Inspect/Bait Manhole	CREW	230	FS_05	
05/14/2012	1006 E HARRISON - TV	Inspect/Bait Manhole	STANDBY LEAD	230	FS_05	
05/31/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Inspect/Bait Manhole		230	FS_05	
09/18/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Inspect/Bait Manhole		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Inspect/Bait Manhole		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Inspect/Bait Manhole		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Inspect/Bait Manhole		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Inspect/Bait Manhole		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Inspect/Bait Manhole		230	FS_05	
09/18/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Inspect/Bait Manhole		230	FS_05	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Inspect/Bait Manhole		230	FS_05	
08/27/2012	STORM BC 1 SEG YEARLY YAKIMA 37-38TH ST	Check/Clean Catch Basin		230	FS_05	
01/04/2012	23RD & ASH - PLUGGED CATCH BASINS	Service Catch Basin	CUSTOMER	230	FS_05	CLEARED
01/17/2012	1820 SO J - WATER PUDDLING IN STREET	Service Catch Basin	CUSTOMER	230	FS_05	
09/17/2012	BC 1 SEG YEARLY, 1214 YAKIMA AVE	Check/Clean Catch Basin		230	FS_05	
04/03/2012	2915 SO ALDER - WATER OVERFLOWING	Service Catch Basin	CUSTOMER	230	FS_05	CHECKED
01/04/2012	CENTER & ALASKA - WATER OVER ROADWAY	Service Catch Basin	CUSTOMER	230	FS_05	
05/04/2012	1102 COMMERCE- STORM MAIN PLUGGED	Service Catch Basin	CUSTOMER	230	FS_05	
12/20/2012	1145 BROADWAY- CB PLUGGED	Service Catch Basin	SOURCE CTRL	230	FS_05	
01/30/2012	BISMARK & A STREET - 2 PLUGGED CULVERTS	Service Catch Basin		230	FS_05	
12/18/2012	2404 CENTER ST- CB PLUGGED	Service Catch Basin	CUSTOMER	230	FS_05	PLUGGED
01/30/2012	BISMARK & A STREET - 2 PLUGGED CULVERTS	Clean Culvert		230	FS_05	
01/04/2012	23RD & ASH - PLUGGED CATCH BASINS	Check Drainage Areas	CUSTOMER	230	FS_05	CATCH BASINS PLUGGED
05/31/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Flush		230	FS_05	
09/18/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Flush		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Flush		230	FS_05	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Flush		230	FS_05	
09/18/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Flush		230	FS_05	
10/03/2012	1212 SO. EARNEST BRAZIL ST.--GAS SPILL	Flush	CUSTOMER	230	FS_05	

ATTACHMENT A.3 - OF235

City of Tacoma
Public Works Department

February 14, 2012

Bill Classon
IHD, LLC
2200 6th Ave Ste 520
Seattle, WA 981221-1820

Hand Delivered

15-Feb-2012
Received by Date

Subject: **Second Warning Letter–Holiday Inn Express Hotel & Suites:** Failure to implement appropriate pollution prevention and erosion control practices

Dear Mr. Classon:

OFFSITE DEMO ACTIVITIES ARE THE SOURCE OF COMPLAINTS NOT HOTEL WORK

The City of Tacoma's Environmental Services staff has responded to numerous complaints regarding implementation of your Stormwater Pollution Prevention Plan (SWPPP) at 2102 South C Street. We have repeatedly provided to you our technical assistance, support, and encouragement. In ~~spite~~ of these efforts, your construction project has continued to exhibit non-compliance with the conditions of your building permit and, as a result, has impacted the City's municipal stormwater conveyance system in violation of Municipal Code 12.08.

NOT ACCURATE STATEMENT

You are hereby directed to implement and maintain Best Management Practices, in accordance with the 2008 City of Tacoma Surface Water Management Manual to prevent the discharge of dirt, sediment and debris to the City's street and stormwater systems. The following list of action items are excerpted from your SWPPP and must be implemented within five (5) business days of receipt of this letter.

ACCESS WILL BE STOPPED 15-Feb 2012

- Install a construction entrance per BMP C105 - CONSTRUCTION ENTRANCE, or install a fence or other secure barrier to prevent any vehicular access to or from your site.
- Install sediment controls per BMP C233 – SILT FENCE, along the South "C" Street perimeter and across the Hood Street right-of-way to prevent any discharge from your site.
- Clean or replace all catch basin bag filters per BMP C220 – STORM DRAIN INLET PROTECTION, and check them frequently.
- Remove all concrete waste and slurry from the site and dispose of it properly. Your construction activities that require the installation of concrete must be performed in compliance with BMP C151 – CONCRETE HANDLING.

Failure to implement and maintain the above listed Best Management Practices and action items within five (5) business days will result in escalated enforcement, which may include fines and penalties including, but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation.

If you have any questions or need more information, please contact Environmental Services Regulatory Compliance and Enforcement Senior Environmental Specialist, Kurt Fremont at kfremont@cityoftacoma.org or (253) 502-2238.

Sincerely,

for Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:cfp

cc: Pete Rambow, City of Tacoma
James Harteau, City of Tacoma
Kim Han & Mihyung, 2224 72nd Ave SE, Mercer Island, WA 98040-2323

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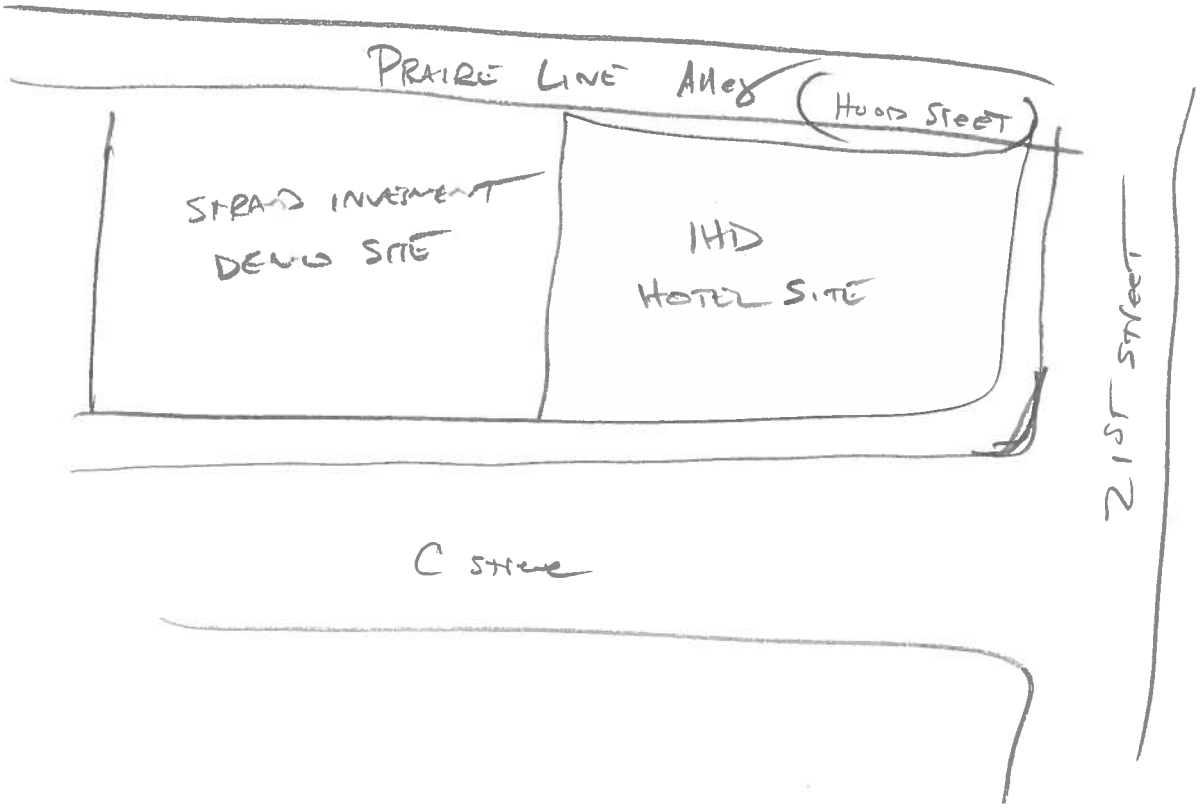


Table A.3-1
2012 Pipe Maintenance Activities for OF235

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
01/04/2012	CENTER & ALASKA - WATER OVER ROADWAY	Check Drainage Areas	CUSTOMER	235	FS_06	WATER OVER ROADWAY
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	Repair/Install RISER	CREW	235	FS_06	
12/18/2012	2404 CENTER ST- CB PLUGGED	Check Drainage Areas	CUSTOMER	235	FS_06	CHECKED ALL SYSTEMS
08/20/2012	1010 S 18TH ST. REDIRECT STORM MAIN	Repair Storm System	CREW	235	FS_06	
05/23/2012	2515 S. SHERIDAN AVE E & R RETRIEVE CAM	Other Maintenance	CREW	235	FS_06	
05/23/2012	S 25TH & SHERIDAN - CAMERA RESCUE	Other Maintenance	CREW	235	FS_06	
04/03/2012	2915 SO ALDER - WATER OVERFLOWING	Other Maintenance	CUSTOMER	235	FS_06	WATER OVERFLOWING
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	Other Maintenance	CREW	235	FS_06	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	Other Maintenance	CREW	235	FS_06	
08/06/2012	1448 ST PAUL AVE DIG TEST HOLE	Other Maintenance	CREW	235	FS_06	
08/20/2012	1010 S 18TH ST. REDIRECT STORM MAIN	Other Maintenance	CREW	235	FS_06	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	Repair Service Connection	CREW	235	FS_06	REPAIR (2) REPLCED (1)
08/20/2012	1010 S 18TH ST. REDIRECT STORM MAIN	ESA List w/BMP	CREW	235	FS_06	
10/12/2012	2200 S C ST REPAIR STORM MAIN LINER RH	Lining Rehab	ENGINEERING	235	FS_06	
05/23/2012	S 25TH & SHERIDAN - CAMERA RESCUE	Vactor Assist	CREW	235	FS_06	
05/23/2012	S 25TH & SHERIDAN - CAMERA RESCUE	Vactor Assist	CREW	235	FS_06	
08/14/2012	1515 M L K WAY E & R STORM MAIN	Vactor Assist	CREW	235	FS_06	
01/12/2012	3309 N GOVE - TVI	Vactor Assist	CREW	235	FS_06	
01/25/2012	SINKHOLE S 23RD; ASH-HOSMER - CLN FOR TV	Check/Fill Sinkhole	STREETS	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
01/25/2012	SINKHOLE S 23RD; ASH-HOSMER - CLN FOR TV	TV Inspection	STREETS	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
01/06/2012	SOUND TRANSIT PROJECT - TV - 4 SEGS	TV Inspection	CONSTRUCTION	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	

Table A.3-1
2012 Pipe Maintenance Activities for OF235

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
12/05/2012	REQ-TVI, 36 Segements, Various Locations	TV Inspection	ES ENGINER	235	FS_06	
03/20/2012	1607 CENTER ST.--EMERGENCY LOCATE	Locate ((NOT for 'One Calls')	CUSTOMER	235	FS_06	
04/10/2012	509 SO 15TH ST - EMERGENCY LOCATE	Locate ((NOT for 'One Calls')	OPERATIONS	235	FS_06	SANITARY & STORM
04/10/2012	509 SO 15TH ST - EMERGENCY LOCATE	Locate ((NOT for 'One Calls')	OPERATIONS	235	FS_06	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	ESA list w/BMP	CONSTRUCTION	235	FS_06	

ATTACHMENT A.4 - OF237A

City of Tacoma
Public Works Department

June 26, 2012

Mark A. O'Leary, Project Manager
Mid Mountain Contractors, Inc.
P.O. Box 2909
Kirkland, WA 98083-2909

Hand Delivered

Mark O'Leary 06.26.12
Received by Date

Subject: **Warning Letter- D to M Street Track and Signal Project, Tacoma, WA**
Prohibited Discharge to City of Tacoma Stormwater System

Dear Mr. O'Leary:

On June 20, 2012, City of Tacoma Environmental Compliance Source Control Representatives responded to multiple complaints regarding a turbid discharge coming from stormwater outfall #237B, which impacted the Thea Foss Waterway, a federal Superfund cleanup site.

Environmental Compliance discovered that Mid Mountain Contractor's construction site stormwater containment system was malfunctioning, thus turbid water was bypassing the treatment system and directly entering the City's stormwater system.

Tacoma Municipal Code (TMC) 12.08 prohibits the discharge of pollutants, including sediments, into the City storm drain system. Also, discharging turbid water to the City's stormwater system is a violation of the General Stormwater Permit and Surface Water Pollution Prevention Plan which is a condition of the City's Special Approved Discharge permit issued to Mid Mountain Contractors. Mid Mountain Contractors is required to implement and maintain Best Management Practices in accordance with Tacoma Municipal Code 12.08 to prevent the discharge of dirt, sediment, and debris to the City's stormwater system. Failure to implement appropriate pollution prevention BMPs will result in escalated enforcement, which may include fines and penalties including but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation.

If you have any questions or need more information, please contact Environmental Service's Regulatory Compliance and Enforcement Senior Environmental Specialist, Kurt Fremont at kfremont@cityoftacoma.org, or (253) 502-2238.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:RN:cfp (G:\EnviroCompliance\Enforcement\Warning Letters\MidMountain Warning Letter (D to M Project).doc)
Enclosures: Stormwater Business Inspection Report BI-12-0522

cc: George Hubbard, Sound Transit
Deborah Cornett, Department of Ecology

12-0522 Environmental Services Spill Response / Complaint Form

Recorder: PTOLLEFS
Date: 6/20/2012
Anonymous ☐
Reported by: Joe Comstock (COT)
Address:
Home Phone: Joe Comstock (COT)
Work Phone: x2102
Best Call Time:

COMPLAINT

Material: Mud / Muddy Water
Source: Unknown / Other
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 6/20/2012
Activity: Unknown / Other
Quantity: Unknown Cubic Yard

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Muddy water coming from outfall 237b
Business: SAD -STORM/SANITARY- MID MOUNTAIN (SOUND TRANSIT) D TO M STREET LIGHT RAIL SIGNAL PROJECT
Contact: Joe Comstock
Address: D TO M STREETS
Phone: x2102
Parcel No.:
Comments: Joe Comstock called Jim Oberlander to inform us of a turbid discharge from outfall 237b.

NOTIFICATIONS / ACTIONS

Investigator: Paul Tollefson
☑ **Site Visit & Date:** 6/20/2012

ACTION(S) TAKEN:

☐ Enforcement	☐ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

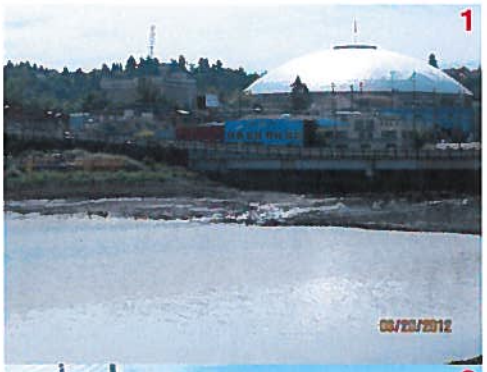
Narrative Comments: Mark Schuler reported that there was a turbid discharge coming from 237b. Paul Tollefson and Jason Yost joined the search moving uphill towards the Tacoma Dome area. After looking in several manholes along the way, no turbid water was located. Paul Tollefson drove a section of his area in hopes of finding an obvious source, however, none was found. Mark Schuler continued to look at manholes in the vicinity of Brown & Haley but found only clear water in the storm systems checked. After further searching, the source was determined to be from the D to M project. The automatic valve which directs water to either directly to the City's storm system or to MidMountain's treatment system stuck and allowed turbid water to flow directly to the City's storm system. When MidMountain was notified of the problem, and redirected the flows, the discharge out of outfall 237b cleared up noticably. 6/25/2012-pt- Warning letter to MidMountain in for finalizing. Letter states that it is illegal to discharge turbid wastewater to the City's storm drainage system.

FOLLOW UP ACTION(S):

☑ Owner Notified In Person	☐ Cleanup Required	☐ Transmission Notified
☑ Caller Notified 6/20/2012	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☑ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☐ Completed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06/20/2012

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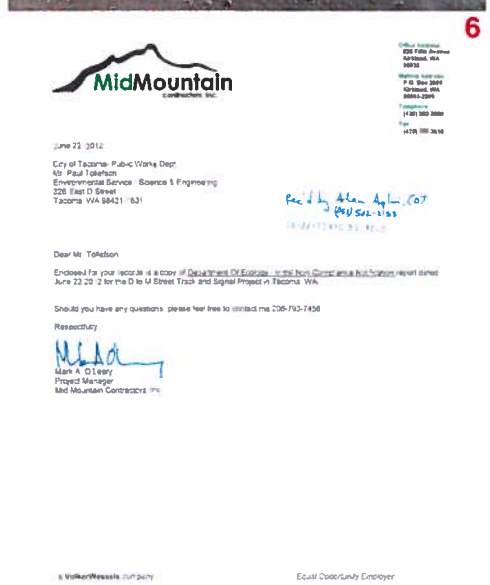
06/20/2012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MidMountain
Contractors Inc.
June 22, 2012
City of Tacoma- Public Works Dept
Mr. Paul Tollefson
Environmental Service - Science & Engineering
326 East D Street
Tacoma, WA 98421-1831
Dear Mr. Tollefson
Enclosed for your records is a copy of Department Of Ecology - Initial Non-Compliance Notification report dated June 22 20 2 for the D to M Street Track and Signal Project in Tacoma, WA.
Should you have any questions, please feel free to contact me 206-793-7456
Respectfully
Mark A. O'Leary
Project Manager
Mid Mountain Contractors Inc.
Equal Opportunity Employer

7

*Initial Non-Compliance Notification**

Washington State Department of Ecology:
Water Quality Program

Ecology Contact: Bob Pontvale/Jim Gregory Region: Southwest Region

Involved Party: ☐ Permit Violation ☐ Other Violation ☐ Anticipated Non-compliance ☐ Spill/Overflow ☐ Other ☒ Other Equipment malfunction

NPDES/State Waste Discharge #: WA0019.009 Facility: Kent County

Date of Non-compliance: 6/20/12 Location (Outfall, Treatment Unit, or Pump Station): Outfall

Description of non-compliance and cause(s): Discharge over 200 MILLS by Outfall (Main Plant). pH Permanent valve that monitors Turbidity and controls weather discharge is not through our treatment system or discharged to the storm drain was vandalized.

Has event ceased? ☒ Yes ☐ No If no, when? 6/20/12 Was event due to power upset? ☐ Yes ☒ No

NPDES/State Waste Discharge Permit limits violated? ☒ Yes ☐ No

Start date, time of event: 6/20/12 6 a.m. End date, time of event: 6/20/12 2 p.m.

Date, time of notification made to Ecology: 6/20/12 1 pm Ecology Official contacted: Bob Pontvale
(City of Kennewick)

Date, time notification made to Department of Health: 6/20/12 1pm Dept of Health Official contacted: Paul Tolstoy

Immediate corrective actions: Manually turned valve to treatment system. Replaced the broken valve. Repaired damaged area, fencing, and security fencing.

Preventive (long term) corrective actions: Implemented site security, alarm, motion detector cards.

Violator (Name): ..... Was prior Ecology notice/order received for this event? ☐ Yes ☒ No

Ecology Official contacted: ..... Date of Ecology approval .....

Describe event in "Description of noncompliance and cause" area. Detail the start and end dates and times also.

Facility Representative: Dave Melton Title: Super Intendent Date: 6/20/12

Phone #: (509) 378-4898 Fax #: (509) 380-3640

Name of Prompt Executive Officer or Authorized Agent: Signature of Prompt Executive Officer or Authorized Agent:

*Ecology may request a more detailed report.

ECY 070-41 Ecology is an equal opportunity employer. To receive this document in an alternate format, contact the Water Quality Program at (509) 329-3479 (voice) or 711 or 1-800-833-6388 (TTY).

City of Tacoma
Public Works Department

July 9, 2012

Mr. Mark O'Leary, Project Manager
Mid Mountain Contractors, Inc.
825 Fifth Avenue
Kirkland, WA 98033

Hand Delivered:
Received by Date 07.10.12

Subject: **Notice of Violation with Corrective Action Order**

Dear Mr. O'Leary:

On June 26, 2012, City of Tacoma Environmental Service's Compliance Support staff documented a surface water management code violation at the Sound Transit "D to M Streets Track and Signal Project", located near South Tacoma Way and Yakima Avenue. On June 26, 2012, untreated water associated with construction activity bypassed the treatment facility and entered the City's stormwater drainage system which in turn discharges to the Thea Foss Waterway, a federal Superfund cleanup site.

Notice of Violation – Illicit Discharge to Municipal Storm Drain

Enclosed you will find a Notice of Violation with Corrective Action Order describing Mid Mountain Contractors, Inc. failure to control the discharge of a pollutant from its location, near South Tacoma Way and Yakima Avenue, to the municipal sewer system which, in turn, discharged to the Thea Foss Waterway. This discharge was a violation of TMC 12.08.080.G, which states that, "Illicit discharges to the City storm drains are prohibited." The discharge was also a violation of the Special Approved Discharge permit the City issued to Mid Mountain for discharges to the stormwater system. The Notice of Violation requires that a detailed corrective action proposal be developed and submitted to Environmental Services within five (5) calendar days of receipt of this Notice.

Appeal Process

This Notice of Violation with Corrective Action Order represents a determination by the Director that a violation of Chapter 12.08 TMC has occurred, which is final unless you appeal this Notice of Violation to the City of Tacoma Hearing Examiner and request a hearing. If you decide to file an appeal, you must do so within thirty (30) days from your receipt of this Notice. (Pursuant to TMC 12.08.675.C, "Proof of service [receipt by you] shall be established by the date and signature of the addressee on the certified mail "return receipt" form, or upon the third day following the date upon which the notice of violation was placed in the mail, unless the third day falls on a Saturday, Sunday, or legal holiday, in which event service shall be deemed complete on the end of the next day which is neither Saturday, Sunday, or a legal holiday.") The procedures for filing an appeal are set forth in TMC 12.08.675 and TMC 12.08.678.

Appeals must be directed to:

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

Sincerely,

for

John O'Loughlin, P.E.
Division Manager Science and Engineering
City of Tacoma/Environmental Services

MLK:SM:KF:cfp
Enclosures: Notice of Violation with Corrective Action, Tacoma Municipal Code Chapter 12.08 Sections .080, .200, .675, and .678, Spills & Complaints 12-0540

cc: Michael Kennedy, City of Tacoma
George Hubbard, Sound Transit
Deborah Cornett, WDOE
Vincent McGowan, WDOE

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CITY OF TACOMA
Department of Public Works

IN THE MATTER OF	)	
NOTICE OF VIOLATION with	)	**No. 2012-003**
CORRECTIVE ACTION ORDER	)	

Mr. Mark O'Leary, Project Manager
Mid Mountain Contractors, Inc.
825 Fifth Avenue
Kirkland, WA 98033

I. Authority and Violations

In accordance with Tacoma Municipal Code (TMC) 12.08.675, and the requirements as stated in the Special Approved Discharge permit issued to Mid Mountain Contractors, Inc. (Mid Mountain), the City of Tacoma Public Works Department ("City") is issuing this Notice of Violation with Corrective Action Order to Mid Mountain Contractors, Inc at 825 Fifth Avenue, Kirkland, WA for;

- Unlawful illicit discharge of polluting matter into the City of Tacoma municipal storm sewer system: TMC 12.08.080.G.

II. Background

On June 26, 2012, City of Tacoma Environmental Compliance staff toured Sound Transit's "D to M Streets Track and Signal Project" near South Tacoma Way. The purpose of the visit was threefold:

- To deliver a Warning Letter to Mid Mountain to document Environmental Compliance's regulatory determination for a stormwater treatment bypass event that impacted the City stormwater system and Thea Foss Waterway on June 20, 2012.
- To learn and understand clearly how the automated treatment system works and to understand how the June 20, 2012 bypass of turbid water occurred.
- To gain confidence in Mid Mountain's operational controls to prevent future bypass of untreated water associated with construction activity.

The site tour involved checking surface water flow in the "D to M Streets" construction area and the Baker tanks that were used for containing the flow from the construction area. The conveyance system from the Baker tanks included an automated bypass valve system that directed water either to the Chitosan treatment system at Pond 2 if turbid, or directly to the City stormwater system, bypassing treatment, if clean. The bypass was operated by an automatic meter that measured Nephelometric Turbidity Units (NTU). If NTU was measured below 25 the water was directed to the bypass, if over 25 the water was directed to treatment.

While the group was observing the discharge point, the automated bypass valve triggered a discharge to the City's stormwater system. Environmental Compliance staff determined within minutes that the automated bypass valve system was malfunctioning and turbid water was again being directed into the City's stormwater. Vandalism of the automated bypass appeared to be the cause of the June 20, 2012 prohibited discharge. The event witnessed by Environmental Compliance on June 26, 2012, appeared to be caused by a valve being manually closed causing the NTU meter to give a false reading.

III. Notice of Violation with Corrective Action Order

A. For the unlawful illicit discharge of polluting matter into the City's stormwater system, which occurred on June 26, 2012, this Notice of Violation with Corrective Action Order for one violation of TMC 12.08.080.G is issued to Mid Mountain Contractors, Inc., in accordance with TMC 12.08.200 Enforcement Procedures.

