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February 23, 2015

**Response to Comment Letter dated February 12, 2014**

Steve Teel, LHG
Site Manager, Toxics Cleanup Program
Ecology, Southwest Regional Office
PO Box 47775
Olympia, WA 98504

Dear Mr. Teel,

At your request, Brown and Caldwell has revised the Parcel 4/Parcel 5 Interim Action Report (IA Report) based on your comment letter dated February 12, 2014. We have compiled responses to your comments, provided below, and have included the revised report. Thank you for your review and comments on the Draft IA Report.

## Response to Comments

1 C: The attached compact disk (CD) only contained an electronic copy of the appendices. Please include electronic copies of both the text and appendices with the next revision. Please also include two hard copies.

R: Both hard copies and electronic copies of the report have been generated. Please allow one to two weeks for delivery of the hard copies.

2 C: Appendix A is still incomplete. Both the original well report and the decommissioning well report need to be included for all of the wells. Appendix A contained both of these logs for MW-1 (well tag ID AKA425) and MW-3 (AKA427) but neither of these logs were present for MW-4 (AKA424) and the original well report needs to be added for MW-16 (APF874) and MW-23S (BAF400). Why was the decommissioning well report for BCN886 included? This well was apparently part of a separate project (LOTT VCP SW0933). Also, please label the well logs with the well designation (for example MW-1).

R: Upon final review of Appendix A and supporting documentation, the Appendix has been revised. The original completion log and decommissioning logs are provided for each well in Appendix A, with the exception of MW-4 (AKA424). Based on our review of the logs submitted by the site contractors, and Ecology's well log data base, we believe AKA424 is a non-unique well tag number. The site contractor that completed the abandonment work has included the abandonment log for BCN886 with the decommissioning logs provided for the site. Correspondence documented the delivery of the

BCN886 log, as well as the Ecology Well Log Database screenshot showing two AKA424 wells is provided in Appendix A.

3 C: Figure 4-1: The sample locations shown on this figure are at the incorrect scale. Please remove the sample location dots and instead show the excavation extent at the correct scale fore each hotspot (such as how they are shown on Figure 2-1). Please show both the "CNF-" hotspot designation and the original designation for the hotspots DP-21, DP-11, DP-18, DP-17, and TP-02). Please also add nearby monitoring well locations to this figure as previously requested in our comment letter. The size of the symbol for the monitoring well location should be reduced in size so that it is more proportionate to the scale of the figure and so they do not dwarf the extent of the hotspot excavations. For instance, Figure 2-3 shows the monitoring well location symbols at a scale of 21 feet in diameter, which seems a little larger than necessary for readability.

R: Figure 4-1 has been revised based on this comment.

4 C: Section 3.1. MW-17: This section states that MW-17 was not located but may be discovered during future work on Parcel 8. The Parcel 8 work has been completed now. Please update this section to indicate if MW-17 was discovered and/or decommissioned.

R: MW-17 was not located during the recent Parcel 8 work. The report text in Section 3.1 has been updated to reflect this information.

5 C: Parcel 4, Section 4.2.2 Soil Management, Last paragraph and Table 4-25: The text states that 5,600 tons were hauled off-site. However, Table 4-25 states that 8,686 tons were hauled off site for disposal. Please correct the text or table so that the amounts are consistent and accurate. What is the meaning of the Table 4-25 footnote that states that the Parcel 4 "Dig and Haul" amount of 8,060 tons is an "estimated" quantity by the LOTT construction manager? Why is this total estimated? Where are the weight tickets for this material? Please clarify in the report and make sure that all weight tickets are included in Appendix F. The text of Section 4.2.2 needs to include a discussion of the 291 tons of soil shown in Table 4-25 that were reused under the cap. Please also describe where on Parcel 4 this soil was placed.

R: We have reviewed the previously reported soils data and supporting documentation and have reorganized the data for this draft of the IA Report. The previously reported footnote for tables 4-25 indicating estimated quantities were based on tabulated data by LOTT construction manager has been revised based on our review of the supporting documentation for materials disposal. The value originally reported for Stockpile 4 removal (hot spot areas) was 626 tons. A review of the weight slips shows a value of 632 tons.

Rows have been added to this table to show disposal volumes per month. Table entries and footnotes have been revised accordingly.

6 C: Table 4-27 , Parcel 5 Soil Quantity Summary: Please explain the relationship between the value in the second line of the table ("Parcel 5 Reuse Under Cap", 6,002 tons) and the third line in the table ("Parcel 5 Total Available Reuse" 4,581 tons. Shouldn't the third line in the table be equal to the first line (Parcel 5 Unrestricted Reuse" 412 tons) plus the second line?

R: As stated in our response to Comment 5 above, the soil quantity results have been reorganized and revised in the IA Report. Table 4-27 was revised to remove rows that contained no data. Previously we reported a total of 248 tons removed during November and December 2010, based on estimate quantities from the construction project manager. However, review of the final quantities and weight slips does not support these values. The value for disposal in January 2011 was originally reported as 275 tons, and has been updated to reflect the weight slip receipts totaling 279 tons. The March 2011 disposal was originally reported as 993 tons and has been revised to 988 tons based on final weight slip documentation.

7 C: Parcel 5, Section 4.3.2. Soil Management: Please include a summary of the amount of soil that was disposed and reused in the text instead of just referring the reader to Table 4-27.

R: Additional text has been added to 4.3.2 in response to this comment.

8 C: Figure 4-5: The dioxin/furan toxicity equivalent concentrations shown in the figure are incorrect and do not match Table 4-5. Please correct the concentrations on the figure.