B. Environmental Compliance requires that within five (5) calendar days of receipt of this Notice of Violation, Mid Mountain Contractors, Inc. submit a detailed written proposal for corrective actions that will immediately be taken to prevent additional discharge violations of Tacoma Municipal Code 12.08 and the City's Special Approved Discharge (SAD) permit issued to Mid Mountain Inc. The proposal will be considered for approval and after which will be incorporated into Mid Mountain's SWPPP and fully implemented in accordance with Mid Mountain's SAD permit requirements.

Submit the corrective action proposal to;

Environmental Services, attn. Shawn Madison
326 East D Street
Tacoma, WA 98421-1801

IV. Appeal Process

This Notice of Violation with Corrective Action Order represents a determination by the Director that a violation of Chapter 12.08 TMC has occurred, which is final unless you appeal this Notice of Violation to the City of Tacoma Hearing Examiner and request a hearing. If you decide to file an appeal, you must do so within thirty (30) days from the date of receipt of this Notice. (Pursuant to TMC 12.08.675.C, "Proof of service [receipt by you] shall be established by the date and signature of the addressee on the certified mail "return receipt" form, or upon the third day following the date upon which the notice of violation was placed in the mail, unless the third day falls on a Saturday, Sunday, or legal holiday, in which event service shall be deemed complete on the end of the next day which is neither Saturday, Sunday, or a legal holiday.") The procedures for filing an appeal are set forth in TMC 12.08.675 and TMC 12.08.678. Appeals must be directed to:

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

If you file an appeal, any hearing scheduled as a result of your appeal may be canceled if the Director finds that Mid Mountain Contractors, Inc. has complied with the actions required by this Notice of Violation.

By Order of the Director of Public Works:

Signed this 5 day of July, 2012, at Tacoma Washington

M. PSC

For Richard E. McKinley
Public Works Director

12-0540 Environmental Services Spill Response / Complaint Form

Recorder: LDUNN
Date: 6/26/2012
Anonymous ☐
Reported by: Larry Dunn
Address:
Home Phone: Larry Dunn
Work Phone: 377.5653
Best Call Time:

COMPLAINT

Material: Mud / Muddy Water
Source: Construction Site
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 6/26/2012
Activity: Unknown / Other
Quantity: 5-500 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Turbid Discharge-D-M Rail Project
Business: MidMountain Construction
Address:
Parcel No.:
Contact: Shaun Brayer
Phone: 206.779.9074
Comments: 6/26/2012 ld: Turbid water discharge discovered during site walk through with Sound Transit.

NOTIFICATIONS / ACTIONS

Investigator: Larry Dunn
☑ **Site Visit & Date:** 6/26/2012

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☑ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:

6/26/2012 ld: During a site walk through, water from the discharge pipe to COT 237B starting flowing. A check upstream of the baker tank system showed the automated valve was in the open (clean), 237B position. A check of the two baker tanks showed turbid surface water was being discharged to COT 237B.

I contacted George Hubbard (Sound Transit CESCL) and Shaun Brayer (MidMountain CESCL) to report the issue. Brian Rick (MidMountain sub-NW Soil Cement) arrived at the baker tanks and discover the turbidity metering system was not operational due to a closed isolation valve on the sample line. It is suspected that with the isolation valve (see pic) in the closed position the turbid material in the sample line settled out allowing the meter to read lower and lower Nephlemetric Trubidity Units which when fell below 25 NTU, caused the diversion valve to open to the clean (OF 237B) position. When the isolation valve was opened, the readout on the in-line turbidity meter increased quickly eventually reaching 89.6 NTU. The diversion valve on the discharge to COT 237B immediately closed and directed the flow to Pond 2 for treatment via the Chitosan treatment system.

A sample had been collected from the second or downstream baker tank and the turbidity measured 106 NTUs (Chris Ott tested on Source Control meter).

FOLLOW UP ACTION(S):

☐ Owner Notified	☐ Cleanup Required	☐ Transmission Notified
☑ Caller Notified 6/26/2012	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ **SSO**

Approved By:
Date:

☑ **Completed**

1

Photo Log:
1. GovMe map
2. Second or downstream baker tank
3. Second and first baker tanks
4. First or upstream baker tank
5. Control valve for 237B or Pond 2 discharge
6. Closed water line valve for turbidity/PH metering equipment
7. Turbidity/PH metering equipment
8. Open water line valve for turbidity/PH metering equipment
9. 237B outfall at head of Thea Foss waterway-No clouded water

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Table A.4-1
2012 Pipe Maintenance Activities for OF237A

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
08/27/2012	STORM BC 1 SEG YEARLY YAKIMA 37-38TH ST	Velocity		237A	FS_01	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Velocity	CONSTRUCTION	237A	FS_01	
06/27/2012	2900 CENTER ST - CLEAN FOR TV	Velocity	CREW	237A	FS_01	
05/23/2012	2515 S. SHERIDAN AVE E & R RETRIEVE CAM	Repair Main	CREW	237A	FS_01	
08/27/2012	STORM BC 1 SEG YEARLY 68-70TH PAC AVE	Velocity		237A	FS_02	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Velocity	CONSTRUCTION	237A	FS_02	
08/13/2012	3314 S 35TH ST	STRAP TV Storm SEG 6251627		237A	FS_02	
08/13/2012	3301 S LAWRENCE ST	STRAP TV Storm SEG 6251775		237A	FS_02	
04/26/2012	5200 PACIFIC AV	STRAP TV Storm SEG 6251934		237A	FS_02	
07/26/2012		STRAP TV Storm SEG 6251972		237A	FS_02	
06/04/2012	2801 S CUSHMAN AV	STRAP TV Storm SEG 6251979		237A	FS_02	
07/26/2012		STRAP TV Storm SEG 6251983		237A	FS_02	
08/13/2012	3101 S LAWRENCE ST	STRAP TV Storm SEG 6252566		237A	FS_02	
04/26/2012	5300 S PARK AV	STRAP TV Storm SEG 6252752		237A	FS_02	
10/23/2012		STRAP TV Storm SEG 6252836		237A	FS_02	
06/04/2012	3522 S CUSHMAN AV	STRAP TV Storm SEG 6253022		237A	FS_02	
04/26/2012	6400 PACIFIC AV	STRAP TV Storm SEG 6253306		237A	FS_02	
04/26/2012	5600 S PARK AV	STRAP TV Storm SEG 6253334		237A	FS_02	
06/04/2012	2102 S SHERIDAN AV	STRAP TV Storm SEG 6253547		237A	FS_02	
04/26/2012	5421 PACIFIC AV	STRAP TV Storm SEG 6253757		237A	FS_02	
04/23/2012	5500 E D ST	STRAP TV Storm SEG 6253784		237A	FS_02	
04/18/2012	5600 S D ST	STRAP TV Storm SEG 6253823		237A	FS_02	
04/23/2012	512 E 56TH ST	STRAP TV Storm SEG 6253844		237A	FS_02	
04/26/2012	5302 PACIFIC AV	STRAP TV Storm SEG 6253883		237A	FS_02	
07/25/2012	2143 S 35TH ST	STRAP TV Storm SEG 6253955		237A	FS_02	
04/26/2012	5605 PACIFIC AV	STRAP TV Storm SEG 6253959		237A	FS_02	
07/26/2012	2111 S 35TH ST	STRAP TV Storm SEG 6253966		237A	FS_02	
04/23/2012	800 E 56TH ST	STRAP TV Storm SEG 6253984		237A	FS_02	
04/18/2012	5800 S D ST	STRAP TV Storm SEG 6254022		237A	FS_02	
04/18/2012	6000 S D ST	STRAP TV Storm SEG 6254068		237A	FS_02	
04/23/2012	6100 E D ST	STRAP TV Storm SEG 6254100		237A	FS_02	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Velocity	CONSTRUCTION	237A	FS_03	
05/04/2012	1102 COMMERCE- STORM MAIN PLUGGED	Velocity	CUSTOMER	237A	FS_03	
12/19/2012	3816 SO. UNION--STORM M/H UP	Velocity	CREW	237A	FS_03	
01/12/2012	3309 N GOVE - TVI	Velocity	CREW	237A	FS_03	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	Repair Main	CREW	237A	FS_03	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Velocity		237A	FS_03	
07/16/2012	STORM BC 2 SEG YEARLY 17-19TH SHERIDAN	Backcut		237A	FS_03	
08/08/2012	STORM BC 2 SEG YEARLY 17-19TH SHERIDAN	Backcut		237A	FS_03	

Table A.4-1
2012 Pipe Maintenance Activities for OF237A

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
09/17/2012	BC 1 SEG YEARLY, 1214 YAKIMA AVE	Backcut		237A	FS_03	
10/08/2012	STORM BC 2 SEG YEARLY 21-23RD MLK	Backcut		237A	FS_03	
05/31/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Backcut		237A	FS_03	
04/16/2012	6100 MCKINLEY AV	STRAP TV Storm SEG 6254112		237A	FS_03	
08/13/2012	4100 S PARK AV	STRAP TV Storm SEG 6254232		237A	FS_03	
09/18/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Backcut		237A	FS_04	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Backcut		237A	FS_04	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Backcut		237A	FS_04	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Backcut		237A	FS_04	
06/04/2012	BC 7 STORMS 1 YR, BLUEBERY FIELDS	Backcut		237A	FS_04	
09/18/2012	BC 2 Seg 1 Yr. S. 36th and Thompson	Backcut		237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	Clean	CONSTRUCTION	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
06/04/2012	S 17th & MLK/ S 16th & J TV SOIL NAILS	Clean	CONSTUCTION	237A	FS_04	
06/04/2012	S 17th & MLK/ S 16th & J TV SOIL NAILS	Clean	CONSTUCTION	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
01/25/2012	SINKHOLE S 23RD; ASH-HOSMER - CLN FOR TV	Clean	STREETS	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Clean	ES ENGINER	237A	FS_04	
04/18/2012	6100 S D ST	STRAP TV Storm SEG 6254259		237A	FS_04	
04/26/2012	6126 PACIFIC AV	STRAP TV Storm SEG 6254270		237A	FS_04	
07/23/2012	403 E 84TH ST	STRAP TV Storm SEG 6254334		237A	FS_04	
07/23/2012	309 E 84TH ST	STRAP TV Storm SEG 6254345		237A	FS_04	
07/23/2012	215 E 84TH ST	STRAP TV Storm SEG 6254355		237A	FS_04	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	ESA list w/BMP	CONSTRUCTION	237A	FS_07	
06/04/2012	S 17th & MLK/ S 16th & J TV SOIL NAILS	ESA list w/BMP	CONSTUCTION	237A	FS_07	
06/04/2012	S 17th & MLK/ S 16th & J TV SOIL NAILS	ESA list w/BMP	CONSTUCTION	237A	FS_07	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	ESA list w/BMP	CONSTRUCTION	237A	FS_07	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	ESA list w/BMP	CONSTRUCTION	237A	FS_07	
01/25/2012	SINKHOLE S 23RD; ASH-HOSMER - CLN FOR TV	ESA list w/BMP	STREETS	237A	FS_07	
05/23/2012	15TH & FAWCETT - TV FOR CONNETIONS	ESA list w/BMP	ES ENGINEER	237A	FS_07	
05/04/2012	1102 COMMERCE- STORM MAIN PLUGGED	ESA list w/BMP	CUSTOMER	237A	FS_07	
05/14/2012	1006 E HARRISON - TV	ESA list w/BMP	STANDBY LEAD	237A	FS_07	
07/16/2012	STORM BC 2 SEG YEARLY 17-19TH SHERIDAN	Flush		237A	FS_07	
08/08/2012	STORM BC 2 SEG YEARLY 17-19TH SHERIDAN	Flush		237A	FS_07	

Table A.4-1
2012 Pipe Maintenance Activities for OF237A

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
09/17/2012	BC 1 SEG YEARLY, 1214 YAKIMA AVE	Flush		237A	FS_07	
10/08/2012	STORM BC 2 SEG YEARLY 21-23RD MLK	Flush		237A	FS_07	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	ESA list w/BMP	CREW	237A	FS_08	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	ESA list w/BMP	CREW	237A	FS_08	
05/07/2012	4841 PACIFIC AVE SEWER TO STORM REDIRECT	ESA list w/BMP	CREW	237A	FS_08	
07/23/2012	301 E 84TH ST	STRAP TV Storm SEG 6254377		237A	FS_08	
07/23/2012	207 E 84TH ST	STRAP TV Storm SEG 6254388		237A	FS_08	
04/23/2012	618 E 56TH ST	STRAP TV Storm SEG 6254411		237A	FS_08	
07/02/2012	700 E 72ND ST	STRAP TV Storm SEG 6254499		237A	FS_08	
06/04/2012	6500 E D ST	STRAP TV Storm SEG 6254510		237A	FS_08	
04/18/2012	5710 E I ST	STRAP TV Storm SEG 6254709		237A	FS_08	
04/26/2012	6100 PACIFIC AV	STRAP TV Storm SEG 6254717		237A	FS_08	
04/26/2012	5700 PACIFIC AV	STRAP TV Storm SEG 6254725		237A	FS_08	
04/18/2012	5700 E I ST	STRAP TV Storm SEG 6254883		237A	FS_08	
06/07/2012	S 17th & MLK/ S 16th & J CLN & TV	ESA list w/BMP		237A	FS_09	
01/04/2012	23RD & ASH - PLUGGED CATCH BASINS	ESA list, w/o BMP	CUSTOMER	237A	FS_09	
04/03/2012	2915 SO ALDER - WATER OVERFLOWING	ESA list, w/o BMP	CUSTOMER	237A	FS_09	
01/04/2012	CENTER & ALASKA - WATER OVER ROADWAY	ESA list, w/o BMP	CUSTOMER	237A	FS_09	
12/18/2012	2404 CENTER ST- CB PLUGGED	ESA list, w/o BMP	CUSTOMER	237A	FS_09	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237A	FS_09	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237A	FS_09	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237A	FS_09	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237A	FS_09	
06/04/2012	S 17th & MLK/ S 16th & J TV SOIL NAILS	Debris Removed	CONSTUCTION	237A	FS_09	2 YDS.
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237A	FS_09	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237A	FS_09	
04/18/2012	5700 S D ST	STRAP TV Storm SEG 6254894		237A	FS_09	
04/18/2012	900 E 56TH ST	STRAP TV Storm SEG 6254945		237A	FS_09	
04/18/2012	5810 E I ST	STRAP TV Storm SEG 6255045		237A	FS_09	
04/18/2012	5900 E I ST	STRAP TV Storm SEG 6255056		237A	FS_09	
05/11/2012	8203 E B ST	STRAP TV Storm SEG 6255531		237A	FS_09	
06/04/2012	1600 S 36TH ST	STRAP TV Storm SEG 6255669		237A	FS_09	
06/04/2012	3700 S AINSWORTH AV	STRAP TV Storm SEG 6255709		237A	FS_09	
06/04/2012	3617 S AINSWORTH AV	STRAP TV Storm SEG 6255720		237A	FS_09	
05/31/2012	1900 S 23RD ST	STRAP TV Storm SEG 6256404		237A	FS_09	
04/26/2012	5200 S PARK AV	STRAP TV Storm SEG 6256929		237A	FS_09	
05/31/2012	4600 PACIFIC AV	STRAP TV Storm SEG 6256944		237A	FS_09	
04/18/2012	5300 S D ST	STRAP TV Storm SEG 6256972		237A	FS_09	
04/23/2012	5200 E D ST	STRAP TV Storm SEG 6257392		237A	FS_09	
06/28/2012	7200 E D ST	STRAP TV Storm SEG 6257478		237A	FS_09	
07/25/2012	2431 S 35TH ST	STRAP TV Storm SEG 6257487		237A	FS_09	

Table A.4-1
2012 Pipe Maintenance Activities for OF237A

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
06/04/2012	6800 E D ST	STRAP TV Storm SEG 6257491		237A	FS_09	
08/13/2012	2118 S SPRAGUE AV	STRAP TV Storm SEG 6257573		237A	FS_09	
05/31/2012	6400 E D ST	STRAP TV Storm SEG 6257691		237A	FS_09	
06/04/2012	3600 PACIFIC AV	STRAP TV Storm SEG 6257746		237A	FS_09	
06/04/2012	3628 PACIFIC AV	STRAP TV Storm SEG 6257858		237A	FS_09	
05/31/2012	4800 PACIFIC AV	STRAP TV Storm SEG 6258340		237A	FS_09	
04/18/2012	6200 E I ST	STRAP TV Storm SEG 6259673		237A	FS_09	
04/23/2012	618 E 56TH ST	STRAP TV Storm SEG 6259862		237A	FS_09	
07/25/2012	2601 S 35TH ST	STRAP TV Storm SEG 6259866		237A	FS_09	
04/18/2012	6010 E I ST	STRAP TV Storm SEG 6259878		237A	FS_09	
07/25/2012	2601 S 35TH ST	STRAP TV Storm SEG 6259882		237A	FS_09	

ATTACHMENT A.5 - OF237B

Memorandum

To: Mary Henley and Al Aplin

CC: Mike Kennedy and Lorna Mauren

From: Laura Nokes

Date: 03/28/2013

Subject: OF237B Source Tracing –PCB investigation in FD35

INTRODUCTION

The City of Tacoma's Environmental Compliance (EC) group is tasked with source tracing contaminants of concern identified through annual sediment trap monitoring in the Thea Foss Waterway. Based on sediment monitoring in OF237B, a specific section of this basin was identified as having ongoing issues with PCB sediment contamination.

In 2005, 2007 and again in 2010, PCBs were found in medium to high concentrations during sediment trap monitoring in FD35, a specific section in the OF237B drainage basin (Excerpt from the Foss Report – Figure 2-1d). During 2011, City of Tacoma (City) staff attempted to identify a source of PCB contamination, but were unsuccessful due to lack of available sediment in the collection system. Additionally, during the summer of 2011, the City completed basin-wide stormline cleaning of the OF237B drainage basin. The objective of the stormline cleaning program was to remove residual sediment in the storm drains that may contain legacy contamination that could continue to contaminate stormwater and/or baseflow. While the stormline cleaning has been successful in removing legacy contaminates in the collection system, 2012 sediment monitoring results suggest a continued and active source of PCB contamination in the FD35 drainage area (2012 Source Control and Water Year 2012 Report). Sampling in this drainage area was conducted during October 2012 to identify possible sources of this ongoing contamination.

PCBs were manufactured in the U.S. and used widely in electrical equipment (transformers, capacitors, switches, and electrical cable), paint, caulking and sealant, de-dusting agents, hydraulic lubricants, sealants, pesticides, pumps, gaskets and siding until the 1970s. A ban of PCBs occurred in 1977, but they are still being found in equipment made prior to that time.

PROJECT DESCRIPTION

The goal of this sampling project was to identify a possible source of PCBs in FD35 (OF237B drainage basin). As discovered in past investigations, there is no collectable amount of sediment in the main lines of the collection system. As such, a nodal sampling approach was used to target the drainage area of FD35 by collecting sediment from individual catch basins rather than the main collection system. Samples from the catch basins were combined into

larger composite samples (sub-samples) representing specific segments in the drainage area (Figure 1). Breaking the drainage area into segments identified specific problem areas and covered the majority of the drainage area represented by the FD35 sediment trap.

LOCATION - FD35

The sediment trap at FD35 represents a small portion of residential/commercial area along McKinley Avenue to East K from East 53rd to East 64th (Figure 1 and Table 1). While the majority of this collection system represents residential inputs, there are a few commercial businesses along McKinley Avenue and a small section of drainage entering the collection system from Tacoma Rail property. Past investigations identified a transformer near the railroad crossing equipment adjacent to the sampling point that will be a focus of this investigation.

SAMPLING PLAN

FD35 is a relatively small drainage area in the OF237B drainage basin. The sampling team identified 31 sub-samples to be collected for analysis. Sub-samples represent drainage from all major manholes and are a volume-based composite of all available catch basins draining to the targeted area.

Samples were collected from each catch basin in the contributing area using a stainless steel spoon and placed in a clean stainless steel bowl for mixing. After mixing, 250ml of this composite sample was collected in a glass jar for analysis. After sample collection, each sample was submitted to the Environmental Services Laboratory under standard chain of custody procedures to be analyzed for PCBS using standard laboratory procedures for the Thea Foss Sampling Project.

The catch basins in FD35 were sampled on October 25 and November 2, 2012.

RESULTS AND DISCUSSION

Complete results from this sampling event can be found in Table 2 and Appendix A and are discussed in detail below. Based on the results of the sub-samples, several catch basins were identified as needing further testing for PCBs.

While 31 sample locations were targeted, only 24 samples were collected due to lack of sediment and/or combining 2 sub-samples together for analysis (Table 1). Of the 24 composite samples, 6 exhibited PCB concentrations ranging from 64 -10,000 µg/kg.

Two samples in segment B exhibited low to moderate levels of PCB concentrations in comparison to concentrations exhibited during this sampling project. This is a residential area located near East 56th and McKinley Avenue. Sample FD35-B-B5 (440 µg/kg) was collected from two catch basins located on East 57th Street where it dead ends at the railroad tracks. Sample FD35-B-6 (64 µg/kg) was collected from three catch basins one block away on East 57th Street.

PCB concentrations were found in all sub-samples collected in Segment “G”. The sample collected on East 62nd Street (FD35-G-G2) exhibited the highest concentration of PCBs at 10,000 µg/kg, indicating this block as a possible hotspot. The samples collected on East 61st

Street (FD35-G-G1) and on East I Street exhibited medium to high levels, 5,100 µg/kg and 370 µg/kg respectively, in comparison to levels found during this project (Table 2).

As stated earlier, the OF237B drainage basin was cleaned in 2011. Prior to this cleaning PCB concentrations varied year to year. During 2005 and again in 2010, high concentrations of PCBs were detected. In 2011, concentrations of PCBs were not detected, however, the 2012 monitoring results exhibited higher concentrations once again of 850 µg/kg. This indicates an ongoing source of PCBs in this area.

SUMMARY

During 2012, City staff was able to identify specific drainage areas in FD35 to focus continued source tracing investigations for PCB contamination. Additionally, as these samples represent sediment collected from multiple catch basins, results indicate that this drainage area has ongoing sources of contamination entering the collection system from surface water runoff. While significant headway was made in 2012 in identifying a possible source for PCBs, further investigations will continue into 2013.

2013 ACTION PLAN

Beginning in March 2013, EC will begin additional investigations in the OF237B drainage basin to identify a source of PCB contamination. The following plan identifies the targeted plan for accomplishing this goal.

ADDITIONAL SAMPLING

Staff will sample individual catch basins from the composite samples in Segment G in March-April 2013. During the sampling event, the following information will be recorded for each catch basin:

- Associated land use,
- Drainage details,
- Sediment quality, and
- Sediment quantity.

SOURCE CONTROL INVESTIGATIONS

Based on the results of additional catch basin sampling, specific drainage areas in Segment G will be targeted for investigation. Additionally, the drainage areas representing samples FD35-B-B5 and FD35-B-B6 will be included in this investigation. This investigation will include reviewing the following information:

- Permit history for recent and historic construction activities,
- Land use activities,
- Catch basin drainage plans,
- Historic land use maps, and
- Historical spills and complaints in targeted areas.

After investigation is completed, the impacted drainage areas will be cleaned. During the initial sampling event, the majority of the catch basin sumps in this area were > 50% impacted or full of debris.

Please let me know if you have any questions or concerns.

Laura Nokes

Laura Nokes
Environmental Specialist
253-502-2274

Enclosures:

Excerpt from 2012 Source Control and Water Year 2012 Report, Figure 2-1d

Figure 1 Sediment Sample Site FD35

Table 1 FD35 Source Tracing Sampling Locations
Table 2 OF237B Source Tracing – FD35 PCB Sampling Results

Appendix A Foss OF237B Source Tracing Lab Report

ENCLOSURES

City of Tacoma

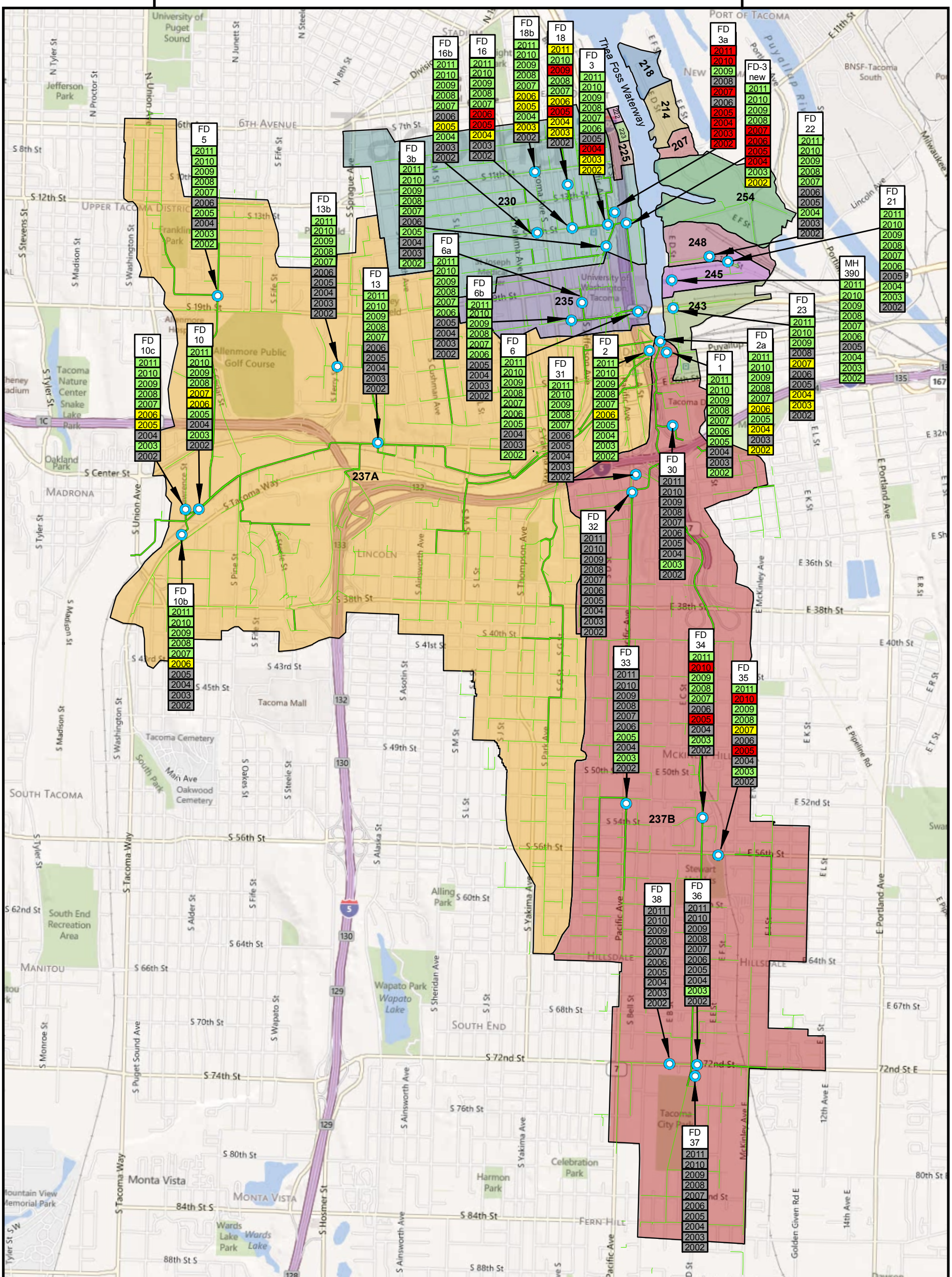
Excerpt from 2012 Source Control and Water Year 2012 Report

PCBs Figure 2-1d

Thea Foss Waterway - Sediment Trap Data Results

Map Date: March 2012
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588



Legend

- SAMPLE SITE LOCATIONS
- STORMWATER LINES
- TRUNK LINES 24" AND LARGER

N

0 500 1,000 2,000 Feet

Symbol Level Key

- NO ANALYSIS DUE TO SAMPLE SIZE
- SMALL LEVELS - < 120 ug/Kg
- MEDIUM LEVELS - 120 _ 400 ug/Kg
- LARGE LEVELS - > 400 ug/Kg

Tacoma

G:\gps_datarequest\Ddeleon\NPDES_2012\PCBs.mxd - Van Pelt

FIGURES

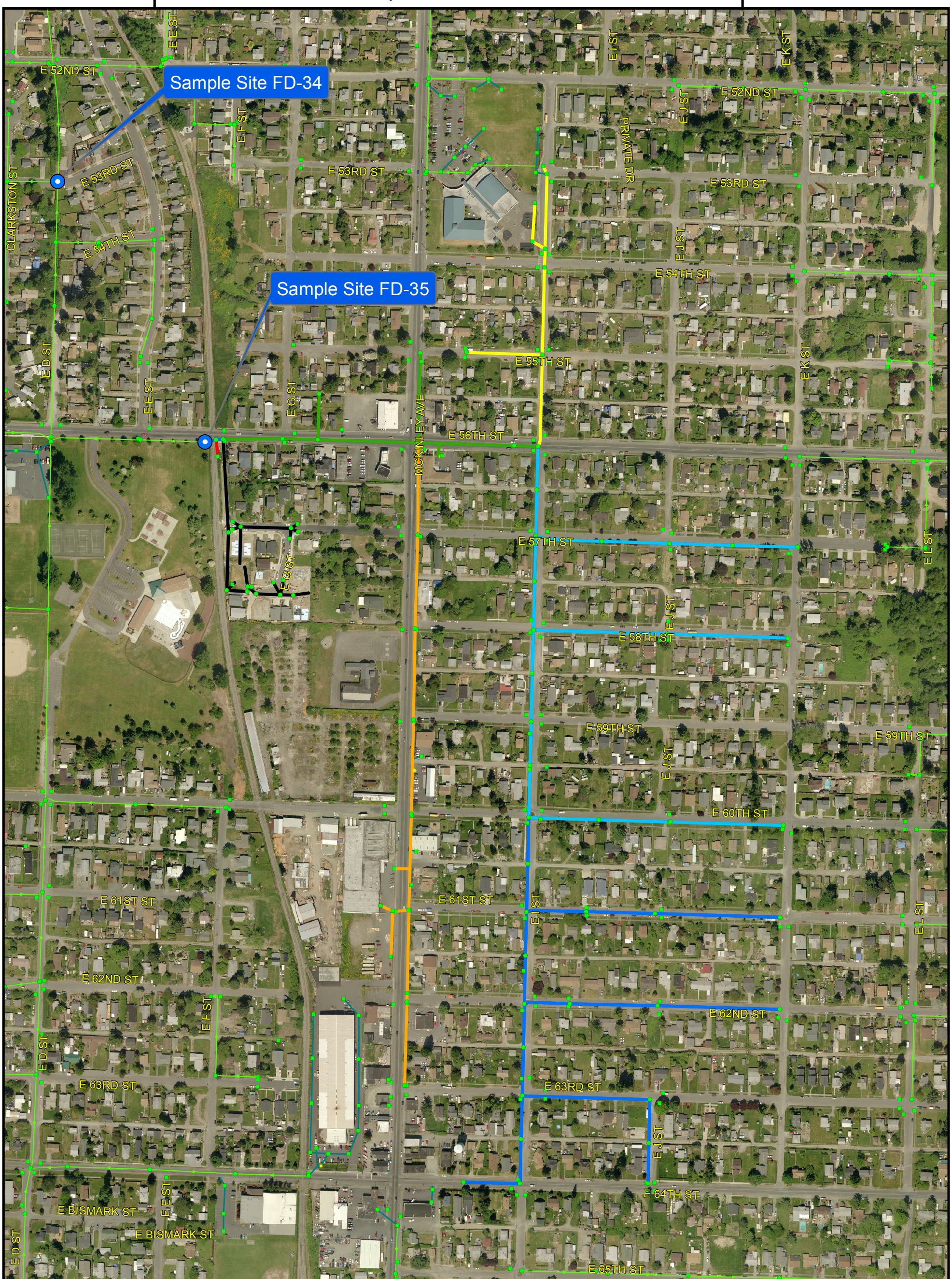
City of Tacoma

Figure 1
Sediment Sample Site FD35

Upstream Trace

Map Date: October, 2012
Source: Environmental Services Division, Public Works Department City of Tacoma

Environmental Services/ Science & Engineering
326 East D Street , Tacoma WA 98421
(253) 591- 5588



N

0 100 200 400 Feet

Legend

- Sample Locations
- Storm Lines
- Storm MH
- Storm CB

Upstream Segments:

- A
- B
- C
- D
- E
- F
- G

C:\MAX\FD-34 and 35\FD_35.mxd - Mousseau

TABLES

Table 1
FD35 Source Tracing Sampling Locations

Segment	Map ID	Sample ID	SAP ID	Type	Location	Date	Time	Field Notes
A	A1	FD35-A-A1	6765840	Sub-sample	Railroad and ajoining swale	10/25/2012	9:06	Rocky Minimal Sediment
	A2	FD35-A-A1	N/A	Sub-sample	Sampled around the transformer and drainage area	10/25/2012	9:03	
B	B1	FD35-B-B1	6775778	Sub-sample	East 56th	10/25/2012	10:16	
	B2	FD35-B-B2	6775779	Sub-sample	East 57th and railroad; combined 6775783 and 6775784	N/A	N/A	Could not locate
	B3	FD35-B-B3	6775785	Sub-sample	Combined 6775786 and 1 catch basin	N/A	N/A	Combined with B4
	B4	FD35-B-B4	6775787	Sub-sample	Combined 6775788, 6282205 and 2 catch basins	10/25/2012	10:04	
	B5	FD35-B-B5	6775780	Sub-sample	manhole and 2 catch basins	10/25/2012	9:32	Oil Sheen/Odor
	B6	FD35-B-B6	6775781	Sub-sample	manhole and 3 catch basins	10/25/2012	9:46	
C	C1	FD35-B-C1	6765569	Sub-sample	East 56th & G; and 6765034, 2 catch basins	10/25/2012	10:33	
	C2	FD35-B-C2	6766267	Sub-sample	East 56th and Mckinley - 2 catch basins, include 4 private cbs	10/25/2012	10:55	parking lot/oil sheen
	C3	FD35-B-C3	6766259	Sub-sample	East 55th and Mckinley - 3 catch basins	10/25/2012	11:10	leaves
	C4	FD35-B-C4	6765927	Sub-sample	East 56th and East I street, 4 cbs, includes 6765919 (upstream MH)	10/25/2012	11:25	
D	D1	FD35-D-D1	6766171	Sub-sample	East 53rd and Ditch? 3 catch basins	N/A	N/A	Combined with D3
	D2	FD35-D-D2	6766181	Sub-sample	East 54th North side; include possible swale on school prop.	N/A	N/A	Combined with D3
	D3	FD35-D-D3	6765894	Sub-sample	South side East 54th - 2 catch basins	11/2/2012	9:29	
	D4	FD35-D-D4	6765910	Sub-sample	East 55th - include side street and 6765901	11/2/2012	9:13	
E	E1	FD35-E-E1	6766276	Sub-sample	East 57th and Mckinley (3 catchbasins)	11/2/2012	9:46	
	E2	FD35-E-E2	6766296	Sub-sample	East 59th and Mckinley; includes upstream MH 6766287 (4 cbs)	11/2/2012	9:57	
	E3	FD35-E-E3	6766306	Sub-sample	East 60th (3 cbs), includes 2 private cbs	11/2/2012	10:12	
	E4	FD35-E-E4	6766314	Sub-sample	East 61st - 2cbs; includes 3 private cbs tying into mainline.	11/2/2012	10:28	
	E5	FD35-E-E5	6766323	Sub-sample	East 62nd - 3cbs	N/A	N/A	Combined with E6
	E6	FD35-E-E6	6766332	Sub-sample	East 63rd - 6 structures, some private - see close up map	11/2/2012	10:45	
F	F1	FD35-F-F1	6765937	Sub-sample	East I and East 57th, 8 catch basins	11/2/2012	12:05	
	F2	FD35-F-F2	6765964	Sub-sample	East I and East 58th, 8 catch basins	11/2/2012	12:23	
	F3	FD35-F-F3	6765982	Sub-sample	East I and East 59th, 6 catch basin; including MH 6765991	11/2/2012	12:34	
	F4	FD35-F-F4	6766000	Sub-sample	East I and East 60th, 8 catch basins	N/A	N/A	Combined with F3
G	G1	FD35-G-G1	6766017	Sub-sample	East I and East 61st, 8 catch basins	11/2/2012	12:59	
	G2	FD35-G-G2	6766065	Sub-sample	East I and East 62nd, 10 catch basins	11/2/2012	13:06	
	G3	FD35-G-G3	6766109	Sub-sample	East I and 63rd, 8 catch basins	11/2/2012	13:37	
	G4	FD35-G-G4	6766100	Sub-sample	East I street to East 64th, 7 catch basins	11/2/2012	13:19	

Table 1
OF237B Source Tracing - FD35 PCB Sampling Results

Sample ID	FD35-A-A1	FD35-A-A2	FD35-B-B1	FD35-B-B4	FD35-B-B5	FD35-B-B6	FD35-C-C1	FD35-C-C2	FD35-C-C3	FD35-C-C4	FD35-D-D3	FD35-D-D4	FD35-E-E1	FD35-E-E2	FD35-E-E3	FD35-E-E4	FD35-E-E6	FD35-F-F1	FD35-F-F2	FD35-F-F3	FD35-G-G1	FD35-G-G2	FD35-G-G3	FD35-G-G4
Date Collected	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012	11/2/2012
Conventionals																								
Total Solids (%)	74.5	78.6	69.8	58.4	72.1	38.7	73.8	65.0	35.6	68.5	50.1	54.4	31.6	49.2	59.7	66.3	50.1	54.6	36.2	35.1	31.8	32.5	58.1	69.3
PCBs in ug/kg																								
Aroclor-1016	9 U	10 U	10 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	11 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U
Aroclor-1221	9 U	10 U	10 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	11 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U
Aroclor-1232	9 U	10 U	10 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	11 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U
Aroclor-1242	9 U	10 U	10 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	11 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U
Aroclor-1248	8 U	9 U	8 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	10 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U
Aroclor-1254	8 U	9 U	67	9 U	**440**	**68**	9 U	9 U	9 U	9 U	10 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U
Aroclor-1260	8 U	9 U	8 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	10 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	9 U	**5100**	**10000**	**19** J	**370**
Total PCBs	0	0	0	0	**440**	**68**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**5100**	**10000**	**19**	**370**

APPENDIX A – FOSS OF237B SOURCE TRACING LAB REPORT

City of Tacoma
Environmental Services Laboratory

16 January 2013

Mary Henley
PW Science and Engineering
326 East D Street
Tacoma, WA 98421

Subject: Foss OF237B Source Tracing

Enclosed are the analytical results for samples collected between 10/24/2012 and 11/02/2012.

Quality Control Data are included with the sample results for your review.

If you have any questions concerning this report, call me at (253)502-2130. Please note that remaining samples associated with this report will be discarded 3 months from the date of this report unless we are notified otherwise.

Sincerely,

Stuart Magoon
Assistant Division Manager
Environmental Services Laboratory

cc. Alan Aplin

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	17-Jan-13 14:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled
FD35-A-A1	T210137-01	Soil	25-Oct-12 09:06
FD35-B-B1	T210137-02	Soil	25-Oct-12 10:16
FD35-A-A2	T210137-03	Soil	25-Oct-12 09:03
FD35-B-B4	T210137-05	Soil	24-Oct-12 10:04
FD35-B-B5	T210137-06	Soil	25-Oct-12 09:32
FD35-B-B6	T210137-07	Soil	25-Oct-12 09:46
FD35-B-C1	T210137-08	Soil	25-Oct-12 10:33
FD35-C-C2	T210137-09	Soil	25-Oct-12 10:55
FD35-C-C3	T210137-10	Soil	25-Oct-12 11:10
FD35-C-C4	T210137-11	Soil	25-Oct-12 11:25
FD35-D-D3	T210137-14	Soil	02-Nov-12 09:29
FD35-D-D4	T210137-15	Soil	02-Nov-12 09:13
FD35-E-E1	T210137-16	Soil	02-Nov-12 09:46
FD35-E-E2	T210137-17	Soil	02-Nov-12 09:57
FD35-E-E3	T210137-18	Soil	02-Nov-12 10:12
FD35-E-E4	T210137-19	Soil	02-Nov-12 10:28
FD35-E-E6	T210137-21	Soil	02-Nov-12 10:45
FD35-F-F1	T210137-22	Soil	02-Nov-12 12:05
FD35-F-F2	T210137-23	Soil	02-Nov-12 12:23
FD35-F-F3	T210137-24	Soil	02-Nov-12 12:34
FD35-G-G1	T210137-26	Soil	02-Nov-12 12:49
FD35-G-G2	T210137-27	Soil	02-Nov-12 13:06
FD35-G-G3	T210137-28	Soil	02-Nov-12 13:37
FD35-G-G4	T210137-29	Soil	02-Nov-12 13:19

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Reviewed By

CHAIN OF CUSTODY

The samples were received under appropriate Chain of Custody procedures.

SAMPLE RECEIPT, PRESERVATION AND STORAGE

Samples were properly preserved and stored in accordance with the applicable method requirements.

HOLDING TIMES

All analyses were performed within the required holding times.

METHODS

The samples were analyzed by the following methods:

Standard Methods 2540 for Total Solids
EPA Method 8270 for Semi-Volatile Organics (PCB)

METHOD DETECTION LIMITS

All analytes are reported to the Method Detection Limit (MDL). Values below the Practical Quantitation Limits (PQL) are qualified as estimated (J) and may not be as precise as values reported greater than the PQL (the low standard or 3 - 5 times the MDL).

BLANKS

Blanks were analyzed at the required frequencies of the methods. There was a minimum of one Method Blank for each analytical method. Blank values were less than the PQL, sample concentrations were greater than 10 times the blank values, or the analytes were not detected in the sample.

SURROGATES

Surrogate compounds were added to the samples to monitor system performance. Surrogate recoveries were within the project control limits.

LABORATORY CONTROL SAMPLES

Laboratory Control Samples were analyzed with these samples for all parameters. The recoveries for all associated LCS were within the project limits.

DUPLICATE SAMPLE ANALYSIS

Duplicate analysis was performed with this sample. Relative percent differences were within the project limits.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE ANALYSIS

Matrix Spike and/or Matrix Spike Duplicate analysis was performed with this sample. The recoveries were within the project limits.

INTERNAL STANDARDS

Internal Standards were added to this sample for quantitation purposes. The Area counts of these standards must not vary more than a factor of two from the mid-point standard of the calibration curve according to the method. The retention times must not vary by more than 30 seconds. No compounds varied by more than 30 seconds retention time. The internal standard criteria were met for these samples.

DATA AVAILABILITY

All data associated with the samples contained in this report are archived at the Environmental Services Laboratory and are available upon request.

PW Science and Engineering	Project: Foss OF237B Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-A-A1
T210137-01 (Soil)
25-Oct-12 09:06

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**74.5**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	9 U	34	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	9 U	34	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	9 U	34	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	9 U	34	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	8 U	34	8	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	8 U	34	8	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	8 U	34	8	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*75.8 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*96.0 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF237B Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-B-B1
T210137-02 (Soil)
25-Oct-12 09:03

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**69.8**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	35	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	35	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	35	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	35	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	8 U	35	8	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	**67**	35	8	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	8 U	35	8	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*88.8 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*101 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-A-A2
T210137-03 (Soil)
25-Oct-12 10:16

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**78.6**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*74.9 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*94.6 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-B-B4
T210137-05 (Soil)
24-Oct-12 00:00

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**58.4**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*90.2 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*113 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

FD35-B-B5

T210137-06 (Soil)

25-Oct-12 10:04

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**72.1**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	**440**	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*91.2 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*97.9 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-B-B6
T210137-07 (Soil)
25-Oct-12 09:32

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**38.7**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	40	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	11 U	40	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	11 U	40	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	11 U	40	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	40	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	**68**	40	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	40	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*85.9 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*91.7 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF237B Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-B-C1
T210137-08 (Soil)
25-Oct-12 09:46

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**73.8**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	37	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	9 U	37	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	37	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.4 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*108 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF237B Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-C-C2
T210137-09 (Soil)
25-Oct-12 10:33

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**65.0**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	39	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	11 U	39	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	11 U	39	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	11 U	39	11	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	39	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.0 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*106 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

FD35-C-C3
T210137-10 (Soil)
25-Oct-12 10:55

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**35.6**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	37	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	37	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	9 U	37	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	37	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*98.4 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*112 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

FD35-C-C4
T210137-11 (Soil)
25-Oct-12 11:10

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**68.5**	1.0	1.0	%	14-Nov-12	15-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	14-Dec-12	26-Dec-12	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.0 %*	*26-107*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*
Surrogate: Terphenyl-d14		*105 %*	*42-123*		*14-Dec-12*	*26-Dec-12*	*EPA 8270D*

FD35-D-D3

T210137-14 (Soil)

02-Nov-12 09:29

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**50.1**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	40	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	11 U	40	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	11 U	40	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	11 U	40	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	10 U	40	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	10 U	40	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	10 U	40	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*92.6 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*102 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-D-D4
T210137-15 (Soil)
02-Nov-12 09:13

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**54.4**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*96.5 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*108 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

FD35-E-E1
T210137-16 (Soil)
02-Nov-12 09:46

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**31.6**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*92.6 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*101 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

FD35-E-E2

T210137-17 (Soil)

02-Nov-12 09:57

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**49.2**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*100 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*113 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-E-E3
T210137-18 (Soil)
02-Nov-12 10:12

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**59.7**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.0 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*116 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-E-E4
T210137-19 (Soil)
02-Nov-12 10:28

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**66.3**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*93.1 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*108 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-E-E6
T210137-21 (Soil)
02-Nov-12 10:45

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**50.1**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*96.5 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*112 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-F-F1
T210137-22 (Soil)
02-Nov-12 12:05

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**54.6**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*96.0 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*104 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: Foss OF237B Source Tracing	
326 East D Street	Project Number: ENV-03003-04-01	Reported:
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-F-F2
T210137-23 (Soil)
02-Nov-12 12:23

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**36.2**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*97.0 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*109 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-F-F3
T210137-24 (Soil)
02-Nov-12 12:34

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**35.1**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	39	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	39	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	39	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	39	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1260	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*96.0 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*108 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G1

T210137-26 (Soil)

02-Nov-12 12:49

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**31.8**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*94.7 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*107 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G1

T210137-26RE1 (Soil)

02-Nov-12 12:49

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1260	**5100**	38	9	ug/kg dry	18-Dec-12	03-Jan-13	EPA 8270D

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G2
T210137-27 (Soil)
02-Nov-12 13:06

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**32.5**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	11 U	39	11	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	39	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*100 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*106 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G2
T210137-27RE1 (Soil)
02-Nov-12 13:06

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1260	**10000**	39	9	ug/kg dry	18-Dec-12	03-Jan-13	EPA 8270D

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G3
T210137-28 (Soil)
02-Nov-12 13:37

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**58.1**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	38	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	38	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*95.0 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*100 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

FD35-G-G3

T210137-28RE1 (Soil)

02-Nov-12 13:37

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1260	**19 J**	38	9	ug/kg dry	18-Dec-12	03-Jan-13	EPA 8270D

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G4

T210137-29 (Soil)

02-Nov-12 13:19

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**69.3**	1.0	1.0	%	06-Nov-12	06-Nov-12	SM 2540 G
Semi-VOA							
Aroclor-1016	10 U	36	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1221	10 U	36	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1232	10 U	36	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1242	10 U	36	10	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1248	9 U	36	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Aroclor-1254	9 U	36	9	ug/kg dry	18-Dec-12	02-Jan-13	EPA 8270D
Surrogate: 2-Fluorobiphenyl		*94.1 %*	*26-107*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*
Surrogate: Terphenyl-d14		*99.4 %*	*42-123*		*18-Dec-12*	*02-Jan-13*	*EPA 8270D*

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

FD35-G-G4

T210137-29RE1 (Soil)

02-Nov-12 13:19

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
Aroclor-1260	**370**	36	9	ug/kg dry	18-Dec-12	03-Jan-13	EPA 8270D

CONVENTIONAL - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1245024 - Conventionals No-Prep										
Blank (1245024-BLK1)				Prepared & Analyzed: 06-Nov-12						
Total Solids	1.0 U	1.0	%							
Duplicate (1245024-DUP1)		**Source: T210137-15**		Prepared & Analyzed: 06-Nov-12						
Total Solids	**53.8**	**1.0**	**%**		**54.4**			**1**	**20**	
Duplicate (1245024-DUP2)		**Source: T210137-24**		Prepared & Analyzed: 06-Nov-12						
Total Solids	**35.9**	**1.0**	**%**		**35.1**			**2**	**20**	
Batch 1246053 - Conventionals No-Prep										
Blank (1246053-BLK1)				Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Total Solids	1.0 U	1.0	%							
Duplicate (1246053-DUP1)		**Source: T210137-07**		Prepared: 14-Nov-12 Analyzed: 15-Nov-12						
Total Solids	**40.9**	**1.0**	**%**		**38.7**			**6**	**20**	

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1250092 - 3545										
Blank (1250092-BLK1)				Prepared: 14-Dec-12 Analyzed: 26-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3300*		ug/kg wet	*4170*		*79.7*	*26-107*			
Aroclor-1016	11 U	11	ug/kg wet							
Aroclor-1221	11 U	11	ug/kg wet							
Aroclor-1232	11 U	11	ug/kg wet							
Aroclor-1242	11 U	11	ug/kg wet							
Aroclor-1248	10 U	10	ug/kg wet							
Aroclor-1254	10 U	10	ug/kg wet							
Aroclor-1260	10 U	10	ug/kg wet							
Surrogate: Terphenyl-d14	*4200*		ug/kg wet	*4170*		*99.8*	*42-123*			
LCS (1250092-BS1)				Prepared: 14-Dec-12 Analyzed: 26-Dec-12						
Surrogate: 2-Fluorobiphenyl	*2900*		ug/kg wet	*4170*		*69.6*	*26-107*			
Aroclor-1254	**2500**	**10**	**ug/kg wet**	**3330**		**76.4**	**0-200**			
Surrogate: Terphenyl-d14	*3900*		ug/kg wet	*4170*		*93.6*	*42-123*			
Matrix Spike (1250092-MS1)		**Source: T210137-03**		Prepared: 14-Dec-12 Analyzed: 26-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3500*		ug/kg dry	*4090*		*85.9*	*26-107*			
Aroclor-1254	**2800**	**9**	**ug/kg dry**	**3280**	**ND**	**86.4**	**0-200**			
Surrogate: Terphenyl-d14	*4200*		ug/kg dry	*4090*		*103*	*42-123*			
Matrix Spike Dup (1250092-MSD1)		**Source: T210137-03**		Prepared: 14-Dec-12 Analyzed: 26-Dec-12						
Surrogate: 2-Fluorobiphenyl	*3500*		ug/kg dry	*4060*		*87.4*	*26-107*			
Aroclor-1254	**2900**	**9**	**ug/kg dry**	**3250**	**ND**	**89.3**	**0-200**	**2.51**	**200**	
Surrogate: Terphenyl-d14	*4300*		ug/kg dry	*4060*		*105*	*42-123*			
Batch 1251036 - 3545										
Blank (1251036-BLK1)				Prepared: 18-Dec-12 Analyzed: 02-Jan-13						
Surrogate: 2-Fluorobiphenyl	*2800*		ug/kg wet	*4170*		*66.2*	*26-107*			
Aroclor-1016	11 U	11	ug/kg wet							
Aroclor-1221	11 U	11	ug/kg wet							
Aroclor-1232	11 U	11	ug/kg wet							
Aroclor-1242	11 U	11	ug/kg wet							
Aroclor-1248	10 U	10	ug/kg wet							

PW Science and Engineering	Project: **Foss OF237B Source Tracing**	
326 East D Street	Project Number: ENV-03003-04-01	**Reported:**
Tacoma WA, 98421	Project Manager: Mary Henley	16-Jan-13 12:00

Semi-VOA - Quality Control

Environmental Services Laboratory

Sample ID Analyte	Result	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1251036 - 3545										
Blank (1251036-BLK1)				Prepared: 18-Dec-12 Analyzed: 02-Jan-13						
Aroclor-1254	10 U	10	ug/kg wet							
Aroclor-1260	10 U	10	ug/kg wet							
Surrogate: Terphenyl-d14	*3500*		ug/kg wet	*4170*		*84.0*	*42-123*			
LCS (1251036-BS1)				Prepared: 18-Dec-12 Analyzed: 02-Jan-13						
Surrogate: 2-Fluorobiphenyl	*3400*		ug/kg wet	*4170*		*81.6*	*26-107*			
Surrogate: Terphenyl-d14	*4400*		ug/kg wet	*4170*		*106*	*42-123*			
Matrix Spike (1251036-MS1)		**Source: T210137-19**		Prepared: 18-Dec-12 Analyzed: 02-Jan-13						
Surrogate: 2-Fluorobiphenyl	*3900*		ug/kg dry	*4010*		*97.4*	*26-107*			
Aroclor-1254	**2800**	**9**	**ug/kg dry**	**3210**	**ND**	**88.4**	**50-150**			
Surrogate: Terphenyl-d14	*4400*		ug/kg dry	*4010*		*110*	*42-123*			
Matrix Spike Dup (1251036-MSD1)		**Source: T210137-19**		Prepared: 18-Dec-12 Analyzed: 02-Jan-13						
Surrogate: 2-Fluorobiphenyl	*3900*		ug/kg dry	*3980*		*97.0*	*26-107*			
Aroclor-1254	**2800**	**9**	**ug/kg dry**	**3180**	**ND**	**87.6**	**50-150**	**1.86**	**200**	
Surrogate: Terphenyl-d14	*4300*		ug/kg dry	*3980*		*108*	*42-123*			

Notes and Definitions

J	The result is an estimated concentration.
U	Analyte Not Detected at or above the associated value
UJ	Analyte Not Detected at or above the associated estimated value
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

INVOICE

T210137

Invoice To:
Rick Fuller
PW Science and Engineering
326 East D Street
Tacoma, WA 98421

Invoice Number: T210137-PWSED
Invoiced On: 16-Jan-13
Received: 02-Nov-12
Project: Foss OF237B Source Tracing

PO Number: 61000044420
Client Contact: Mary Henley - PW Science and Engineering
Lab Contact: Gregory Perez - Environmental Services Laboratory

Quantity	Analysis/Description	Matrix	Unit Cost	Extended Cost
Environmental Services Laboratory				
24	Solids, Total SM2540	Soil	$20.00	$480.00
24	S8270_PCB	Soil	$85.00	$2,040.00
4	S8270_PCB - Reruns	Soil	$0.00	$0.00
Additional Items				
1	QA/QC Charge			$252.00
			Invoice Total:	**$2,772.00**

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T210137

Client Name: PW Science and Engineering	Project Name: Foss OF237B Source Tracing
Client Contact: Mary Henley	Project Number: ENV-03003-04-01
Address: 326 East D Street	Project Description:
City: Tacoma	PO Number: 61000044420
State/Zip: WA, 98421	Shipped By:
Phone: (253) 502-2113 / Fax: (253) 502-2295	Tracking Number:
Sampler:	Sampler Signature:

Requested Analyses: EPA 8270D (PCB only)

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.
Standard (days)
Expedited (days)
Due Date

Preservation Code: 1

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Sample Number	Sample Comments
FD35-A-A1	10/25/2012	9:06	G	S	1	1	-01	
* FD35-A-A2	10/25/2012	9:03	G	S	1	1	~~-02~~	03
FD35-B-B1	10/25/2012	10:16	G	S	1	1	~~-03~~	02 AP 11/13
~~FD35-B-B2~~	~~N/A~~	~~N/A~~	~~G~~	~~S~~	~~1~~	~~1~~	~~-04~~	JAZ 11/5/2012 Sim
~~FD35-B-B3~~	N/A	N/A	G	S	1	1	~~-05~~	
FD35-B-B4	10/25/2012	10:04	G	S	1	1	~~-06~~	05
FD35-B-B5	10/25/2012	9:32	G	S	1	1	~~-07~~	6
FD35-B-B6	10/25/2012	9:46	G	S	1	1	~~-08~~	7
FD35-C-C1	10/25/2012	10:33	G	S	1	1	~~-09~~	8
FD35-C-C2	10/25/2012	10:55	G	S	1	1	~~-10~~	9
FD35-C-C3	10/25/2012	11:10	G	S	1	1	~~-11~~	10
FD35-C-C4	10/25/2012	11:25	G	S	1	1	~~-12~~	11 AP

Added 11/1

Sample not collected

5 sample jars

AP

Relinquished By	Date/Time	Received By	Date/Time
Velina Nokes	10/25/12 1345	Cooler	
			11/5/12

Sample Kit Prepared By: Date/Time
Comments

Cooler Numbers and Temperatures

Matrix Codes: S=Soil
Preserv. Codes: 1=Cool <6°C

Login Reviewed By:
Login Reviewed Date: AP 11/6/12

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T210137

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF237B Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: EPA 8270D (PCB only)

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.

Standard (days)

Expedited (days)

Due Date

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Sample Number	Sample Comments
~~FD35-D-D1~~	~~N/A~~	~~N/A~~	G	S	1	1		AZ 10/5/2012
~~FD35-D-D2~~	~~N/A~~	~~N/A~~	G	S	1	1	-13	AP 1/17/13
FD35-D-D3	11/2/2012	9:29	G	S	1	1	-14	
FD35-D-D4	11/2/2012	9:13	G	S	1	1	-15	
FD35-E-E1	11/2/2012	9:46	G	S	1	1	-16	
FD35-E-E2	11/2/2012	9:57	G	S	1	1	-17	
FD35-E-E3	11/2/2012	10:12	G	S	1	1	-18	
FD35-E-E4	11/2/2012	10:28	G	S	1	1	-19	
~~FD35-E-E5~~	~~N/A~~	~~N/A~~	G	S	1	1	-20	AP 1/17/13
FD35-E-E6	11/2/2012	10:45	G	S	1	1	-21	
FD35-F-F1	11/2/2012	12:05	G	S	1	1	-22	
FD35-F-F2	11/2/2012	12:23	G	S	1	1	-23	
FD35-F-F3	11/2/2012	12:34	G	S	1	1	-24	

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	11/2/12 1545	Ken [illegible]	02NOV12/15:45

Sample Kit Prepared By: Date/Time:

Comments: samples 13 & 20 not collected AP 1/17/13

Cooler Numbers and Temperatures

Matrix Codes: S=Soil

Preserv. Codes: 1=Cool <6°C

Login Reviewed By:

Login Reviewed Date: AP 11/5/12

CHAIN OF CUSTODY

City of Tacoma Environmental Services
326 East D Street
Tacoma
WA, 98421-1801
phone (253) 502-2130
fax (253) 502-2170

COC Number
Lab Work Order Number T210137

Client Name	PW Science and Engineering
Client Contact	Mary Henley
Address	326 East D Street
City	Tacoma
State/Zip	WA, 98421
Phone	(253) 502-2113
Fax	(253) 502-2295
Sampler	
Project Name	Foss OF237B Source Tracing
Project Number	ENV-03003-04-01
Project Description	
PO Number	61000044420
Shipped By	
Tracking Number	
Sampler Signature	

Requested Analyses: EPA 8270D (PCB only)

Requested Turn Around: Rush requests subject to additional charge. Rush requests subject to lab approval.
Standard (days)
Expedited (days)
Due Date

Sample Name or Field ID	Sampled Date	Sampled Time	Sample Type Code	Matrix Code	Container Count	Preservation Code 1	Sample Number	Sample Comments
FD35-F-F4	N/A	N/A	G	S	1	1	-25	
FD35-G-G1	11/2/2012	1249	G	S	1	1	-26	
FD35-G-G2	11/2/2012	13:06	G	S	1	1	-27	
FD35-G-G3	11/2/2012	13:37	G	S	1	1	-28	
FD35-G-G4	11/2/2012	13:19	G	S	1	1	-29	

Lmd 11/2/12

Relinquished By	Date/Time	Received By	Date/Time
[signature]	11/2/12 1545	[signature]	02NOV12/ 15:45
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Sample Kit Prepared By: Date/Time
Comments

Cooler Numbers and Temperatures

Matrix Codes: S=Soil

Preserv. Codes: 1=Cool <6°C

Login Reviewed By: _____

Login Reviewed Date: [signature] 11/5/12

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
05/14/2012	1006 E HARRISON - TV	Debris Removed	STANDBY LEAD	237B	FS_11	2 YDS.
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
07/26/2012	5 CLARK ST	STRAP TV Storm SEG 6259905		237B	FS_10	
04/23/2012	5500 E D ST	STRAP TV Storm SEG 6259929		237B	FS_10	
04/18/2012	6210 E I ST	STRAP TV Storm SEG 6259976		237B	FS_10	
04/18/2012	6300 E I ST	STRAP TV Storm SEG 6259998		237B	FS_10	
04/26/2012	5020 S PARK AV	STRAP TV Storm SEG 6260241		237B	FS_10	
06/04/2012	200 S WRIGHT AV	STRAP TV Storm SEG 6260475		237B	FS_10	
06/04/2012	3400 PACIFIC AV	STRAP TV Storm SEG 6260486		237B	FS_10	
06/04/2012	3500 PACIFIC AV	STRAP TV Storm SEG 6260804		237B	FS_10	
06/04/2012	3700 PACIFIC AV	STRAP TV Storm SEG 6261209		237B	FS_10	
07/02/2012	260 E 72ND ST	STRAP TV Storm SEG 6261393		237B	FS_10	
04/18/2012	5900 S D ST	STRAP TV Storm SEG 6262172		237B	FS_10	
04/18/2012	5500 S D ST	STRAP TV Storm SEG 6262192		237B	FS_10	
04/26/2012	851 S 40TH ST	STRAP TV Storm SEG 6262348		237B	FS_10	
04/26/2012	4101 YAKIMA AV	STRAP TV Storm SEG 6262385		237B	FS_10	
07/02/2012	600 E 72ND ST	STRAP TV Storm SEG 6262417		237B	FS_10	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
08/13/2012	3044 S CEDAR ST	STRAP TV Storm SEG 6262495		237B	FS_10	
06/28/2012	800 S 38TH ST	STRAP TV Storm SEG 6262497		237B	FS_10	
08/13/2012	3110 S CEDAR ST	STRAP TV Storm SEG 6262505		237B	FS_10	
07/25/2012	2501 S 35TH ST	STRAP TV Storm SEG 6262703		237B	FS_10	
06/27/2012	850 S 38TH ST	STRAP TV Storm SEG 6262982		237B	FS_10	
08/13/2012	3140 S CEDAR ST	STRAP TV Storm SEG 6263019		237B	FS_10	
08/13/2012	3102 S PINE ST	STRAP TV Storm SEG 6263036		237B	FS_10	
07/02/2012	414 E 72ND ST	STRAP TV Storm SEG 6263093		237B	FS_10	
08/13/2012	3102 S PINE ST	STRAP TV Storm SEG 6263101		237B	FS_10	
04/26/2012	800 S 40TH ST	STRAP TV Storm SEG 6263124		237B	FS_10	
04/18/2012	1000 E 63RD ST	STRAP TV Storm SEG 6263151		237B	FS_10	
10/23/2012	3400 S M ST	STRAP TV Storm SEG 6263545		237B	FS_10	
06/04/2012	1508 S 35TH ST	STRAP TV Storm SEG 6263950		237B	FS_10	
06/04/2012	1400 S 35TH ST	STRAP TV Storm SEG 6263963		237B	FS_10	
06/04/2012	2548 S SHERIDAN AV	STRAP TV Storm SEG 6264055		237B	FS_10	
04/26/2012	4521 S PARK AV	STRAP TV Storm SEG 6264104		237B	FS_10	
06/04/2012	6604 E D ST	STRAP TV Storm SEG 6264144		237B	FS_10	
06/04/2012	6510 E D ST	STRAP TV Storm SEG 6264155		237B	FS_10	
05/11/2012	300 E 82ND ST	STRAP TV Storm SEG 6264199		237B	FS_10	
05/11/2012	8027 E B ST	STRAP TV Storm SEG 6264210		237B	FS_10	
06/04/2012	6960 E D ST	STRAP TV Storm SEG 6264221		237B	FS_10	
05/11/2012	8400 E B ST	STRAP TV Storm SEG 6264263		237B	FS_10	
07/02/2012	500 E 72ND ST	STRAP TV Storm SEG 6264289		237B	FS_10	
04/26/2012	6000 PACIFIC AV	STRAP TV Storm SEG 6264303		237B	FS_10	
07/02/2012	800 E 72ND ST	STRAP TV Storm SEG 6264310		237B	FS_10	
07/02/2012	7204 MCKINLEY AV	STRAP TV Storm SEG 6264321		237B	FS_10	
06/04/2012	7200 E D ST	STRAP TV Storm SEG 6264445		237B	FS_10	
05/31/2012	1000 E 60TH ST	STRAP TV Storm SEG 6264510		237B	FS_10	
04/18/2012	6110 E I ST	STRAP TV Storm SEG 6264563		237B	FS_10	
04/18/2012	5610 E I ST	STRAP TV Storm SEG 6264612		237B	FS_10	
04/26/2012	4036 S G ST	STRAP TV Storm SEG 6264901		237B	FS_10	
05/11/2012	8223 E B ST	STRAP TV Storm SEG 6264902		237B	FS_10	
05/31/2012	4046 PACIFIC AV	STRAP TV Storm SEG 6264933		237B	FS_10	
04/26/2012	4020 S G ST	STRAP TV Storm SEG 6265145		237B	FS_10	
08/13/2012	3307 S 35TH ST	STRAP TV Storm SEG 6265852		237B	FS_10	
07/23/2012	3518 S THOMPSON AV	STRAP TV Storm SEG 6265885		237B	FS_11	
06/04/2012	2126 S SHERIDAN AV	STRAP TV Storm SEG 6266689		237B	FS_11	
06/04/2012	3500 PACIFIC AV	STRAP TV Storm SEG 6266822		237B	FS_11	
04/18/2012	5000 PACIFIC AV	STRAP TV Storm SEG 6267236		237B	FS_11	
04/18/2012	400 S 52ND ST	STRAP TV Storm SEG 6267265		237B	FS_11	
06/04/2012	3600 PACIFIC AV	STRAP TV Storm SEG 6267278		237B	FS_11	
04/26/2012	4502 S G ST	STRAP TV Storm SEG 6267460		237B	FS_11	
04/23/2012	5300 E D ST	STRAP TV Storm SEG 6267629		237B	FS_11	
04/26/2012	5800 PACIFIC AV	STRAP TV Storm SEG 6267851		237B	FS_11	
04/26/2012	5500 S PARK AV	STRAP TV Storm SEG 6267955		237B	FS_11	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
04/26/2012	5400 S PARK AV	STRAP TV Storm SEG 6267968		237B	FS_11	
04/26/2012	6300 PACIFIC AV	STRAP TV Storm SEG 6268014		237B	FS_11	
06/04/2012	3590 PACIFIC AV	STRAP TV Storm SEG 6268300		237B	FS_11	
06/04/2012	3602 PACIFIC AV	STRAP TV Storm SEG 6268309		237B	FS_11	
05/31/2012	3628 PACIFIC AV	STRAP TV Storm SEG 6268507		237B	FS_11	
07/26/2012	31 S NEVADA AV	STRAP TV Storm SEG 6268966		237B	FS_11	
07/02/2012	7212 MCKINLEY AV	STRAP TV Storm SEG 6269116		237B	FS_11	
07/02/2012	7402 MCKINLEY AV	STRAP TV Storm SEG 6269173		237B	FS_11	
07/02/2012	7500 MCKINLEY AV	STRAP TV Storm SEG 6269184		237B	FS_11	
07/02/2012	7523 MCKINLEY AV	STRAP TV Storm SEG 6269195		237B	FS_11	
06/28/2012	7210 E D ST	STRAP TV Storm SEG 6269277		237B	FS_11	
07/02/2012	7234 MCKINLEY AV	STRAP TV Storm SEG 6269329		237B	FS_11	
04/18/2012	5800 E I ST	STRAP TV Storm SEG 6269490		237B	FS_11	
04/18/2012	6100 E I ST	STRAP TV Storm SEG 6269503		237B	FS_11	
08/13/2012	3301 S LAWRENCE ST	STRAP TV Storm SEG 6269509		237B	FS_11	
07/02/2012	710 E 72ND ST	STRAP TV Storm SEG 6269556		237B	FS_11	
05/11/2012	402 E 78TH ST	STRAP TV Storm SEG 6269686		237B	FS_11	
06/04/2012	3566 PACIFIC AV	STRAP TV Storm SEG 6269693		237B	FS_11	
06/04/2012	3572 PACIFIC AV	STRAP TV Storm SEG 6269703		237B	FS_11	
04/23/2012	500 E 56TH ST	STRAP TV Storm SEG 6269707		237B	FS_11	
05/31/2012	3722 PACIFIC AV	STRAP TV Storm SEG 6269714		237B	FS_11	
05/31/2012	3802 PACIFIC AV	STRAP TV Storm SEG 6269737		237B	FS_11	
06/04/2012	235 WEST ST	STRAP TV Storm SEG 6269764		237B	FS_11	
04/18/2012	5040 PACIFIC AV	STRAP TV Storm SEG 6269784		237B	FS_11	
06/04/2012	3610 PACIFIC AV	STRAP TV Storm SEG 6269844		237B	FS_11	
06/04/2012	3610 PACIFIC AV	STRAP TV Storm SEG 6269844		237B	FS_11	
05/31/2012	3820 PACIFIC AV	STRAP TV Storm SEG 6269865		237B	FS_11	
05/31/2012	4002 PACIFIC AV	STRAP TV Storm SEG 6269875		237B	FS_11	
04/26/2012	5000 S PARK AV	STRAP TV Storm SEG 6269926		237B	FS_11	
05/31/2012	4500 PACIFIC AV	STRAP TV Storm SEG 6270100		237B	FS_11	
05/31/2012	4710 PACIFIC AV	STRAP TV Storm SEG 6270112		237B	FS_11	
04/23/2012	6300 E D ST	STRAP TV Storm SEG 6270191		237B	FS_11	
04/26/2012	4032 S G ST	STRAP TV Storm SEG 6270201		237B	FS_11	
04/23/2012	6000 E D ST	STRAP TV Storm SEG 6270202		237B	FS_11	
05/31/2012	4022 PACIFIC AV	STRAP TV Storm SEG 6270220		237B	FS_11	
04/18/2012	5400 S D ST	STRAP TV Storm SEG 6270242		237B	FS_11	
04/18/2012	822 E 56TH ST	STRAP TV Storm SEG 6270313		237B	FS_11	
04/23/2012	6200 E D ST	STRAP TV Storm SEG 6270622		237B	FS_11	
04/26/2012	1000 S 40TH ST	STRAP TV Storm SEG 6270781		237B	FS_11	
06/04/2012	3600 S CUSHMAN AV	STRAP TV Storm SEG 6270796		237B	FS_11	
04/26/2012	4101 S J ST	STRAP TV Storm SEG 6270975		237B	FS_11	
08/13/2012	3131 S LAWRENCE ST	STRAP TV Storm SEG 6270991		237B	FS_11	
04/26/2012	4633 S PARK AV	STRAP TV Storm SEG 6271162		237B	FS_11	
04/26/2012	4800 S PARK AV	STRAP TV Storm SEG 6271184		237B	FS_11	
04/26/2012	750 S PARK AV	STRAP TV Storm SEG 6271309		237B	FS_11	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
08/13/2012	3200 S TACOMA WY	STRAP TV Storm SEG 6271540		237B	FS_11	
08/13/2012	3301 S 35TH ST	STRAP TV Storm SEG 6271549		237B	FS_11	
07/26/2012	66 S CALIFORNIA AV	STRAP TV Storm SEG 6271613		237B	FS_11	
07/26/2012	66 S CALIFORNIA AV	STRAP TV Storm SEG 6271621		237B	FS_11	
06/04/2012	200 S WRIGHT AVE	STRAP TV Storm SEG 6280985		237B	FS_11	
04/23/2012		STRAP TV Storm SEG 6282213		237B	FS_11	
06/04/2012		STRAP TV Storm SEG 6282906		237B	FS_11	
05/11/2012		STRAP TV Storm SEG 6285696		237B	FS_11	
06/04/2012		STRAP TV Storm SEG 6285953		237B	FS_11	
04/18/2012		STRAP TV Storm SEG 6289804		237B	FS_11	
04/26/2012	4600 S PARK AV	STRAP TV Storm SEG 6251192		237B	FS_11	
04/26/2012	4303 S G ST	STRAP TV Storm SEG 6251381		237B	FS_11	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_10	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
05/14/2012	1006 E HARRISON - TV	Debris Removed	STANDBY LEAD	237B	FS_11	2 YDS.
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	237B	FS_11	
07/26/2012	5 CLARK ST	STRAP TV Storm SEG 6259905		237B	FS_10	
04/23/2012	5500 E D ST	STRAP TV Storm SEG 6259929		237B	FS_10	
04/18/2012	6210 E I ST	STRAP TV Storm SEG 6259976		237B	FS_10	
04/18/2012	6300 E I ST	STRAP TV Storm SEG 6259998		237B	FS_10	
04/26/2012	5020 S PARK AV	STRAP TV Storm SEG 6260241		237B	FS_10	
06/04/2012	200 S WRIGHT AV	STRAP TV Storm SEG 6260475		237B	FS_10	
06/04/2012	3400 PACIFIC AV	STRAP TV Storm SEG 6260486		237B	FS_10	
06/04/2012	3500 PACIFIC AV	STRAP TV Storm SEG 6260804		237B	FS_10	
06/04/2012	3700 PACIFIC AV	STRAP TV Storm SEG 6261209		237B	FS_10	
07/02/2012	260 E 72ND ST	STRAP TV Storm SEG 6261393		237B	FS_10	
04/18/2012	5900 S D ST	STRAP TV Storm SEG 6262172		237B	FS_10	
04/18/2012	5500 S D ST	STRAP TV Storm SEG 6262192		237B	FS_10	
04/26/2012	851 S 40TH ST	STRAP TV Storm SEG 6262348		237B	FS_10	
04/26/2012	4101 YAKIMA AV	STRAP TV Storm SEG 6262385		237B	FS_10	
07/02/2012	600 E 72ND ST	STRAP TV Storm SEG 6262417		237B	FS_10	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
08/13/2012	3044 S CEDAR ST	STRAP TV Storm SEG 6262495		237B	FS_10	
06/28/2012	800 S 38TH ST	STRAP TV Storm SEG 6262497		237B	FS_10	
08/13/2012	3110 S CEDAR ST	STRAP TV Storm SEG 6262505		237B	FS_10	
07/25/2012	2501 S 35TH ST	STRAP TV Storm SEG 6262703		237B	FS_10	
06/27/2012	850 S 38TH ST	STRAP TV Storm SEG 6262982		237B	FS_10	
08/13/2012	3140 S CEDAR ST	STRAP TV Storm SEG 6263019		237B	FS_10	
08/13/2012	3102 S PINE ST	STRAP TV Storm SEG 6263036		237B	FS_10	
07/02/2012	414 E 72ND ST	STRAP TV Storm SEG 6263093		237B	FS_10	
08/13/2012	3102 S PINE ST	STRAP TV Storm SEG 6263101		237B	FS_10	
04/26/2012	800 S 40TH ST	STRAP TV Storm SEG 6263124		237B	FS_10	
04/18/2012	1000 E 63RD ST	STRAP TV Storm SEG 6263151		237B	FS_10	
10/23/2012	3400 S M ST	STRAP TV Storm SEG 6263545		237B	FS_10	
06/04/2012	1508 S 35TH ST	STRAP TV Storm SEG 6263950		237B	FS_10	
06/04/2012	1400 S 35TH ST	STRAP TV Storm SEG 6263963		237B	FS_10	
06/04/2012	2548 S SHERIDAN AV	STRAP TV Storm SEG 6264055		237B	FS_10	
04/26/2012	4521 S PARK AV	STRAP TV Storm SEG 6264104		237B	FS_10	
06/04/2012	6604 E D ST	STRAP TV Storm SEG 6264144		237B	FS_10	
06/04/2012	6510 E D ST	STRAP TV Storm SEG 6264155		237B	FS_10	
05/11/2012	300 E 82ND ST	STRAP TV Storm SEG 6264199		237B	FS_10	
05/11/2012	8027 E B ST	STRAP TV Storm SEG 6264210		237B	FS_10	
06/04/2012	6960 E D ST	STRAP TV Storm SEG 6264221		237B	FS_10	
05/11/2012	8400 E B ST	STRAP TV Storm SEG 6264263		237B	FS_10	
07/02/2012	500 E 72ND ST	STRAP TV Storm SEG 6264289		237B	FS_10	
04/26/2012	6000 PACIFIC AV	STRAP TV Storm SEG 6264303		237B	FS_10	
07/02/2012	800 E 72ND ST	STRAP TV Storm SEG 6264310		237B	FS_10	
07/02/2012	7204 MCKINLEY AV	STRAP TV Storm SEG 6264321		237B	FS_10	
06/04/2012	7200 E D ST	STRAP TV Storm SEG 6264445		237B	FS_10	
05/31/2012	1000 E 60TH ST	STRAP TV Storm SEG 6264510		237B	FS_10	
04/18/2012	6110 E I ST	STRAP TV Storm SEG 6264563		237B	FS_10	
04/18/2012	5610 E I ST	STRAP TV Storm SEG 6264612		237B	FS_10	
04/26/2012	4036 S G ST	STRAP TV Storm SEG 6264901		237B	FS_10	
05/11/2012	8223 E B ST	STRAP TV Storm SEG 6264902		237B	FS_10	
05/31/2012	4046 PACIFIC AV	STRAP TV Storm SEG 6264933		237B	FS_10	
04/26/2012	4020 S G ST	STRAP TV Storm SEG 6265145		237B	FS_10	
08/13/2012	3307 S 35TH ST	STRAP TV Storm SEG 6265852		237B	FS_10	
07/23/2012	3518 S THOMPSON AV	STRAP TV Storm SEG 6265885		237B	FS_11	
06/04/2012	2126 S SHERIDAN AV	STRAP TV Storm SEG 6266689		237B	FS_11	
06/04/2012	3500 PACIFIC AV	STRAP TV Storm SEG 6266822		237B	FS_11	
04/18/2012	5000 PACIFIC AV	STRAP TV Storm SEG 6267236		237B	FS_11	
04/18/2012	400 S 52ND ST	STRAP TV Storm SEG 6267265		237B	FS_11	
06/04/2012	3600 PACIFIC AV	STRAP TV Storm SEG 6267278		237B	FS_11	
04/26/2012	4502 S G ST	STRAP TV Storm SEG 6267460		237B	FS_11	
04/23/2012	5300 E D ST	STRAP TV Storm SEG 6267629		237B	FS_11	
04/26/2012	5800 PACIFIC AV	STRAP TV Storm SEG 6267851		237B	FS_11	
04/26/2012	5500 S PARK AV	STRAP TV Storm SEG 6267955		237B	FS_11	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
04/26/2012	5400 S PARK AV	STRAP TV Storm SEG 6267968		237B	FS_11	
04/26/2012	6300 PACIFIC AV	STRAP TV Storm SEG 6268014		237B	FS_11	
06/04/2012	3590 PACIFIC AV	STRAP TV Storm SEG 6268300		237B	FS_11	
06/04/2012	3602 PACIFIC AV	STRAP TV Storm SEG 6268309		237B	FS_11	
05/31/2012	3628 PACIFIC AV	STRAP TV Storm SEG 6268507		237B	FS_11	
07/26/2012	31 S NEVADA AV	STRAP TV Storm SEG 6268966		237B	FS_11	
07/02/2012	7212 MCKINLEY AV	STRAP TV Storm SEG 6269116		237B	FS_11	
07/02/2012	7402 MCKINLEY AV	STRAP TV Storm SEG 6269173		237B	FS_11	
07/02/2012	7500 MCKINLEY AV	STRAP TV Storm SEG 6269184		237B	FS_11	
07/02/2012	7523 MCKINLEY AV	STRAP TV Storm SEG 6269195		237B	FS_11	
06/28/2012	7210 E D ST	STRAP TV Storm SEG 6269277		237B	FS_11	
07/02/2012	7234 MCKINLEY AV	STRAP TV Storm SEG 6269329		237B	FS_11	
04/18/2012	5800 E I ST	STRAP TV Storm SEG 6269490		237B	FS_11	
04/18/2012	6100 E I ST	STRAP TV Storm SEG 6269503		237B	FS_11	
08/13/2012	3301 S LAWRENCE ST	STRAP TV Storm SEG 6269509		237B	FS_11	
07/02/2012	710 E 72ND ST	STRAP TV Storm SEG 6269556		237B	FS_11	
05/11/2012	402 E 78TH ST	STRAP TV Storm SEG 6269686		237B	FS_11	
06/04/2012	3566 PACIFIC AV	STRAP TV Storm SEG 6269693		237B	FS_11	
06/04/2012	3572 PACIFIC AV	STRAP TV Storm SEG 6269703		237B	FS_11	
04/23/2012	500 E 56TH ST	STRAP TV Storm SEG 6269707		237B	FS_11	
05/31/2012	3722 PACIFIC AV	STRAP TV Storm SEG 6269714		237B	FS_11	
05/31/2012	3802 PACIFIC AV	STRAP TV Storm SEG 6269737		237B	FS_11	
06/04/2012	235 WEST ST	STRAP TV Storm SEG 6269764		237B	FS_11	
04/18/2012	5040 PACIFIC AV	STRAP TV Storm SEG 6269784		237B	FS_11	
06/04/2012	3610 PACIFIC AV	STRAP TV Storm SEG 6269844		237B	FS_11	
06/04/2012	3610 PACIFIC AV	STRAP TV Storm SEG 6269844		237B	FS_11	
05/31/2012	3820 PACIFIC AV	STRAP TV Storm SEG 6269865		237B	FS_11	
05/31/2012	4002 PACIFIC AV	STRAP TV Storm SEG 6269875		237B	FS_11	
04/26/2012	5000 S PARK AV	STRAP TV Storm SEG 6269926		237B	FS_11	
05/31/2012	4500 PACIFIC AV	STRAP TV Storm SEG 6270100		237B	FS_11	
05/31/2012	4710 PACIFIC AV	STRAP TV Storm SEG 6270112		237B	FS_11	
04/23/2012	6300 E D ST	STRAP TV Storm SEG 6270191		237B	FS_11	
04/26/2012	4032 S G ST	STRAP TV Storm SEG 6270201		237B	FS_11	
04/23/2012	6000 E D ST	STRAP TV Storm SEG 6270202		237B	FS_11	
05/31/2012	4022 PACIFIC AV	STRAP TV Storm SEG 6270220		237B	FS_11	
04/18/2012	5400 S D ST	STRAP TV Storm SEG 6270242		237B	FS_11	
04/18/2012	822 E 56TH ST	STRAP TV Storm SEG 6270313		237B	FS_11	
04/23/2012	6200 E D ST	STRAP TV Storm SEG 6270622		237B	FS_11	
04/26/2012	1000 S 40TH ST	STRAP TV Storm SEG 6270781		237B	FS_11	
06/04/2012	3600 S CUSHMAN AV	STRAP TV Storm SEG 6270796		237B	FS_11	
04/26/2012	4101 S J ST	STRAP TV Storm SEG 6270975		237B	FS_11	
08/13/2012	3131 S LAWRENCE ST	STRAP TV Storm SEG 6270991		237B	FS_11	
04/26/2012	4633 S PARK AV	STRAP TV Storm SEG 6271162		237B	FS_11	
04/26/2012	4800 S PARK AV	STRAP TV Storm SEG 6271184		237B	FS_11	
04/26/2012	750 S PARK AV	STRAP TV Storm SEG 6271309		237B	FS_11	

Table A.5-1
2012 Pipe Maintenance Activities for OF237B

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
08/13/2012	3200 S TACOMA WY	STRAP TV Storm SEG 6271540		237B	FS_11	
08/13/2012	3301 S 35TH ST	STRAP TV Storm SEG 6271549		237B	FS_11	
07/26/2012	66 S CALIFORNIA AV	STRAP TV Storm SEG 6271613		237B	FS_11	
07/26/2012	66 S CALIFORNIA AV	STRAP TV Storm SEG 6271621		237B	FS_11	
06/04/2012	200 S WRIGHT AVE	STRAP TV Storm SEG 6280985		237B	FS_11	
04/23/2012		STRAP TV Storm SEG 6282213		237B	FS_11	
06/04/2012		STRAP TV Storm SEG 6282906		237B	FS_11	
05/11/2012		STRAP TV Storm SEG 6285696		237B	FS_11	
06/04/2012		STRAP TV Storm SEG 6285953		237B	FS_11	
04/18/2012		STRAP TV Storm SEG 6289804		237B	FS_11	
04/26/2012	4600 S PARK AV	STRAP TV Storm SEG 6251192		237B	FS_11	
04/26/2012	4303 S G ST	STRAP TV Storm SEG 6251381		237B	FS_11	

ATTACHMENT A.6 - OF243

NOT USED

ATTACHMENT A.7 - OF245

Site Hazard Assessment
Worksheet 1
Summary Score Sheet

SITE INFORMATION

Name: **Truck Rail Handling**
Address: 457 E 18th St.
City: Tacoma **County:** Pierce **State:** WA **Zip:** 98421
Section/Township/Range: 04/20N/03E
Latitude: 47.24704 **Longitude:** -122.42415
Facility Site ID Number: 63316697

Site assessed/ranked for the August 2013 update.

January 28, 2012

The Truck Rail Handling (TRH) site occupies an irregular 6.56 acre parcel (APN: 8950001715) in the City of Tacoma's Tideflats area. The area is zoned "Port Maritime and Industrial". The subject property is currently used to transload materials from railcar tanks to tank trucks, and has a land use description of "general warehousing storage". The site is paved with concrete and contains three buildings, and a tank farm. The site also contains unpaved railroad siding that branches off from the Union Pacific Railroad line on the north side of the property.

The property is surrounded by other industrial and commercial businesses including lumber and timber industries, container storage, general warehousing, and chemical manufacturing. *East 18th Street* serves as the property's southwest border, a large wholesale trade warehouse its north, Union Pacific Railroad line is the northeastern boundary, and the Union Pacific Railroad D Street site (FSID: 1357, See "Recent History" below) is the eastern border.

The TRH site is located near several waterways of Commencement Bay. These include the Puyallup River approximately 1,990 feet to the east, the Thea Foss Waterway approximately 1,215 feet to the west, and the Middle Waterway approximately 2,794 feet to the north. The nearest drinking water well is a City of Tacoma Group A water system located approximately 8,995 feet to the south and has a depth of approximately seven hundred eighty feet below ground surface (779' bgs)..

Subsurface conditions at the property likely consist mainly of gravelly silt and silty sand, to a depth of approximately thirteen feet (13'). Groundwater is likely present at approximately five feet to twenty feet below ground surface (5' – 20' bgs). The subsurface characteristics are typical for properties located in the Tide Flats. Groundwater likely drains to either the Thea Foss Waterway of Commencement Bay or the Puyallup River.

Recent History

Union Pacific Railroad (UPRR) owned a tract of land in this area, some of which was segregated into "daughter" parcels and sold in 1992. UPRR's "parent" parcel 8950001712 was segregated into two

daughter parcels, one of which forms parcel 8950001715, currently owned by Truck Rail Handling (TRH) and assigned the site address of 457 E. 18th St. The other daughter parcel, 8950001714, was retained by UPRR and is contiguous with the north side of the Truck Rail Handling property. There isn't a specific site address for this latter parcel, just the generic "xxx E. 18th St.".

The 457 E. 18th Street address was previously on the Washigton State Department of Ecology's (Ecology) Confirmed and Suspected Contaminated Sites List (CSCSL) contained within the Integrated Site Information System (ISIS) database as the Union Pacific Railroad D Street property; the FSID was 1357. The Union Pacific Railroad D Street site was listed in 1994 due to confirmed petroleum contamination in soil and groundwater. The Tacoma-Pierce County Health Department (Health Department) completed a Site Hazard Assessment (SHA) for the Union Pacific Railroad D Street site in September 2009 that resulted in the site being deleted from the CSCSL.

Nothing in the Union Pacific Railroad D Street site files indicated that contamination was present on the nearby Truck Rail Handling parcel, # 8950001715, which retained the site address of 457 E. 18th Street and is now owned by Truck Rail Handling.

The Union Pacific Railroad owned the property from the 1940's to 1989 and used it as a fueling and repair facility. UPRR property and tracks still border the site to the north. MPS purchased the property in 1989 and began using the site to transload material from railroad tank cars to tank trucks in 1990. The site has been consistently used to transload material since that time. Truck Rail Handling (TRH) purchased the property in 1999 and currently owns and operates here. Transload/transportation companies that have operated at the site include MPS Terminal, Arrow Transportation, Western Pacific Transportation, Chemtron, Airo Trucking, and Truck Rail Handling/Quality Transport Inc.

Previous Site Characterization

Two previous Initial Investigations (IIs) have been conducted at this location. Environmental Report Tracking System (ERTS) 517597 occurred in 2001 as a result of a Tacoma Public Utilities transformer oil release. The mineral oil release was successfully remediated, but weathered diesel was detected at 2717 mg/kg in the limits of the excavation (depth unknown.)

This SHA does not consider mineral oil as a contaminant of concern.

The second Initial Investigation, ERTS 524174, was generated to respond to the diesel contamination discovered during the remediation of the mineral oil release and concluded in 2002. A review of a Phase 2 Environmental Site Assessment (ESA) conducted in 1999 indicated that diesel was not present in soil or groundwater at the site. The No Further Action (NFA) recommendation was based on the conclusion that the presence of weathered diesel appeared to be localized, capped by a paved surface, and did not represent a threath to human health or the environment.

This SHA does not consider diesel as a contaminant of concern.

Liquid bis (2-ethyl hexyl) phthalate (BEHP) was reportedly transloaded from rail cars into four large above ground storage tanks (ASTs) at this site in the 1990's. Pigment powder containing di-iso-nonyl phthalate (DINP) and a Linear Low Density Polyethylene powder containing BEHP and di-n-butyl phthalate was also transloaded from railroad cars to trucks. Other materials transloaded at this

site included petroleum products (distillates, asphalt, used motor oil), phosphoric acid, joint sealing compound, plastic resins and pellets, and food products.

Dalton, Olmsted & Fuglevand (DOF) condcuted a Phase 2 Environmental Site Assessment (ESA) for MPS Terminal in 1998. The DOF ESA included soil and groundwater sampling. Nine (9) soil borings were advanced to approximately five (5) feet bgs. Groundwater was encountered at about two and one half (2.5) feet bgs. Soil samples were analyzed for diesel and heavy oil range hydrocarbons only with no detections above regulatory standards. The resulting chromatograms were screened for the possible presence of phthalates, resulting in two (2) of the samples being further analyzed for SVOCs. Low levels of polycyclic aromatic hydrocarbon (PAH) compounds were the only analytes detected in the SVOC analyses. Three (3) temporary wells were installed in the borings, and groundwater was sampled and analyzed for diesel and oil range hydrocarbons as well as total metals. The only analyte detected in significant concentrations was arsenic, at 5.1 and 71 ug/L in two (2) of the samples. These concentrations exceed the MTCA Method A Cleanup Levels for arsenic in groundwater (5 ug/L). DOF reported that no indication of phthalates or other extractable compounds were detected in the groundwater sample chromatograms.[1]

Saltbush Environmental Services (Saltbush) conducted a Phase 2 ESA for TRH in 1999, prior to TRHs purchase of the property. Seventeen (17) borings were advanced at the site, soil samples from six (6) of the borings were analyzed for semi volatile organic compounds (SVOCs) to determine if there was any phthalate contamination. BEHP was detected in low concentrations in two (2) of the samples (0.30 and 0.35 mg/kg), significantly below a Model Toxics Control Act Method B (Method B-Soil) concentration of 71 mg/kg found in the Cleanup Levels and Risk Calculation tool (CLARC) for soil. Groundwater was encountered at depths ranging from two to five feet below ground surface (2-5' bgs). Groundwater samples were not analyzed for SVOCs.

Stormwater drainage on this site is partly contained. Stormwater in the area around the railroad tracks, sidings, and the truck wash building is currently collected in a storm drainage system that is pumped into two large ASTs and periodically discharged to the municipal sanitary system. The containment system was reportedly constructed in 1992.

Stormwater along both the east and west sides of the site flows into catch basins on site. The catch basins discharge through City of Tacoma outfalls #245 and #248 into the Thea Foss Waterway.

Historical information provided by Ecology's Commencement Bay Site Manager indicated that the site's storm lines and catch basins were cleaned in 1997, with waste water results found to contain 75,000 ppb BEHP.

Catch basins draining to outfalls 245 and 248 were sampled by the City of Tacoma in 1998 and BEHP concentrations were found in concentrations ranging from 2,700 to 120,000 ppb.

After another round of cleaning in 2000 by Truck Rail Handling, selected catch basins were resampled by Ecology and the City of Tacoma in 2001, and elevated levels of BEHP were detected

[1] Saltbush Environmental Services, Inc., *Phase II Environmental Site Assessment – The Truck Rail Handling/MPS Terminal Site 457 East 18th Street, Tacoma, Pierce County, Washington,* (May 14, 1999).

in concentrations ranging from 41,200 to 74,000 ppb. Of note, groundwater was observed seeping into catch basins on the east side of the site during the 2000 drain cleaning operation.

Sampling of the site catch basins was conducted again in 2003 by Ecology and the City of Tacoma. Phthalates were found in concentrations significantly above the Commencement Bay Sediment Quality Objectives. BEHP results ranged from 41,200 to 200,000 ppb; butyl benzyl phthalate (BBP) was also present in concentrations ranging from 1,460 to 61,000 ppb.[2]

In 2006, the City of Tacoma reported that Outfall 245 differed from other outfalls with respect to the detected phthalate compounds. It had a higher median concentration of BBP, in contrast to other outfalls where BEHP was the phthalate compound with the highest median concentration. Higher mean, median, and maximum concentration of BEHP were also observed. Possible identified upgradient sources for phthalates were the Truck Rail Handling site and storm lines. [3]

City of Tacoma cleaned 660 feet of private and municipal storm lines upgradient of Outfalls 245 and 248 in September 2007 that may have been missed in previous cleaning efforts. Analysis of removed sediments found significant concentrations of both BEHP and BBP, indicating a potential source of residual contamination affecting the sampling results from Outfalls 245 and 248.[4] However, sampling of the outfall sediments in 2008 continued to show elevated concentrations of phthalates despite the cleaning.

In March 2010, the City of Tacoma noted that OF 245 still exhibited a notably different phthalate composition, dominated by BBP, and had higher concentrations than most other sites.[5]

This site has been used to transload liquid and powder products containing phthalates. Sediments in the site's catch basins and storm drains contained significant concentrations of phthalates. Private and municipal storm lines and catch basins have been cleaned. However, elevated concentrations of phthalates continue to be detected in the City's downgradient outfall. A potential source of the phthalate contamination in the storm water collection system is the subject site. It is possible that the shallow groundwater at this site is contaminated with phthalate compounds and transporting the contamination into the stormwater conveyance system via infiltration.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

The scope of this Site Hazard Assessment did not include a hydrogeologic survey of the subject site and surrounding area. The groundwater contamination documented at the subject site is therefore considered to have the potential to impact any well located within the prescribed 2-mile radius and all such wells were used in the scoring process.

[2] Washington State Department of Ecology, *Ecology sample results at Truck Rail Handling Site (Former MPS) facility, 457 East 18th Street, Tacoma, Washington, March 2001 and March 2003.*(February 22, 2007).
[3] City of Tacoma, *Thea Foss and Wheeler Osgood Waterways 2006 Stormwater Source Control Report.* (2006).
[4] City of Tacoma,*Thea Foss Waterway Outfall 245/248 Storm line Cleaning Memorandum,* (November 26, 2007).
[5] City of Tacoma Public Works Department, *2009 Source Control and Water Year 2009 Stormwater Monitoring Report*,(March 2010).

Due to the significant contamination documented on-site being primarily subsurface, the air route is not applicable for WARM scoring for this site. Thus, only the surface and groundwater routes will be scored.

ROUTE SCORES:

Surface Water/Human Health: **17.6**

Surface Water/Environ. **18.8**

Air/Human Health: **NS**

Air/ Environmental: **NS**

Ground Water/Human Health: **44.8**

OVERALL RANK: 4

Worksheet 2--Route Documentation

1. SURFACE WATER ROUTE:

a. List those substances to be considered for scoring: **Source: ____**

TPH-diesel, TPH – Mineral Oil, Arsenic, bis (2-ethyl hexyl) phthalate (BEHP), butyl benzyl phthalate (BBP)

b. Explain basis for choice of substances(s) to be used in scoring:

Arsenic, BEHP and BBP will be scored for the surface water route. Arsenic will be scored due to concentrations detected groundwater, verified through sample analysis. BEHP and BBP will be scored due to concentrations detected in onsite catch basins with observed groundwater infiltration verified through sample analysis and because all substances were available to the surface water route through less than perfect containment.

c. List those management units to be considered for scoring: **Source: ____**

Spills, releases and/or unpermitted discharges.

d. Explain basis for choice of unit to be used in scoring:

Spills, releases and unpermitted discharged will be the management unit used for scoring due spillage or leakage from a source that has not been identified, but likely the result of process and operations ocurring on the site. Unpermitted discharge may be ocurring as suggested by analytical and visual confirmation of contamination entering site catch basins that discharge through storm sewer infrastructure to nearby surface water.

2. AIR ROUTE: *Not Scored*

3. GROUND WATER ROUTE:

a. List those substances to be considered for scoring: **Source: ____**

TPH-diesel, TPH – Mineral Oil, Arsenic, bis (2-ethyl hexyl) phthalate (BEHP), butyl benzyl phthalate (BBP)

b. Explain basis for choice of substances(s) to be used in scoring:

Arsenic, BEHP and BBP will be scored for the groundwater route. Arsenic will be scored due to concentrations detected groundwater, verified through sample analysis. BEHP and BBP will be scored due to concentrations detected in onsite catch basins with observed groundwater infiltration verified through sample analysis and because all substances were available to the groundwater route through less than perfect containment.

c. List those management units to be considered for scoring: **Source: ____**

Spills, releases and/or unpermitted discharges.

d. Explain basis for choice of unit to be used in scoring:

Spills, releases and unpermitted discharged will be the management unit used for scoring due spillage or leakage from a source that has not been identified, but likely the result of process and operations ocurring on the site.

Worksheet 4 - Surface Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

	Substance	Drinking Water Standard (ug/1)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg-bw)	Val.	Carcinogenicity WOE	Carcinogenicity PF*	Val.
1	Arsenic	10	8	763 (rat)	5	0.001	5	A	1.75	7
2	BBP	4	8	2330 (rat)	3	0.2	1	C	--	ND
3	BEHP	--	ND	30600 (rat)	1	0.02	1	B2	0.014	4
4										
5										
6										

*Potency Factor

Source: 3

Highest Value: 8 (Max=10)

Plus 2 Bonus Points? 2

Final Toxicity Value: 10 (Max=12)

1.2 Environmental Toxicity

	Substance	☐ Freshwater ☒ Marine Acute Water Quality Criteria	Value	Non-human Mammalian Acute Toxicity (mg/kg)	Value
1	Arsenic	69 ug/l	6		
2	BBP	2994 ug/l	2		
3	BEHP	2944 ug/l	2		
4					
5					
6					

Source: 2

Value: 4 (Max 10)

1.3 Substance Quantity

Substance Quantity: >16.8 yd^3 – 83 yd^3

Explain Basis: Unknown, conservative estimate based on median value 5.

Source: 2

Value: 5 (Max 10)

Worksheet 4 (cont'd)

2.0 MIGRATION POTENTIAL		SOURCE	VALUE
2.1	**Containment** Spills, Discharge, and Contaminated Soil **Explain Basis:** Unmaintained or ineffectively maintained run-on run-off control.	2	**4** (Max = 10)
2.2	**Surface Soil Permeability:** Contaminated groundwater enters storm drain and discharges to surface water.	2	**7** (Max = 7)
2.3	**Total Annual Precipitation:** >30 – 48 inches	9,11	**3** (Max = 5)
2.4	**Max. 2-Yr/24-hour Precipitation:** > 2-4	2	**3** (Max = 5)
2.5	**Flood Plain:** FEMA Zone A, 100 year flood plain	11	**2** (Max = 2)
2.6	**Terrain Slope:** Piped to surface water.	11	**3** (Max = 5)

3.0 TARGETS		SOURCE	VALUE
3.1	**Distance to Surface Water:** Piped to surface water.	11	**10** (Max = 10)
3.2	**Population served within 2 miles (See WARM Scoring Manua regarding direction): √ pop.= √ 0 = 0**	11	**0** (Max = 75)
3.3	**Area irrigated within 2 miles: (0.75) √ no. acres =** **(Refer to note in 3.2.) : (0.75) √ 0 = 0**	11	**0** (Max = 30)
3.4	**Distance to nearest fishery resource:** >10,000 ft to nearest fishery resource.	11	**0** (Max = 12)
3.5	**Distance to, and name(s) of, nearest sensitive environment(s)** < 1,000 ft, 6.5 acre wetland.	11	**12** (Max = 12)

4.0 RELEASE	Source	Value
Explain basis for scoring a release to surface water: Analytical data confirming presence of scored toxics in site catch basins, see narrative.	1	**5** (Max = 5)

Worksheet 6 – Ground Water Route

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

	Substance	Drinking Water Standard (ug/1)	Val	Acute Toxicity (mg/kg-bw)	Val	Chronic Toxicity (mg/kg/day)	Val	Carcinogenicity		Val
								WOE	PF*	
1	Arsenic	10	8	763 (rat)	5	0.001	5	A	1.75	7
2	BBP	4	8	2330 (rat)	3	0.2	1	C	--	ND
3	BEHP	--	ND	30600 (rat)	1	0.02	1	B2	0.014	4
4										
5										
6										

***Potency Factor**

Source: **2, 3**

Highest Value: **10** (Max=10)

Plus 2 Bonus Points? **0**

Final Toxicity Value: **10** (Max=12)

1.2 Mobility (Use numbers to refer to above listed substances)

Cations/Anions:	OR Solubility (mg/1):
1=	1= **Arsenic** = 3
2=	2= **BBP** = 0
3=	3= = 0
4=	4=
5=	5=
6=	6=

Source: **2, 3**

Value: **3** (Max=3)

1.3 Substance Quantity: > 16.8 - 83 yd^3

Explain basis: Unknown, conservative estimate based on median valu
5.

Source: **1, 2**

Value: **5** (Max=10)

Worksheet 6 (cont'd)

2.0 MIGRATION POTENTIAL

2.1	**Containment** Spills, Discharges, Contaminated Soil **Explain basis:** score as landfill with no liner (3), low permeability cover (1), no leachate collection system (2).	**Source: 1, 2**	**Value: 6** (Max = 10)
2.2	**Net precipitation:** 35 **inches**	**Source: 2, 9**	**Value: 4** (Max = 5)
2.3	**Subsurface hydraulic conductivity:** silty sand/silty sand	**Source: 1, 2**	**Value: 3** (Max = 4)
2.4	**Vertical depth to ground water:** 0-25 **feet**	**Source: 1,2,7**	**Value: 8** (Max = 8)

3.0 TARGETS

3.1	**Ground water usage:** EPA Sole Source Aquifer	**Source: 2, 11**	**Value: 10** (Max = 10)
3.2	**Distance to nearest drinking water well:** 8,995 **feet.** City of Tacoma Municiple Well	**Source: 2,7,11**	**Value: 1** (Max = 5)
3.3	**Population served within 2 miles: √ pop. = √** ≥10,000 **=** 100	**Source: 2,8,11**	**Value: 100** (Max = 100)
3.4	**Area irrigated by (groundwater) wells within 2 miles:** **(0.75) √** 9 **No. acres =** 2.25	**Source: 2, 6**	**Value: 3** (Max = 50)

4.0 RELEASE

Explain basis for scoring a release to ground water: Contaminated groundwater confirmed through sampling and analysis.	**Source: 1, 2**	**Value: 5** (Max = 5)

Truck Rail Handling Chronology
Summary

In the course of performing the basic research for the pretreatment inspection, back sanitary sewer charges and looking for building plans for an unconfirmed CB and private lift station, I found TRH did not have a CO and the sanitary sewer in-lieu-of assessment wasn't paid. I notified the industry of my findings. Mike McPherson indicated he wanted to discuss these findings with BLUS so I gave him Pete Rambow's contact info. BLUS decided to issue the Stop Work Order in July 2012 and later issued two civil penalties which are still outstanding. I also provided Sue Simpson a map showing the private sewer lines connected to the public sanitary sewer and told Tom Pickford about the potential for biodiesel storage in the tank farm.

Nov. 2007—Storm mapped

May 2012—Assumed TRH from Shawn—questioned why TRH wasn't regulated under Part 442 Transportation Equipment Cleaning

May 17, 2012—TRH notified of incomplete report—signatory statements missing
--TRH requests a discharge
--Determined TRH was not billed for its wastewater discharges since 2010 and notified TRH

May 22, 2012—Conducted pretreatment inspection—question about interior drains discharging to CB on building's north side and lift station—Construction Division 1990 as-built shows lift station and approximately 300 feet of 6" sanitary line are private but City has it as public;
Provided TRH an IWWP application in anticipation of TEC permit modification

May 23, 2012—Jim Oberlander requests private sanitary system mapped to update govME if necessary.

May 29, 2012—TRH has its private lift station pumped out and repaired. TRH notified it can no longer bypass lift station when discharging contact stormwater to sanitary sewer—need to identify discharge point on within the property.

June 8, 2012—TRH notified of the outstanding wastewater charges not paid since 2010.

June 11, 2012—Level I enforcement for failing to monitor all pollutants required by permit.
Requested Peter Van Pelt arrange to map sanitary sewer system including lift station; also asked Sewer Transmission and Mike Rose to confirm ownership of lift station.

July 18, 2012—Mike Rose and Madeline M confirm lift station and 300' of 6" sanitary sewer line is not public. Sent TRH an email regarding our findings regarding private sanitary sewer system.

June 20, 2012—mapping crew put over 500 gallons of water and dye into suspect CB—never found the dye in storm or sanitary sewers. Later found 2010 email from McPherson to Reiter that CB was a dry well.

October 15, 2012—found out during pretreatment inspection, two tanks leased to Whole Energy for biodiesel storage—notified Tom Pickford.

October 16, 2012—Notified LID/Sue Simpson of outstanding in-lieu-of assessment for parcel.

October 25, 2012—TRH backbilled approx. $2300 for past WW discharges. While looking at account, found civil penalties assessed by CBS not paid. Asked Nick Stephens for an update since this is a permitted facility.

Truck Rail Handling Storm and Sanitary Sewer Collection Systems 457 E. 18th Street

Storm Drains	Storm Lines	Sanitary Assets	Private Catch Basins	Sanitary Cleanout
Storm Manholes	City Sanitary Lines	Sanitary Drains	Private Stormlines	Private Water Quality Devices

Tacoma

N E S W

Scale 1: 1,140

Storm collection system mapped 11/2007 per NPDES requirements
Sanitary collection system mapped and Storm updated 06/2012

ATTACHMENT A.8 - OF254

Print Preview

Business Inspection ID: 12-BI-0654
Business Partner/SapID: 29629
Business Inspection: INS DETENTION FACILITY
Business Site Address: 1623 E. J ST Suite: NA
Business Mail Address: TACOMA, WA 98421

Inspection Information

Activity Type	Site Inspection	Activity Date	6/28/2012 select date
Inspector	Jason Yost	Sample No.	
2nd Inspector	John Sunich		
Contact	find add	Contact	Anthony Asis
Owner	find add	Owner	

Collection System Information

Catch Basin	8	socks and basins impacted	Oil/Water Separator	1	good
Grass Swales	0		SW Management	0	
Retention Pond	0		Stormcepter	0	
Drywell	0		UG Vault	0	
Filter	0		Infiltration	0	
Other	1	Grease device-heavily impacte	Shared System	0	
			No Treatment	0	

- [ ] No Further Action Required
- [ ] Non-Domestic Discharge

Notifications / Actions

- [ ] Notify EPA DOE
- [ ] Notify Fire
- [x] Notify Owner
- [ ] Notify Tax & License
- [ ] Notify TPCHD
- [ ] Enforcement Authority
- [ ] Haz Mat Storage
- [ ] Maintenance Contract
- [x] PreTreatment BMP
- [x] Storm BMPs
- [x] Photos Taken 24
- [x] Records Inspection
- [x] Sample Collected
- [ ] Sample Split

Detailed Concerns and Other Information

History

-Site located within the Wheeler-Osgood drainage basin via OF24.
-See database for history of site.
-NAICS#922140.
-Parcel #'s 8950001420, 8950001430, 0320044004, 0320044001, 0320033003, 0320044002.
-Site Maintenance Manager: Tony Asis

Opening Conference

-J Sunich, T Miller and I met onsite with maintenance manager at 0900 and discussed nature of visit giving an overview of what we needed to sample and inspect.
-Annual stormwater device inspection and inspection to follow up on our previous Phthalate source tracing investigation.

Compliance Concern / Nature of Problem

-Top hat catch basin socks 100% impacted with sediment and in bypass.
-Catch basins 60-100% impacted and in bypass.
-Visible grease leaving grease device(bypass condition)

Action Required

-Catch basin socks need to be replaced and catch basins serviced.
-Grease trap needs to be pumped and serviced also increasing service schedule from bi-annually to quarterly.

Hazardous Materials

-N/A

Comments

-Background:
On June 24, 2010 Environmental Services (ES) performed a follow-up phthalate compound and PAH investigation at the Northwest Detention Center (NWDC), 1623 East J Street. The purpose of the investigation was to source-trace contaminants of concern that may impact the sediment and water quality in the Wheeler Osgood

Closing Conference

-Thanked Mr. Asis for his time and departed the site.

Follow Up / Re-Inspection Needed? ☑ **Completion Date:** 6/28/2012 select date

Approved By: Brett Burrows **Approved Date:** 3/5/2013 select date

Submit Inspection Reset the Form

City of Tacoma
Public Works Department

July 24, 2012

SENT VIA CERTIFIED MAIL

Tony Asis, Physical Plant Manager
The Geo Group, Inc.
1623 E. J Street
Tacoma, WA 98421

Subject: Results from June 2012 Phthalate Contamination Investigation in Northwest Detention Center Stormwater System and Grease Interceptor Inspection

Dear Mr. Asis:

Thank you for the assistance provided by yourself and your organization with the phthalate contamination investigation that City of Tacoma's Environmental Services Compliance Support staff has been conducting at your facility since 2006. Enclosed you will find a copy of our field report and sample results regarding the most recent investigation at your facility.

On June 28, 2012, Environmental Services (ES) performed a follow-up phthalate compound and PAH investigation at the Northwest Detention Center (NWDC), 1623 East J Street. The purpose of the investigation was to source-trace contaminants of concern that may impact the sediment and water quality in the Wheeler Osgood Waterway as part of the City of Tacoma's (COT) ongoing commitments to address any potential sediment re-contamination in the Thea Foss and Wheeler Osgood Waterways. The NWDC site has been identified as a potential point source of bis(2-ethylhexyl) phthalate (DEHP), as indicated by earlier investigations conducted by ES in 2006, 2008, 2009 and June 2010.

In summary, the results of the investigation found highly elevated levels of phthalates (DEHP) and zinc in the laundry lint which is coming from the industrial capacity laundry dryer vent system on the roof. The laundry lint is escaping into the outdoor recreation yards where it is pulverized into a gray mud-like material by foot traffic before entering the floor drains and discharging to the stormwater system. Previous sediment samples from this part of the storm system were found to contain high levels of phthalates and zinc.

We are again strongly recommending that you review the operations of the lint collection system to determine if maintenance or modification is necessary to prevent the discharge of lint onto the roof and into the stormwater system. Capturing the lint may help alleviate the source of the high levels of contaminants from entering your private storm system and its treatment devices. Preventing the lint from entering the stormwater system will also reduce the sediment load entering your private storm system thus reducing the frequency and cost associated with storm system maintenance.

Because phthalates are a "contaminant of concern" for pollutants that may enter the City's stormwater system and the Wheeler Osgood Waterway (included in Thea Foss Waterway Federal Superfund Settlement), Environmental Services will coordinate follow up sampling events with you periodically to confirm that the Detention Center's stormwater treatment devices are functioning properly.

During our investigation we also inspected your stormwater conveyance system noting your catch basin socks are fully impacted and the catch basins themselves are 60% impacted and in need of service. City of Tacoma, Source Control, Best Management Practices (BMP) S109 explains that catch basins impacted with sediments in excess of 60% of the working volume no longer function as designed and will allow discharges that violate TMC 12.08.080.

At the time of our visit your grease interceptor was inspected and found to be in need of servicing. Grease was observed exiting the effluent chamber. We requested to see your inspection log and it was not available. It has been determined that since expansion of the detention center your service schedule is no longer adequate to prevent discharges of fats, oils, and grease to the municipal sewer which violates TMC 12.08.020.

Corrective Action Required – Sanitary

- Within 30 calendar days of receipt of this letter please have your grease interceptor cleaned.
- Update and maintain a maintenance log.
- Increase cleaning frequency from semi-annually to quarterly.

Corrective Action Required – Stormwater

- Within 30 calendar days of receipt of this letter please clean your stormwater catch basins.

Again, thank you for your ongoing cooperation and assistance. If you have any questions regarding this matter please contact Source Control Representative Jason Yost at (253)-502-2219, or jyost@cityoftacoma.org

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:JY:cfp
Enclosures: Field Report, Sample Results, TMC Excerpts

cc: Rick Zahner, The Geo Group

By Certified and First Class Mail: 7003 1010 0004 3561 0027
\\fs005\group\EnviroCompliance\Address Files\J Street E\1623 NW Detention Center\NWDC June 2012 letter.docx

Business Inspection ID: 12-BI-0654
Business Partner/SapID: 29629
Business Inspection: INS DETENTION FACILITY
Business Site Address: 1623 E. J ST Suite: NA
Business Mail Address: TACOMA, WA 98421

Inspection Information

Activity Type	Site Inspection	**Activity Date**	6/28/2012
Inspector	Jason Yost	**Sample No.**	
2nd Inspector	John Sunich	**Contact**	Anthony Asis
		Owner	

Collection System Information

Catch Basin	8 socks and basins impacted	**Oil/Water Separator**	1 good
Grass Swales	0	**SW Management**	0
Retention Pond	0	**Stormcepter**	0
Drywell	0	**UG Vault**	0
Filter	0	**Infiltration**	0
Other	1 Grease device-heavily impacted	**Shared System**	0
		No Treatment	0

- [ ] **No Further Action Required**
- [x] **Non-Domestic Discharge**

Notifications / Actions

- [ ] **Notify EPA DOE**
- [ ] **Notify Fire**
- [x] **Notify Owner**
- [ ] **Notify Tax & License**
- [ ] **Notify TPCHD**
- [ ] **Enforcement Authority**
- [ ] **Haz Mat Storage**
- [ ] **Maintenance Contract**
- [x] **PreTreatment BMP**
- [x] **Storm BMPs**
- [x] **Photos Taken** 24
- [x] **Records Inspection**
- [x] **Sample Collected**
- [ ] **Sample Split**

Detailed Concerns and Other Information

History

-Site located within the Wheeler-Osgood drainage basin via OF24.
-See database for history of site.
-NAICS#922140.
-Parcel #'s 8950001420, 8950001430, 0320044004, 0320044001, 0320033003, 0320044002.
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Opening Conference

-J Sunich, T Miller and I met onsite with maintenance manager at 0900 and discussed nature of visit giving an overview of what we needed to sample and inspect.
-Annual stormwater device inspection and inspection to follow up on our previous Phthalate source tracing investigation.

Compliance Concern or Nature of Problem

-Top hat catch basin socks 100% impacted with sediment and in bypass.
-Catch basins 60-100% impacted and in bypass.
-Visible grease leaving grease device(bypass condition)

Action Required

-Catch basin socks need to be replaced and catch basins serviced.
-Grease trap needs to be pumped and serviced also increasing service schedule from bi-annually to quarterly.

Hazardous Materials

-N/A

Comments

-Background:
On June 24, 2010 Environmental Services (ES) performed a follow-up phthalate compound and PAH investigation at the Northwest Detention Center (NWDC), 1623 East J Street. The purpose of the investigation was to source-trace contaminants of concern that may impact the sediment and water quality in the Wheeler Osgood Waterway as part of the City of Tacoma's (COT) ongoing commitments to address any potential sediment re-contamination in the Thea Foss and Wheeler Osgood Waterways. The NWDC site has been identified as a potential point source of bis(2-ethylhexyl) phthalate (DEHP), as a result of earlier investigations conducted by ES in 2006, 2008, and December 2009.
-Inspected stormwater conveyance system and devices.
-Inspected OWS and grease trap.
-Took samples from previous sampling points NWDC1, NWDC4, and NWDC7, submitted to lab, parameters phthalates and totals for zinc.

Closing Conference -Thanked Mr. Asis for his time and departed the site.

Follow Up / Re-Inspection Needed? ☑ **Completion Date:**
Approved By: **Approved Date:**

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08.28.2012 08:22

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08.28.2012 08:48

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08.28.2012 08:47

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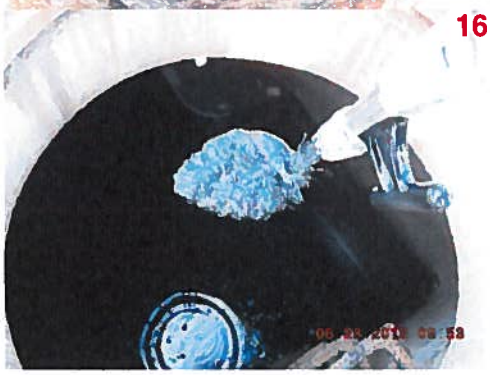
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PW Science and Engineering 326 East D Street Tacoma WA, 98421	Project: NW Detention Center Project Number: ENV030030401 Project Manager: Kurt Fremont	Reported: 17-Jul-12 14:34

NWDC7D
T206159-01 (Soil)
28-Jun-12 09:45

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**32.6**	1.0	1.0	%	28-Jun-12	29-Jun-12	SM2540G
Metals							
Zinc	**1710**	5.32	2.02	mg/kg	03-Jul-12	09-Jul-12	6010B
Semi-VOA							
Butyl benzyl phthalate	**650**	600	270	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Diethylphthalate	**550 J**	600	280	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Dimethyl phthalate	270 U	600	270	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Di-n-butylphthalate	**3700**	600	280	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Di-n-Octyl phthalate	**3700**	600	310	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Surrogate: 2-Fluorobiphenyl		*80.7 %*	*39-92*		*02-Jul-12*	*10-Jul-12*	*8270D*
Surrogate: Terphenyl-d14		*107 %*	*49-128*		*02-Jul-12*	*10-Jul-12*	*8270D*

PW Science and Engineering 326 East D Street Tacoma WA, 98421	**Project: NW Detention Center** Project Number: ENV030030401 Project Manager: Kurt Fremont	**Reported:** 17-Jul-12 14:34

NWDC7D

T206159-01RE1 (Soil)

28-Jun-12 09:45

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**270000**	6000	2600	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Surrogate: 2-Fluorobiphenyl		*73.0 %*	*39-92*		*02-Jul-12*	*10-Jul-12*	*8270D*
Surrogate: Terphenyl-d14		*103 %*	*49-128*		*02-Jul-12*	*10-Jul-12*	*8270D*

PW Science and Engineering	Project: **NW Detention Center**	
326 East D Street	Project Number: ENV030030401	**Reported:**
Tacoma WA, 98421	Project Manager: Kurt Fremont	17-Jul-12 14:34

NWDC4D

T206159-02 (Soil)

28-Jun-12 10:01

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**27.7**	1.0	1.0	%	28-Jun-12	29-Jun-12	SM2540G
Metals							
Zinc	**9780**	58.1	22.1	mg/kg	03-Jul-12	09-Jul-12	6010B
Semi-VOA							
Butyl benzyl phthalate	550 U	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Diethylphthalate	550 U	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Dimethyl phthalate	550 U	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Di-n-butylphthalate	**24000**	1200	560	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Di-n-Octyl phthalate	**6800**	1200	620	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Surrogate: 2-Fluorobiphenyl		*75.3 %*	*39-92*		*02-Jul-12*	*10-Jul-12*	*8270D*
Surrogate: Terphenyl-d14		*79.9 %*	*49-128*		*02-Jul-12*	*10-Jul-12*	*8270D*

PW Science and Engineering	Project: **NW Detention Center**	
326 East D Street	Project Number: ENV030030401	**Reported:**
Tacoma WA, 98421	Project Manager: Kurt Fremont	17-Jul-12 14:34

NWDC4D

T206159-02RE1 (Soil)

28-Jun-12 10:01

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**3000000**	120000	52000	ug/kg dry	02-Jul-12	10-Jul-12	8270D

PW Science and Engineering	Project: **NW Detention Center**	
326 East D Street	Project Number: ENV030030401	**Reported:**
Tacoma WA, 98421	Project Manager: Kurt Fremont	17-Jul-12 14:34

NWDC1D

T206159-03 (Soil)

28-Jun-12 10:19

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
CONVENTIONAL							
Total Solids	**22.5**	1.0	1.0	%	28-Jun-12	29-Jun-12	SM2540G
Metals							
Zinc	**11000**	53.2	20.2	mg/kg	03-Jul-12	09-Jul-12	6010B
Semi-VOA							
Butyl benzyl phthalate	550 U	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Diethylphthalate	550 U	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Dimethyl phthalate	550 U	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Di-n-butylphthalate	**37000 J**	1200	550	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Di-n-Octyl phthalate	**4700**	1200	620	ug/kg dry	02-Jul-12	10-Jul-12	8270D
Surrogate: 2-Fluorobiphenyl		*64.3 %*	*39-92*		*02-Jul-12*	*10-Jul-12*	*8270D*
Surrogate: Terphenyl-d14		*67.0 %*	*49-128*		*02-Jul-12*	*10-Jul-12*	*8270D*

PW Science and Engineering	Project: **NW Detention Center**	
326 East D Street	Project Number: ENV030030401	**Reported:**
Tacoma WA, 98421	Project Manager: Kurt Fremont	17-Jul-12 14:34

NWDC1D

T206159-03RE1 (Soil)

28-Jun-12 10:19

Analyte	Result	PQL	MDL	Units	Prepared	Analyzed	Method
Semi-VOA							
bis(2-Ethylhexyl)phthalate	**2400000**	120000	52000	ug/kg dry	02-Jul-12	10-Jul-12	8270D

12.08.020 Prohibitions on discharges · Sanitary.

A. General Prohibitions. No person shall discharge or permit or cause the discharge of waste into the Municipal Sanitary Sewer System that may cause, either alone or by interaction with other materials, pass through or interference.

B. Specific Prohibitions. In addition, it is unlawful to discharge, cause to discharge, or allow to be discharged directly or indirectly the following pollutants into the City's Municipal Sewer System:

1. Wastewater containing substances:

a. In concentrations that inhibit or interfere with the operation or performance of the Municipal Sewer System; or

b. That are not amenable to treatment or reduction by the sewage treatment process employed, or are only partially amenable to treatment, such that the POTW's effluent cannot meet the requirement of any agency having jurisdiction over the POTW; or

c. In concentrations in excess of limitations imposed in a permit issued by the City or other regulatory agency having jurisdiction; or

d. That impair the use or disposal of POTW sludge and sludge products pursuant to state and federal statutes, including, but not limited to the Solid Waste Disposal Act (42 USC §6901), the Clean Water Act (42 USC §1857), the Toxic Substance Control Act (15 USC §2601).

2. Pollutant(s) which create a fire or explosion hazard in the Municipal Sanitary Sewer System, including, but not limited to, wastewater with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees centigrade (using test methods prescribed in 40 CFR Part 261.21);

3. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through;

4. Any solid or viscous substance capable of obstructing wastewater which will or may cause obstruction to the flow of wastewater or other interference with the operations of the Municipal Sanitary Sewer System;

5. Any noxious, malodorous or toxic liquids, gases, vapors or fumes, solids, or other substances which, either singly or by interaction with other wastewaters may cause acute or chronic worker health and safety problems, a public nuisance, a hazard, or interference with any part of the Municipal Sanitary Sewer System;

6. Any waste, wastewaters or substances having a pH less than 5.5 or greater than 11.0, or those capable of causing damage to structures, equipment, processes or personnel of the sewer system, unless these limits are modified by a wastewater discharge permit, or by a special approved discharge authorization;

7. Pollutants which cause corrosive structural damage to the POTW, but in no event discharges with pH lower than 5.0, unless the POTW is specifically designed to accommodate such discharges.

8. Any liquid or vapor having a temperature higher than 100 degrees Fahrenheit (37.8 degrees centigrade) unless this limit is modified by an industrial wastewater discharge permit;

9. Any trucked or hauled contaminants, such as holding or septic tank wastewater or any nondomestic sources, except such wastewater received at designated locations under City contract or permit in accordance with any other applicable requirements of this chapter or rules adopted hereafter;

10. Any substance with excessive color as determined by the Director, which is not removed in the treatment process;

11. Any batch discharges that have not received written permission of the Director (batch discharges shall comply with all other requirements of this chapter and rules adopted hereafter);

12.08.020 Prohibitions on discharges · Sanitary.

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c. In concentrations in excess of limitations imposed in a permit issued by the City or other regulatory agency having jurisdiction; or

d. That impair the use or disposal of POTW sludge and sludge products pursuant to state and federal statutes, including, but not limited to the Solid Waste Disposal Act (42 USC §6901), the Clean Water Act (42 USC §1857), the Toxic Substance Control Act (15 USC §2601).

2. Pollutant(s) which create a fire or explosion hazard in the Municipal Sanitary Sewer System, including, but not limited to, wastewater with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees centigrade (using test methods prescribed in 40 CFR Part 261.21);

3. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin, in amounts that will cause interference or pass through;

4. Any solid or viscous substance capable of obstructing wastewater which will or may cause obstruction to the flow of wastewater or other interference with the operations of the Municipal Sanitary Sewer System;

5. Any noxious, malodorous or toxic liquids, gases, vapors or fumes, solids, or other substances which, either singly or by interaction with other wastewaters may cause acute or chronic worker health and safety problems, a public nuisance, a hazard, or interference with any part of the Municipal Sanitary Sewer System;

6. Any waste, wastewaters or substances having a pH less than 5.5 or greater than 11.0, or those capable of causing damage to structures, equipment, processes or personnel of the sewer system, unless these limits are modified by a wastewater discharge permit, or by a special approved discharge authorization;

7. Pollutants which cause corrosive structural damage to the POTW, but in no event discharges with pH lower than 5.0, unless the POTW is specifically designed to accommodate such discharges.

8. Any liquid or vapor having a temperature higher than 100 degrees Fahrenheit (37.8 degrees centigrade) unless this limit is modified by an industrial wastewater discharge permit;

9. Any trucked or hauled contaminants, such as holding or septic tank wastewater or any nondomestic sources, except such wastewater received at designated locations under City contract or permit in accordance with any other applicable requirements of this chapter or rules adopted hereafter;

10. Any substance with excessive color as determined by the Director, which is not removed in the treatment process;

11. Any batch discharges that have not received written permission of the Director (batch discharges shall comply with all other requirements of this chapter and rules adopted hereafter);

Tacoma City of Tacoma
Public Works Department

Surface Water Management Manual – September 22, 2008 Handouts:

BMP A713: Maintenance of Stormwater Drainage and Treatment Facilities

Description of Pollutant Sources: Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume 5. Roadside catch basins can remove from 5 to 15 percent of the pollutants present in stormwater. When catch basins are about 60 percent full of sediment, they cease removing sediments. Oil and grease, hydrocarbons, debris, heavy metals, sediments, and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

Pollutant Control Approach: Provide maintenance and cleaning of debris, sediments, and oil from stormwater collection, conveyance, and treatment systems to obtain proper operation.

Required BMPs:
Maintain stormwater treatment facilities according to the O & M procedures presented in Volume 1, Appendix D, in addition to the following BMPs:

- Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine whether improvements in O & M are needed.
- Promptly repair any deterioration threatening the structural integrity of the facilities. These include replacement of clean-out gates, catch basin lids, and rock in emergency spillways.
- Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.
- Regularly remove debris and solids from BMPs used for peak-rate control, treatment, etc. and discharge to a sanitary sewer if approved by the City of Tacoma, or truck to a local or state government approved disposal site.
- Clean catch basins in accordance with the information provided in Volume 1, Appendix D. Additional information is also included in BMP S109: Cleaning Catch Basins.
- Clean debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.
- Post warning signs or curb markers; "Dump No Waste - Drains to Groundwater," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets where practical.
- Disposal of sediments and liquids from the catch basins must comply with "Recommendations for Management of Street Wastes" described in Appendix D of this volume.

City of Tacoma
Public Works Department

Surface Water Management Manual – September 22, 2008 Handouts:

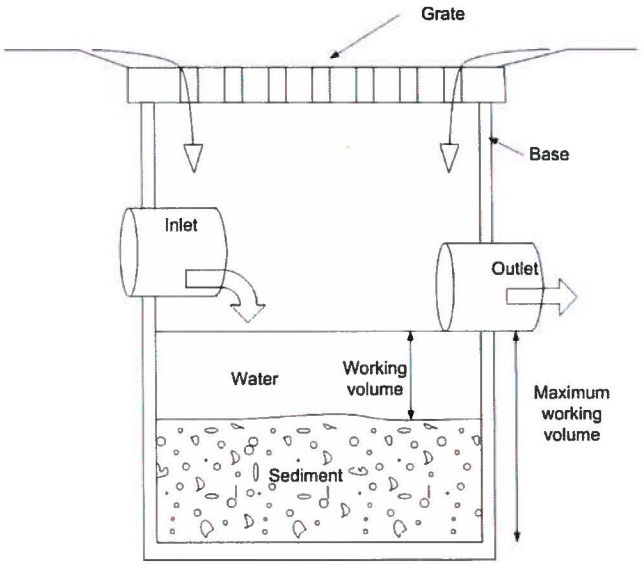
BMP S109: Cleaning Catch Basins

Cleaning catch basins regularly is one of the most important stormwater source control measures that a business can take. Catch basins are typically located at low spots in parking lots, along curbs and road edges, and where storm drain pipes combine flows. Catch basins collect surface runoff for storm drains that are typically located directly underneath them. Most catch basins have some storage in the bottom that never drains to an outflow pipe. This permanent storage area is intended to trap sediments, debris, and other particles that can settle out of stormwater, thus preventing clogging of downstream pipes and washing of these solids into receiving waters. All of the solids and stagnant water collected from catch basin sumps must be disposed of properly. The sump contents shall not be flushed into the catch basin outflow pipe.

For additional information on the maintenance of catch basins, refer to Volume 1, Appendix D. Perform regular inspections of the basins and their grates. Remove trash and collected sediment when 60% of the sump depth has been filled or sediments are within 6 inches of the bottom of the outlet pipe.

It should be apparent that the use of other BMPs, such as frequent sweeping of activity areas, covering activity areas, reducing activity occurrence, and containing run-off from activity areas will help reduce catch basin cleaning frequency, thus saving time and money. All businesses and agencies should set up maintenance schedules for all of their BMPs so coordinated BMP maintenance efforts results in reduced catch basin cleaning frequencies.

Use of catch basin inserts such as filter socks, absorbent pillows, and filter baskets require an increased inspection frequency to prevent plugging and flooding.



Additional Link:

City of Tacoma, Stormwater Systems Cleaning and Sweeping Services and Suppliers of Erosion Control Products:
http://www.cityoftacoma.org/Page.aspx?hid=951#erosion

UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

City of Tacoma
Environmental Services
326 East D Street
Tacoma WA 98421-1801
Attn: Fremont

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Tony Asis, Physical Plant Manager
The Geo Group, Inc.
1623 E. J Street
Tacoma, WA 98421

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) MOE
C. Date of Delivery 7-26-12

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

Service Type
☑ Certified Mail ☐ Express Mail
☐ Registered ☑ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number
(*Transfer from service label*) 7003 1010 0004 3561 0027

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Business Inspection ID: 12-BI-1212
Business Partner/SapID: 29629
Business Inspection: INS DETENTION FACILITY
Business Site Address: 1623 E. J ST Suite: NA
Business Mail Address: TACOMA, WA 98421

Inspection Information

Activity Type	Site Inspection	**Activity Date**	10/31/2012
Inspector	Jason Yost	**Sample No.**	
2nd Inspector	John Sunich	**Contact**	Anthony Asis
		Owner	

Collection System Information

Catch Basin	8 Checked-good	**Oil/Water Separator**	1 Did not inspect
Grass Swales	0	**SW Management**	0
Retention Pond	0	**Stormcepter**	0
Drywell	0	**UG Vault**	0
Filter	0	**Infiltration**	0
Other	1 Grease Device, Checked-good	**Shared System**	0
☑ **No Further Action Required**		**No Treatment**	0
☐ **Non-Domestic Discharge**			

Notifications / Actions

☐ **Notify EPA DOE**	☐ **Enforcement Authority**	☑ **Photos Taken 9**
☐ **Notify Fire**	☐ **Haz Mat Storage**	☑ **Records Inspection**
☑ **Notify Owner**	☐ **Maintenance Contract**	☐ **Sample Collected**
☐ **Notify Tax & License**	☑ **PreTreatment BMP**	☐ **Sample Split**
☐ **Notify TPCHD**	☑ **Storm BMPs**	

Detailed Concerns and Other Information

History

-Site located within the Wheeler-Osgood drainage basin via OF24.
-See database for history of site.
-NAICS#922140.
-Parcel #'s 8950001420, 8950001430, 0320044004, 0320044001, 0320033003, 0320044002.
-Site Maintenance Manager: Tony Asis(253-441-0823)

Opening Conference

-Inspection to follow up with action items listed in business inspection 12-bi-0654.
-Sampling stormfilter vault and downstream catch basin if sediment accumulation allows.
-Accompanied by Geo Group Guard during inspection.

Compliance Concern or Nature of Problem

-None at time of inspection.

Action Required

-None at time of inspection.

Hazardous Materials

-N/A

Comments

-Inspected stormwater conveyance system, devices and grease trap - all were recently serviced and in good working order.
-Minimal amounts of sediment were present in stormfilter vault because it was just serviced therefore no sampling took place during this inspection - will reschedule for Early 2013.

Closing Conference -Thanked the guard for his time and departed the site.

Follow Up / Re-Inspection Needed? ☐

Completion Date: 10/31/2012

Approved By: Brett Burrows

Approved Date: 12/12/2012

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FloHawks
Plumbing - Septic
Post Office Box 73399
Puyallup, WA. 98373
800-562-4442
253-848-2371

INVOICE

Invoice Number: 1043357
Invoice Date: 07/06/12

Page: 1

Bill
To: THE GEO GROUP INC
1623 EAST J ST
580176695cxwp103
TACOMA, WA 98421

Location
NW DETENTION CENTER
1623 J ST E
TACOMA, WA 98421

Your Job #:
Ship Date 07/27/12
Due Date 08/10/12
Terms
Job Ticket # 1043357

Customer ID 100022
P.O. Number SEE ADSS LINE

Our Order No. SO141377
SalesPerson

Item/Description	Quantity	U/M	Unit Price	Total Price
MAINTENANCE TANK PUMPING - 4000 GAL.	4,000	GALS		1,300.00
PIERCE COMML AFTER 1000 - 4000 GAL.	4,000	GALS		1,300.00

Session# 20857 Date 8/6/12
Processed By [illegible] Approved [illegible]
Invoice# Invoice Date
Vendor# Remit#
Remit Mess Term Code
580-214-00- - $ Amount
580-214-00- - $ Amount

Tickets on Invoice : 1043357, 1043387,

Amount Subject to Sales Tax 2,600.00
Amount Exempt from Sales Tax 0.00
Account No.: 100022

Subtotal: 2,600.00
Total Sales Tax: 247.00
Total: 2,847.00

9

FloHawks
Plumbing - Septic
Post Office Box 73399
Puyallup, WA. 98373
800-562-4442
253-848-2371

INVOICE

Invoice Number: 1046586
Invoice Date: 08/29/12

Page: 1

Bill
To: THE GEO GROUP INC
580176695CWXP119
1623 EAST J ST
TACOMA, WA 98421

Location
NW DETENTION CENTER
1623 J ST E
TACOMA, WA 98421

Your Job #:
Ship Date 09/04/12
Due Date 09/10/12
Terms
Job Ticket # 1046586

Customer ID 100022
P.O. Number SEE ADDRESS

Our Order No. SO143629
SalesPerson

Item/Description	Quantity	U/M	Unit Price	Total Price
ET BID JOB	1	HOUR	8,330.00	8,330.00

Session# 21080 Date 9/26/12
Processed By [illegible] Approved [illegible]
Invoice# Invoice Date
Vendor# Remit#
Remit Mess Term Code
580-214-00- - $ Amount
580-214-00- - $ Amount

10.31.2012 08:42

10.31.2012 08:43

10.31.2012 08:43

10.31.2012 08:47

10.31.2012 08:47

STOP
10.31.2012 08:51

10.31.2012 08:52

FloHawks
Plumbing • Septic

Post Office Box 73399
Puyallup, WA. 98373
800-562-4442
253-848-2371

INVOICE

Invoice Number: 1043357
Invoice Date: 07/06/12

Page: 1

Bill
To: THE GEO GROUP INC
1623 EAST J ST
580176695cxwp103
TACOMA, WA 98421

Location
NW DETENTION CENTER
1623 J ST E
TACOMA, WA 98421

Your Job #:
Ship Date 07/27/12
Due Date 08/10/12
Terms
Job Ticket # 1043357

Customer ID 100022
P.O. Number SEE ADSS LINE

Our Order No. SO141377
SalesPerson

Item/Description	Quantity	U/M	Unit Price	Total Price
MAINTENANCE TANK PUMPING - 4000 GAL.	4,000	GALS		1,300.00
PIERCE COMML AFTER 1000 - 4000 GAL.	4,000	GALS		1,300.00

Session# 20829 Date 8/6/12
Processed By [illegible] Approved [illegible]
Invoice# _____ Invoicee Date _____
Vendor# _____ Remit# _____
Remit Mess _____ Term Code _____
580-214-00- - $ Amount _____
580-214-00- - $ Amount _____

Tickets on Invoice : 1043357, 1043387,

Amount Subject to Sales Tax	Amount Exempt from Sales Tax
2,600.00	0.00

Account No.: 100022

Subtotal:	2,600.00
Total Sales Tax:	247.00
Total:	2,847.00

FloHawks
Plumbing + Septic
Post Office Box 73399
Puyallup, WA. 98373
800-562-4442
253-848-2371

INVOICE

Invoice Number: 1046586
Invoice Date: 08/29/12

Page: 1

Bill
To: THE GEO GROUP INC
580176695CWXP119
1623 EAST J ST
TACOMA, WA 98421

Location
NW DETENTION CENTER
1623 J ST E
TACOMA, WA 98421

Your Job #:
Ship Date 09/04/12
Due Date 09/10/12
Terms
Job Ticket # 1046586

Customer ID 100022
P.O. Number SEE ADDRESS

Our Order No. SO143629
SalesPerson

Item/Description	Quantity	U/M	Unit Price	Total Price
ET BID JOB	1	HOUR	8,330.00	8,330.00

Session# 27037 Date 9/26/12
Processed By [illegible] Approved [illegible]
Invoice#____ Invoicee Date____
Vendor#____ Remit#____
Remit Mess____ Term Code____
580-214-00- - $ Amount____
580-214-00- - $ Amount____

City of Tacoma
Public Works Department

April 25, 2012

Paula Henry
First Student, Inc.
1128 St. Paul Avenue
Tacoma, WA 98421

Hand Delivered
Paula Henry 4-25-2012
Received by Date

Subject: **Second Warning Letter – Follow-up Communication/Addendum**
Petroleum Discharge to Surface Streets

Dear Ms. Henry:

On Monday April 23rd, 2012, City of Tacoma Environmental Services issued a Second Warning Letter documenting the two most recent discharges of diesel fuel from First Student buses to St. Paul Avenue. The letter was delivered on Tuesday, April 24th.

On the evening of April 23rd a First Student driver failed to properly attach a fuel cap and discharged diesel fuel to St. Paul Avenue at two rail crossings and at the First Student entrance. Tacoma Municipal Code (TMC) 12.08 prohibits the discharge of pollutants into the City's stormwater system. Environmental Service's records indicate that this is the seventh illicit discharge of fuel due to operator error in the last two years.

First Student staff appears to have responded appropriately to the April 23rd discharge. The Department of Ecology was notified, as well as the City of Tacoma Environmental Services emergency pager line (253-428-2721). First Student deployed adsorbents, and appears to have successfully prevented fuel from entering the stormwater system. Environmental Services understands First Student has also begun implementing aggressive personnel policies regarding proper spill prevention and response, and is planning to install fuel caps with locks and/or mechanisms requiring proper attachment.

Environmental Services supports your endeavor to eliminate such illicit discharges and offers to provide technical assistance for operator training and education. However, the City of Tacoma is required to implement an enforcement strategy under Department of Ecology permit requirements, and warns that future discharges to City streets and/or the stormwater system may result in escalating enforcement actions including, but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

If you have any questions or need more information, please contact Kurt Fremont at kfremont@cityoftacoma.org or (253) 502-2238.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:cfp

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Tacoma
City of Tacoma
Public Works Department

September 18, 2012

Paula Henry
First Student, Inc.
1128 St. Paul Avenue
Tacoma, WA 98421

Hand Delivered
Received by 9/19/12 Date

Subject: **Notice of Violation with Corrective Action Order**

Dear Ms. Henry

On Aug 17, 2012, City of Tacoma Environmental Service's Compliance Support staff documented a surface water management code violation due to a series of fuel spills from 2115 River Street to Portland Avenue proceeding north to the entrance of the First Student, Inc. bus yard entrance at 1128 St. Paul.

Notice of Violation – Failure to Implement Source Control Measures

Enclosed you will find a Notice of Violation with Corrective Action Order describing First Student, Inc's failure to control the discharge of a pollutant from one of its buses to public streets, which in turn may be discharged to the City's municipal stormwater system and to the Thea Foss Waterway. The discharge was a violation of TMC 12.08.090 C. under 'Stormwater program requirements' which states: "Source Controls shall be implemented by all businesses and public entities engaged in pollution generating activities." In accordance with TMC 12.08.675, this Notice of Violation includes a corrective action order requiring First Student to take actions to prevent diesel fuel-related pollutants from coming into contact with City streets from the failure to secure fuel caps.

Appeal Process

This Notice of Violation with Corrective Action Order represents a determination by the Director that a violation of Chapter 12.08 TMC has occurred, which is final unless you appeal this Notice of Violation to the City of Tacoma Hearing Examiner and request a hearing. If you decide to file an appeal, you must do so within thirty (30) days from your receipt of this Notice. (Pursuant to TMC 12.08.675.C, "Proof of service [receipt by you] shall be established by the date and signature of the addressee on the certified mail "return receipt" form, or upon the third day following the date upon which the notice of violation was placed in the mail, unless the third day falls on a Saturday, Sunday, or legal holiday, in which event service shall be deemed complete on the end of the next day which is neither Saturday, Sunday, or a legal holiday.") The procedures for filing an appeal are set forth in TMC 12.08.675 and TMC 12.08.678.

Appeals must be directed to:

City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

Sincerely,

John F O'Loughlin, P.E.
Division Manager, Science and Engineering

JO:KF:JY:cfp
Enclosures: Notice of Violation with Corrective Action, Tacoma Municipal Code excerpts

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City of Tacoma
Department of Public Works
Environmental Services Compliance Support

IN THE MATTER OF NOTICE OF VIOLATION with CORRECTIVE ACTION	)))	No. 2012 – 004

Paula Henry
First Student, Inc.
1128 St. Paul Avenue
Tacoma, WA 98421

I. Authority and Violations

In accordance with Tacoma Municipal Code (TMC) 12.08.675, the City of Tacoma Public Works Department (City) is issuing this Notice of Violation with Corrective Action Order to First Student, Inc. for:

- The failure to implement Source Controls in accordance with TMC 12.08.090.C.2 to prevent diesel fuel contaminants from coming into contact with stormwater.

II. Background

On August 17, 2012, City of Tacoma Environmental Service's Compliance Support personnel responded to a series of diesel fuel spills occurring at railroad crossings and intersections along Portland Avenue and St. Paul Avenue. It was determined that a First Student, Inc. (First Student) bus driver failed to attach a fuel cap after refueling at 2115 East River Street. At several intersections and rail crossings diesel fuel spilled to the street surface as the driver returned to the bus yard at 1128 St. Paul Avenue.

On seven (7) previous occasions, similar discharges to the City's streets and stormwater system have been documented as attributable to First Student drivers failing to attach the fuel tank caps after refueling. On June 13, 2011, a Warning Letter was issued to First Student requiring that an emergency response plan be developed outlining steps that will be taken to prevent such discharges. On April 25, 2012, a second Warning Letter was issued for two spill events that occurred that month that recognized First Student's effort to implement personnel policies and operational/structural practices that would address the issue of drivers failing to attach fuel caps and discharging diesel to the City's streets for eventual collection by and discharge from the City's municipal stormwater system.

Properly securing fuel tank caps on vehicles operated by First Student is a "Source Control" action under Tacoma Municipal Code 12.08.010 because such action prevents the spill of diesel fuel onto public streets where precipitation can cause diesel fuel-related pollutants to be collected by and discharged from the City's municipal stormwater system to receiving waters.

This Notice of Violation with Corrective Action is issued to ensure First Student takes appropriate Source Control action to properly secure its fuel tank caps on the vehicles it operates to prevent diesel fuel from spilling onto public streets for eventual collection by the City's municipal stormwater system.

III. Notice of Violation

TMC 12.08.090 C. '*Stormwater program requirements*' states:

> *"Existing Discharges and Land Uses. Source Controls shall be implemented by all businesses and public entities engaged in pollution generating activities."*

By failing to secure fuel tank caps on one or more of the vehicles it was operating on August 17, 2012, First Student caused diesel fuel to be spilled onto Portland Avenue and St. Paul Avenue in the Tacoma tideflats, where it can be flushed into the municipal stormwater system by rainfall or snowmelt. First Student is required by TMC 12.08.090 C.2 to implement Source Control actions to "prevent contaminants from coming into contact with stormwater." Spilled diesel fuel is a contaminant under TMC 12.08.090 2.C, and First Student's failure to implement Source Control actions to prevent the diesel fuel spills caused contaminants to come into contact with stormwater in violation of TMC 12.08.090 C.2.

IV. Corrective Action Order

In accordance with TMC 12.08.675, this Notice of Violation includes the following corrective action order requiring First Student to take the following actions to prevent diesel fuel-related contaminants from coming into contact with stormwater:

Within 30 calendar days from receipt of this Notice of Violation complete the following:

- Implement operational and/or structural Source Control actions to prevent the spill of diesel fuel to City's streets.
- Submit to Environmental Services an updated First America Emergency Response Plan specifically updated for First Student, Inc. 1128 Saint Paul Avenue, Tacoma WA. Updates must include measures taken to prevent the spill of diesel fuel to the City's streets, and an updated Emergency Contact List including appropriate City contact information.

V. Appeal Process

This Notice of Violation represents a determination by the Director that a violation of Chapter 12.08 TMC has occurred, which is final unless you appeal this Notice of Violation with Corrective Action Order to the City of Tacoma's Hearing Examiner and request a hearing. If you decide to file an appeal, you must do so within thirty (30) days from the date of receipt of this Notice. (Pursuant to TMC 12.08.675.C, "Proof of service [receipt by you] shall be established by the date and signature of the addressee on the certified mail "return receipt" form, or upon the third day following the date upon which the notice of violation was placed in the mail, unless the third day falls on a Saturday, Sunday, or legal holiday, in which event service shall be deemed complete on the end of the next day which is neither Saturday, Sunday, or a legal holiday.") The procedures for

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City of Tacoma
Tacoma Municipal Building
Office of the Hearing Examiner
747 Market Street
Tacoma, WA 98402

If you file an appeal, any hearing scheduled as a result of your appeal may be canceled if the Director finds that First Student has complied with the actions required by this Notice of Violation with Corrective Action Order.

By Order of the Director of Public Works:

Signed this 14th day of September, 2012.

Richard E. McKinley

Richard E. McKinley
Public Works Director

Appendix A

Spills & Complaints database history

12-0661 Environmental Services Spill Response / Complaint Form

Recorder: JYOST
Date: 8/17/2012
Anonymous ☐
Reported by: J Yost COT
Address:
Home Phone: J Yost COT
Work Phone: 253-502-2219
Best Call Time:

COMPLAINT

Material: Petroleum Product
Source: Transportation
Receiving Waters: Wheeler Osgood Waterway
Drainage Basin:
Incident Date: 8/17/2012
Activity: Unsafe / Improper Operation
Quantity: <5 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: First Student fuel spill from unsecured fuel cap
Business: First Student
Address: 1128 St Paul Ave
Parcel No.:
Comments: First Student fuel spill from unsecured gas cap
Contact: Paula Henry
Phone: 253-272-7750

NOTIFICATIONS / ACTIONS

Investigator: Jason Yost
☑ **Site Visit & Date:** 8/17/2012

ACTION(S) TAKEN:

☑ Enforcement	☐ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:

-While driving my area Chris Burke and I came across Maintenance Personnel from First Student putting down floor dry on spilled diesel. First Student employee Wilton Wavly informed me it was spilled from an unsecured fuel cap off one of their buses.
-Spill was traced from APP Fueling Station at 2115 E River Street to Portland Ave traveling north to St. Paul Ave and ending at First Student's yard at 1128 St. Paul.
-At that point Paula Henry (First Student) drove up and requested we meet her back at her office. Kurt Fremont came on scene after she left and I relayed to him Paula's request.
-Kurt Fremont, Chris Burke and I went back to First Student's Office and met with Manager Paula Henry. We thanked her for the quick response to put down absorbent and have it swept up. She relayed her frustration that again there was the issue of a spill and had us talk to the driver informing her of the City's Policy and concern of pollutants entering our stormwater conveyance system.
-K. Fremont requested a detailed report of the spill and resulting cleanup efforts and informed Ms. Henry a letter would follow.
-Ms. Henry requested we come to First Student Monday Aug. 20 for their in-service training day to give education on the importance of spill mitigation and the City's obligations to comply with our NPDES Permit with Source Control Programs - See Business Inspection 12-BI-0871.

FOLLOW UP ACTION(S):

☐ Owner Notified	☐ Cleanup Required	☐ Transmission Notified
☐ Caller Notified	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO

Approved By:
Date:

☐ Completed

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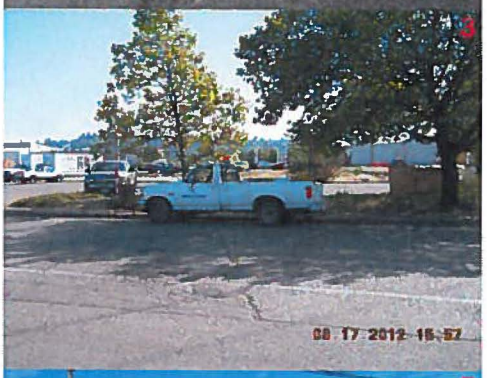
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12-0334 Environmental Services Spill Response / Complaint Form

Recorder: BBURROWS
Date: 4/24/2012
Anonymous ☐
Reported by: Heather Heiss, First Student
Address: 1128 St. Paul Ave
Home Phone: Heather Heiss, First Student
Work Phone: 677-9541
Best Call Time:

COMPLAINT

Material: Petroleum Product
Source: Vehicle
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 4/23/2012
Activity: Unknown / Other
Quantity: <5 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: First Student Bus Fuel Spill
Business: FIRST STUDENT INC
Address: 1128 ST PAUL AVE
Parcel No.:
Comments: Self reported fuel spill.
Contact: Heather Heiss
Phone: 677-9541

NOTIFICATIONS / ACTIONS

Investigator: Brett Burrows
☑ **Site Visit & Date:** 4/24/2012

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☑ Technical Assistance	☑ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☐ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:

At 9:57 pm Ms. Heiss reported a bus driver did not replace fuel tank cap after refueling at APP fuel station. Fuel spilled to leave a series of streaks on the asphalt street and a splash when stopping at the railroad crossing. No material contacted any catch basin or body of water. First Student applied pads and absorbent material to the spilled fuel, then cleaned the area. First Student self reported to the City and WDOE.

At 10:22 pm Andrea Unger, WDOE 360-561-8495 contacted this office to report First Student self reported the fuel spill from a bus after refueling. WDOE was content with the response and self reporting by First Student.

-04/25/2012-bwb- Vehicle inspection the following morning confirmed a spill and cleanup process had occurred. No additional response is required at this time.

kf-5/9/12 email correspondence from STRATA Environmental:
Thank you Nan,
I did receive your voice mail and appreciate this follow up. We look forward to receiving a copy of the updated SOP for spill response, and hope that it includes a strong element for spill prevention. Thank you for your assistance. Please let me know if you need anything from the City's end. Kurt.

Kurt Fremont
City of Tacoma
Environmental Services
Work: (253) 502-2238 ~Mobile: (253) 377-5920
kfremont@cityoftacoma.org

From: Nan Cutshall [mailto:ncutshall@strataenv.com]
Sent: Wednesday, May 09, 2012 1:55 PM
To: kfremont@cityoftacoma.org
Cc: Todd Bachand; Kirkpatrick, Susan; paula.henry@firstgroup.com; steve.dragovich@firstgroup.com
Subject: First Student, Inc. #20229 - Second Warning Letter Response regarding Spill Prevention and Response

Mr. Fremont:

As a followup to the voice mail that I left for you concerning the First Student, Inc. facility located at 1128 Saint Paul Avenue, Tacoma, Washington, Strata Environmental will be updating the facility's existing Standard Operating Procedure for Spill and Release Response to address the concerns of your department.

If you have any questions or require any additional information, please contact me at your convenience.

Thank you for all of your assistance.

Nan D. Cutshall, PE
Senior Environmental Engineer
Strata Environmental
110 Perimeter Park, Suite E
Knoxville, Tennessee 37922
(P) 865.539.2077
(F) 865.539.3970
(C) 865.250.6165
Email: ncutshall@strataenv.com

FOLLOW UP ACTION(S):

- [x] **Owner Notified** Phone Call
- [x] **Caller Notified** 4/23/2012
- [x] **BMPs**
- [ ] **Cleanup Required**
- [ ] **Cost Recovery**
- [ ] **Inspection Required**
- [ ] **Transmission Notified**
- [ ] **Streets & Grounds Notified**
- [ ] **Others City Dept Notified**

OTHER:

- [ ] **SSO**

Approved By:

Date:

- [x] **Completed**

12-0300 Environmental Services Spill Response / Complaint Form

Recorder: KFREMONT
Date: 4/16/2012
Anonymous ☐
Reported by: Kurt Fremont
Address:
Home Phone: Kurt Fremont
Work Phone: 253 502 2238
Best Call Time:

COMPLAINT

Material: Unknown / Other
Source: Unknown / Other
Receiving Waters: Unknown / Other
Drainage Basin:
Incident Date: 4/16/2012
Activity: Unknown / Other
Quantity: Unknown Unknown / Other

ALLEGED VIOLATOR / BUSINESS

Complaint Title: First Student Fuel on St Paul
Business: FIRST STUDENT INC
Address: 1128 ST PAUL AVE
Parcel No.:
Contact: Paula Henry
Phone: 253-272-7750
Comments:

Kurt Fremont driving in to work in POV(7:30)followed heavy splashes of sheen at St Paul rail crossings (15th and First Student)to a large diesel splash in First Student's driveway and gravel area. Stopped and talked with Heather Hieiss-dispatcher. Heather said she called a spill in last week and that this might be residual from that. She thought they had cleaned it up. No record in database of recent First Student call. Asked Heather to deploy her adsorbents and said I would come back later to check up on progress. Also, told Heather that there has been recurring history of this problem from First Student.

Note: Complaint was simultaneously called in to Citizens for a Healthy Bay by a citizen describing the fuel stains coming from the bus garage area and reported to Source Control at 8:30.

NOTIFICATIONS / ACTIONS

Investigator: Kurt Fremont
☑ **Site Visit & Date:** 4/17/2012

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:

Returned at 11:30 with Tony Miller to check in with First Student. Talked with Heather and Paula Henry. Roads and gravel were dry, so no more sheen was evident. Booms had been deployed at CBs in St. Paul and onsite. Everything was dry. Heather provided information about reporting a recent diesel spill on March 23 to NRC and spoke with Mike from the State. No ERTS number available, and no ES database entry denoting recent spill. I asked Heather to include ES pager number as part of thier spill reporting. Discussed with Paula that I found about 5 or 6 ES database entries for diesel spills from First Student for the last two years. She was aware of 3, but asked to see the entries. I said I would email copies and that I would follow up with a letter.

Emailed Paula 4 previous database entries (10-0449, 10-0598,11-0150, 11-0365). Also included a copy of a Warning Letter date June 13, 2011. Recieved the ERTS complaint from Ecology (ERTS#632857), from a spill reported by First Student on 3/23/12. ES was not included in the ERTS referrals. ERTS report attached.

Delivered second warning letter, Paula not available. Left a copy for her signature and discussed ES intentions to assist with training with support staff.

4/25/12-kf Kurt Fremont and Jason Yost met with Paula Henry to discuss the recent spills. Another spill occurred this Tuesday and was reported to Ecology and the pager (Brett). An amendment to the Warning Letter was drafted to address the latest discharge. Paula said she is taking actions to address this. They are purchasing lockable fuel caps so the driver has to take the keys out of the ignition to open caps, they are requiring drivers to notify dispatch when they finish fueling with the statement fuel secure, and they are fueling at a station on Portland that has video of drivers. Future drivers failing to attach fuel caps will be fired, and any penalties resulting will be extracted from the driver (policy from eastern operations). ES discussed coming back in June to deliver a brief regional road maintenance type presentation to drivers to express the importance of water quality and BMPs.

FOLLOW UP ACTION(S):

- [ ] Owner Notified
- [ ] Cleanup Required
- [ ] Transmission Notified
- [ ] Caller Notified
- [ ] Cost Recovery
- [ ] Streets & Grounds Notified
- [ ] BMPs
- [ ] Inspection Required
- [ ] Others City Dept Notified

OTHER:

- [ ] SSO

Approved By: **Date:** 5/3/2012

- [x] Completed

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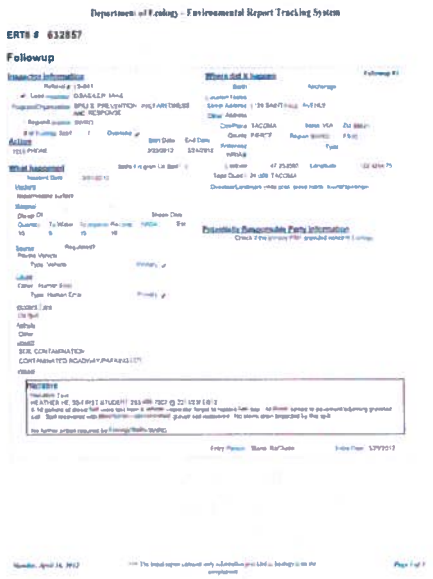

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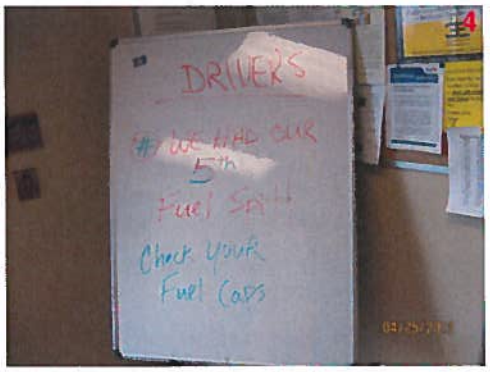

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City of Tacoma
Public Works Department

April 25, 2012

Paula Henry
First Student, Inc
1128 St. Paul Avenue
Tacoma, WA 98421

Hand Delivered
Received by 4-25-2012 Date

Subject: **Second Warning Letter** – Petroleum Discharge to Surface Streets

Dear Ms. Henry:

City of Tacoma Environmental Services investigated heavy fuel stains on St. Paul Avenue on the morning of April 16, 2012. The stains were located at rail crossings near First Student's driveway, and the intersection of St. Paul and East 15th Street. First Student's paved apron and gravel drive area were also stained with fuel. Onsite, a dispatcher was notified and several adsorbent booms were deployed at stormwater catch basins.

Environmental Services was also notified by First Student that a spill was reported to Ecology on March 23, 2012 (ERTE#632857).

Tacoma Municipal Code (TMC) 12.08 prohibits the discharge of pollutants into the City's stormwater system. First Student, Inc. is required to take immediate steps to prevent the discharge of pollutants to the City's streets and stormwater conveyance systems. First Student, Inc. must provide a copy of the facility's emergency spill response plan and outline steps that will be taken to prevent further incidences.

Failure to adequately address the concerns of this **Second Warning Letter** with City of Tacoma Environmental Services will result in escalating enforcement actions, including but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

If you have any questions or need more information, please contact **Kurt Fremont** at kfremont@cityoftacoma.org or (253) 502-2238.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:db

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Environmental Services Science and Engineering | 326 East D Street | Tacoma, Washington 98421 (fax) | (253) 591-5588
www.cityoftacoma.org

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City of Tacoma
Public Works Department

April 25, 2012

Paula Henry
First Student, Inc.
1128 St. Paul Avenue
Tacoma, WA 98421

Hand Delivered
Received by 4-25-2012 Date

Subject: **Second Warning Letter – Follow-up Communication/ Addendum**
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First Student staff appears to have responded appropriately to the April 23rd discharge. The Department of Ecology was notified, as well as the City of Tacoma Environmental Services emergency pager line (253-428-2721). First Student deployed adsorbents, and appears to have successfully prevented fuel from entering the stormwater system. Environmental Services understands First Student has also begun implementing aggressive personnel policies regarding proper spill prevention and response, and is planning to install fuel caps with locks and/or mechanisms requiring proper attachment.

Environmental Services supports your endeavor to eliminate such illicit discharges and offers to provide technical assistance for operator training and education. However, the City of Tacoma is required to implement an enforcement strategy under Department of Ecology permit requirements, and warns that future discharges to City streets and/or the stormwater system may result in escalating enforcement actions including, but not limited to, Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

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Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:db

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Environmental Services Science and Engineering | 326 East D Street | Tacoma, Washington 98421 (fax) | (253) 591-5588
www.cityoftacoma.org

City of Tacoma
Public Works Department

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Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:KF:cfp

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City of Tacoma
Public Works Department

April 25, 2012

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Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK KF:cfp

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11-0365 Environmental Services Spill Response / Complaint Form

Recorder: SMADISON
Date: 6/1/2011
Anonymous ☐
Reported by: Rick N. CoT
Address:
Home Phone: Rick N. CoT
Work Phone:
Best Call Time:

COMPLAINT

Material: Petroleum Product
Source: Transportation
Receiving Waters: Wheeler Osgood Waterway
Drainage Basin:
Incident Date: 6/1/2011
Activity: Unsafe / Improper Operation
Quantity: Unknown Unknown / Other

ALLEGED VIOLATOR / BUSINESS

Complaint Title: First Student Diesel Spill
Business: First Student Inc
Address: 1128 Saint Paul Avenue
Parcel No.:
Contact: Paula Henry
Phone: 253-272-7750
Comments: Received page from business indicating that a truck returning from fill up spilled diesel from station on Puyallup Ave to yard on St Paul

NOTIFICATIONS / ACTIONS

Investigator: Shawn Madison
☑ **Site Visit & Date:** 6/1/2011

ACTION(S) TAKEN:

☑ Enforcement
☑ Investigate
☐ No Action
☑ Voluntary Compliance
☐ In Compliance
☐ Written Response
☑ Technical Assistance
☐ Refer to WDOE
☐ Refer to TPCHD
☐ Hazard Material
☑ Photos Taken
☐ Samples Taken

Narrative Comments:

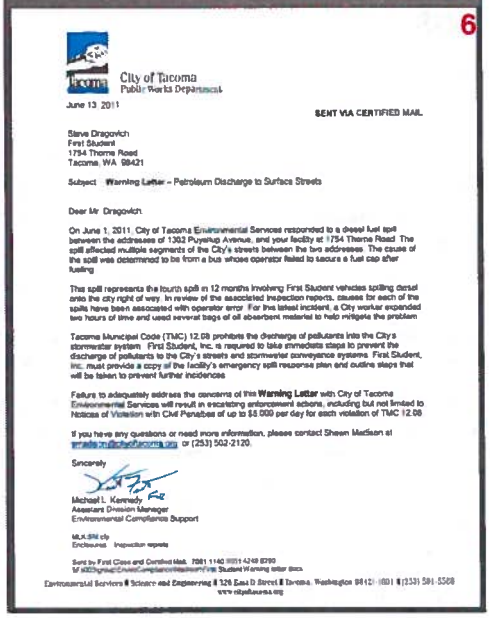
On site and met with Paula, asked what had happend and where the spill was. She indicated a driver traveled down Puyallup to Portland, then to St Paul. She indicated a crew was already dispached with spill materials. Departed bus yard and found crew cleaning a large area crossing the railroad tracks. I stopped and asked what they had done so far, they indicated this was the first stop. I explained I would go up to the fuel station and work back to them.
Large area on Puyallup needed floor dry. Applied 2.5 containers
Moved to next major spot at the corner of Portland and St. Paul, Applied 2.5 buckets of floor dry.
Crew from First Student stopped by and asked of progress I explained the material has been applied it now needs to be swept up. They indicated they would start on that. I finished the area and departed
06/02/11 SM CoT Called Steve Dragovich and asked about spill from last night, He indicated he was unaware of the spill. I explained to him that a driver forgot to replace the fuel cap and spilled fuel from the Unical Gas station on Puyallup Ave back to the yard.
I explained to him this was the 4th time in a year we have responded to this type of incident. That they would be receiving a response letter from us which could include cost recovery charges and the possibility of a fine.

FOLLOW UP ACTION(S):

☑ Owner Notified In Person
☑ Caller Notified 6/1/2011
☐ BMPs
☑ Cleanup Required
☐ Cost Recovery
☐ Inspection Required
☐ Transmission Notified
☐ Streets & Grounds Notified
☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☑ Completed



City of Tacoma
Public Works Department

June 13, 2011

SENT VIA CERTIFIED MAIL

Steve Dragovich
First Student
1754 Thorne Road
Tacoma, WA 98421

Subject: Warning Letter – Petroleum Discharge to Surface Streets

Dear Mr. Dragovich:

On June 1, 2011, City of Tacoma Environmental Services responded to a diesel fuel spill between the addresses of 1302 Puyallup Avenue, and your facility at 1754 Thorne Road. The spill affected multiple segments of the City's streets between the two addresses. The cause of the spill was determined to be from a bus whose operator failed to secure a fuel cap after fueling.

This spill represents the fourth spill in 12 months involving First Student vehicles spilling diesel onto the city right of way. In review of the associated inspection reports, causes for each of the spills have been associated with operator error. For this latest incident, a City worker expended two hours of time and used several bags of oil absorbent material to help mitigate the problem.

Tacoma Municipal Code (TMC) 12.08 prohibits the discharge of pollutants into the City's stormwater system. First Student, Inc. is required to take immediate steps to prevent the discharge of pollutants to the City's streets and stormwater conveyance systems. First Student, Inc. must provide a copy of the facility's emergency spill response plan and outline steps that will be taken to prevent further incidences.

Failure to adequately address the concerns of this **Warning Letter** with City of Tacoma Environmental Services will result in escalating enforcement actions, including but not limited to Notices of Violation with Civil Penalties of up to $5,000 per day for each violation of TMC 12.08.

If you have any questions or need more information, please contact Sheem Madison at [illegible] or (253) 502-2120.

Sincerely,

Michael L. Kennedy
Assistant Division Manager
Environmental Compliance Support

MLK:SM:cfp
Enclosures: Inspection reports

Sent by First Class and Certified Mail: 7081 1140 [illegible] 4249 8790
[illegible] First Student Warning letter docs

Environmental Services ▪ Science and Engineering ▪ 326 East D Street ▪ Tacoma, Washington 98421-1801 ▪ (253) 591-5588
www.cityoftacoma.org

Tacoma
City of Tacoma
Public Works Department

June 13, 2011

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Sincerely,

Michael L. Kennedy For:
Assistant Division Manager
Environmental Compliance Support

MLK:SM:cfp
Enclosures: Inspection reports

Sent by First Class and Certified Mail: 7001 1140 0001 4249 9290
\\Fs005\group\EnviroCompliance\Madison\First Student Warning letter.docx

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Steve Dragovich
First Student
1754 Thorne Road
Tacoma, WA 98421

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

428 ST PAUL
Tacoma 98421

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7001 1140 0001 4249 9290

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

UNITED STATES POSTAL SERVICE
TACOMA - OLYMPIA
WA 983
15 NOV 2011 PM 4 T

First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

City of Tacoma
Environmental Services
326 East D Street
Tacoma WA 98421-1801
Attn: Madison

501

11-0150 Environmental Services Spill Response / Complaint Form

Recorder: RNORBERG
Date: 3/9/2011
Anonymous ☐
Reported by: Kurt Fremont COT, Enviro Services
Address:
Home Phone: Kurt Fremont COT, Enviro Services
Work Phone: 253-377-5920
Best Call Time:

COMPLAINT

Material: Petroleum Product
Source: Vehicle
Receiving Waters: Unknown / Other
Drainage Basin:
Incident Date: 3/9/2011
Activity: Unknown / Other
Quantity: <5 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Trail of Diesel Fuel from First Student
Business: FIRST STUDENT INC
Address: 1128 ST PAUL AVE
Parcel No.:
Contact: Paula Henry & Steve Dragovich
Phone: 253-272-7750
Comments: Kurt Fremont called to report a heavy sheen on the street in front of First Student's driveway and at the railroad crossings in St Paul heading toward Portland Avenue.

NOTIFICATIONS / ACTIONS

Investigator: Rick Norberg
☑ **Site Visit & Date:** 3/9/2011

ACTION(S) TAKEN:

☐ Enforcement	☐ Voluntary Compliance	☑ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments: There was a heavy trail of diesel sheen leaving the parking lot of First Student out onto St Paul Avenue heading south. It did appear that every time the bus stopped for railroad tracks some fuel splashed out. I put a sump skimmer in the nearest downstream catch basin and another nearer to Portland Avenue (CBs 6509325 and 6510562). No recoverable product, just lots of sheen in the rain. Estimate 1 to 2 gallons spilled. I let Ms. Henry know that reocurring incidents like this might be met with escalated enforcement.
3/11/11-RN-Picked up sump skimmers. Found an extra one in the CB near Portland Ave that must have been there for a long time.

FOLLOW UP ACTION(S):

☑ Owner Notified In Person	☑ Cleanup Required	☑ Transmission Notified
☐ Caller Notified	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By: j. oberlander
Date: 3/22/2011
☑ **Completed**

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03/09/2011

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10-0598 Environmental Services Spill Response / Complaint Form

Recorder: SMADISON
Date: 9/9/2010
Anonymous ☐
Reported by:
Address:
Home Phone:
Work Phone:
Best Call Time:

COMPLAINT

Material: Unknown / Other
Source: Unknown / Other
Receiving Waters: Unknown / Other
Drainage Basin:
Incident Date: 9/9/2010
Activity: Unknown / Other
Quantity: Unknown Unknown / Other

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Diesel Spill - First Student bus
Business: First Student
Address: 1128 St Paul
Parcel No.:
Contact: Vicky Churchhill
Phone: 272-7750
Comments: Recieved call from Andrea Unger at WDoE indicating that the business self reported spill. That a driver filled up on Puyallup Ave and forgot to replace the gas cap. That diesel spilled between the 76 gas station and the bus yard.

NOTIFICATIONS / ACTIONS

Investigator: Shawn Madison
☑ **Site Visit & Date:** 9/9/2010

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☑ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments: Arrived at 76 station. Did not note any material spilled. Driving Puyallup Ave to the corner of Portland found a area 30+ feet long of wet spilled diesel. Appied floor dry and worked in with a broom.
Driving route back to bus yard I noted some smaller spills on the ground. It wasn't until the driveway of the bus yard did I find a large enough still wet area that needed floor dry as well. Went into the Yard and Spoke with Peter Mathwig who indicated he would apply floor sweep to the area and have a sweeper truck come by to sweep up both areas.
9/10/10 SM site visit found work to be completed

FOLLOW UP ACTION(S):

☑ Owner Notified In Person	☑ Cleanup Required	☐ Transmission Notified
☑ Caller Notified 9/9/2010	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☑ **Completed**

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10-0582 Environmental Services Spill Response / Complaint Form

Recorder: LDUNN
Date: 9/3/2010
Anonymous ☐
Reported by: Andrea-Ecology
Address:
Home Phone: Andrea-Ecology
Work Phone: 360.407.6334
Best Call Time:

COMPLAINT

Material: Petroleum Product
Source: Vehicle
Receiving Waters: St. Paul Waterway
Drainage Basin:
Incident Date: 9/3/2010
Activity: Unknown / Other
Quantity: <5 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: Driver Fault-Fuel Cap Improperly Installed
Business: FIRST STUDENT INC
Address: 1128 ST PAUL AVE
Parcel No.:
Contact:
Phone:
Comments: 9/3/2010-0912 Id: Andrea from WA Ecology called to report a First Student bus had a leaking fuel line. Portland Ave and St. Paul streets were affected. Western States Environmental has been contracted to clean-up.

NOTIFICATIONS / ACTIONS

Investigator: Larry Dunn
☑ **Site Visit & Date:** 9/3/2010

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments:
9/3/2010 Id: Kurt Fremont and I surveyed St. Paul and Portland Ave. The diesel fuel had dried on the asphalt, staining the pavement. We then met with Paula Henry with First Student. An organization had leased one of their buses and returned it at aprox 9/2/2010-2000hr. The bus had been refueled at the 76th and Portland station prior to being returned. From all indications, the fuel cap had not been installed correctly after fueling. Western States Environmental was on site and continuing the clean-up. Clean-up costs were being covered by the insurance company of the organization that had leased the bus.
9/3/2010-1422hr Id: John (Foreman) with Western States Environmental called. They installed eight catch basin inserts along path of leaking bus. They will leave them in place for the rainy period coming up (10 days). If no rain, they will leave in place longer. John's phone is 253.520.3995

FOLLOW UP ACTION(S):

☑ Owner Notified	☐ Cleanup Required	☐ Transmission Notified
☐ Caller Notified	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☑ Completed

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10-0449 Environmental Services Spill Response / Complaint Form

Recorder: LDUNN
Date: 7/1/2010
Anonymous ☐
Reported by: Mark Schuller
Address:
Home Phone: Mark Schuller
Work Phone:
Best Call Time:

COMPLAINT

Material: Petroleum Product
Source: Business
Receiving Waters: Thea Foss Waterway
Drainage Basin:
Incident Date: 7/1/2010
Activity: Accident
Quantity: 5-500 Gallon

ALLEGED VIOLATOR / BUSINESS

Complaint Title: 1128 St. Paul Ave-First Student Diesel Spill
Business: First Student Inc.
Address: 1128 St. Paul Avenue
Parcel No.:
Contact: Lee Wickham, Shop Mgr
Phone: 253.272.7746
Comments: 7/1/2010-0900 Id: Mark Schuler, sampling crew, called to report a sheen on St. Paul Avenue & East 15th.

NOTIFICATIONS / ACTIONS

Investigator: Larry Dunn
☑ **Site Visit & Date:** 7/1/2010

ACTION(S) TAKEN:

☐ Enforcement	☑ Voluntary Compliance	☐ Technical Assistance	☐ Hazard Material
☑ Investigate	☐ In Compliance	☐ Refer to WDOE	☑ Photos Taken
☐ No Action	☐ Written Response	☐ Refer to TPCHD	☐ Samples Taken

Narrative Comments: 7/1/2010 Id: Drove down St. Paul and spotted the sheen. Followed the color to Portland Avenue and then on to Puyallup Avenue. Lost the trail on Puyallup. Returned to St. Paul and East 15th and followed the trail to First Student. Spoke to Paula Henry, site manager. Identified the purpose of my visit and Ms. Henry linked me up with Lee Wickham, shop manager. Mr. Wickham and I walked the vehicle park. The vehicle that is spilling/leaking fuel pulled into the POV parking area and the shop area and then appeared to depart the site. Road surfaces were not slick and sheen disappeared as the road surface dried.
Property owner: Calvin Bamford Jr, P O BOX 2274, 701 EAST D STREET,
TACOMA , WA 98401
Send ltr

FOLLOW UP ACTION(S):

☐ Owner Notified	☐ Cleanup Required	☐ Transmission Notified
☑ Caller Notified 7/1/2010	☐ Cost Recovery	☐ Streets & Grounds Notified
☐ BMPs	☐ Inspection Required	☐ Others City Dept Notified

OTHER:

☐ SSO
Approved By:
Date:
☑ Completed

1
First Student

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Table A.8-1
2012 Pipe Maintenance Activities for OF254

Date	Location	Type of Work	Reported by	Outfall	Sub-Basin	Notes
12/05/2012	REQ-TVI, 36 Segements, CLEAN FOR TV	Debris Removed	ES ENGINER	254	FS_14	