R: Figure 4-5 has been revised accordingly.

9 C: Table 4-11: At the bottom of the table, please change "Interim Action Reporting Level" to "Interim Action Remediation Level."

R: The revised IA report has been revised based on this comment.

10 C: Appendix F, Material Weight Slips and Landfill Records: The load summaries for Parcels 4 and 5 are incomplete. Parcel 4 only has two load summaries for a combined total of 382.9 net tons for the time period March 7-16, 2012. According to Table 4-25, a total of 8,060 tons were disposed off site. For Parcel 5, only four load summaries are shown for a combined total of 1,049.3 net tons for the time period January 17, 2011 to March 11, 2011. According to Table 4-27, disposal events started in October 2010 and ended

March 2012 and a total of 2,127.9 tons were disposed off-site for Parcels 4 and 5.

R: See response to Comments 5, 6, and 7. Appendix F has been revised based on these comments.

11 C: Appendix G: As requested in our previous comment letter, please define what "SDG" means.

R: Laboratories batch process samples based on the batches they receive from clients and other batch-loads. SDG refers to the "Sample Delivery Group" and associates a set of samples with the laboratory QA/QC procedures for a given batch of samples analyzed. The introductory text in Appendix G will be updated to include a description of this acronym.

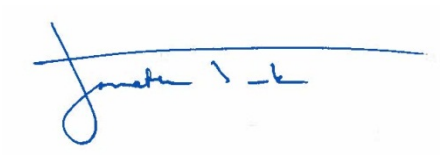
12 C: Appendix I, Site Photos: Captions for the photos need to be added.

R: Captions have been added to the site photos in Appendix I.

Brown and Caldwell appreciates Ecology's services in reviewing this site documentation. Should you have any questions, please do not hesitate to call me at 360-943-7525.

Very truly yours,

**Brown and Caldwell**



Jonathan Turk, LHG
Olympia

cc: Rick Dougherty, City of Olympia
Eric Hielema, LOTT Clean Water Alliance
Chris Cleveland, Brown and Caldwell

Brown AND Caldwell

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# Technical Memorandum

Prepared for: City of Olympia
LOTT Clean Water Alliance

Project Title: East Bay Redevelopment

Project No: 135894/138130

## Technical Memorandum

Subject: Parcel 4/Parcel 5 Interim Action Report

Date: February 23, 2015

To: Jay Burney, Assistant City Manager, City of Olympia

Eric Hielema, Senior Engineer, LOTT Alliance

From: Jon Turk, Principal Hydrogeologist, Brown and Caldwell

Copy to: Steve Teel, Site Manager, Washington State Department of Ecology

Prepared by: _____

Jon Turk, Principal Hydrogeologist

Reviewed by: _____

Chris Cleveland, Vice President

*Limitations:*

*This document was prepared solely for the City of Olympia and the LOTT Alliance in accordance with professional standards at the time the services were performed and in accordance with the contract between the City of Olympia and Brown and Caldwell dated September 4, 2009, and the contract between the LOTT Alliance and Brown and Caldwell dated June 18, 2008. This document is governed by the specific scope of work authorized by the City of Olympia and the LOTT Alliance; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the City of Olympia and the LOTT Alliance and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.*

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Brown AND Caldwell

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# List of Abbreviations

| | |
|---|---|
| AO | Agreed Order |
| bgs | below ground surface |
| City | City of Olympia |
| CL | Cleanup Level |
| CNF | Confirmation |
| COPC | constituent of potential concern |
| cPAH | carcinogenic polynuclear aromatic hydrocarbon |
| CSEM | conceptual Site exposure model |
| CY | cubic yard |
| Ecology | Washington State Department of Ecology |
| FS | Feasability Study |
| ft | foot/feet |
| HASP | Health and Safety Plan |
| HOCM | Hands-On Children's Museum |
| IA | Interim Action |
| IACL | Interim Action Cleanup Level |
| IARL | Interim Action Remediation Level |
| IAWP | Interim Action Work Plan |
| kg | kilogram |
| LOTT | Lacey, Olympia, Tumwater, and Thurston County Clean Water Alliance |
| mg | milligram |
| PAH | polycyclic aromatic compounds |
| PCB | polychlorinated biphenyl |
| POC | point of compliance |
| Port | Port of Olympia |
| QA/QC | quality assurance/quality control |
| QAPP | Quality Assurance Project Plan |
| RI | Remedial Investigation |
| SAP | Sampling and Analysis Plan |
| SOP | standard operating procedure |
| Site | East Bay Redevelopment |
| SPL | stockpile |
| TPH-D | diesel-range total petroleum hydrocarbons |
| TPH-G | gasoline-range total petroleum hydrocarbons |
| TPH-HO | heavy oil-range total petroleum hydrocarbons |
| UTM | Universal Transverse Mercator |
| VCP | Voluntary Cleanup Program |
| VOC | volatile organic compound |
| WAC | Washington Administrative Code |



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# 1. Introduction

This technical memorandum presents the results of the Interim Action (IA) for Parcel 4 and Parcel 5 of the East Bay Redevelopment (the Site). The Interim Action Work Plan (IAWP) (Brown and Caldwell, 2010) proposed a remedy for cleanup of a portion of the Site, specifically Parcels 4 and 5, and developed the alternative selected into a program of specific activities to implement the alternative. The IA facilitated construction of the Hands-On Children's Museum (HOCM) on Parcel 5 by the City of Olympia (the City) and the Plaza on Parcel 4 by the LOTT Clean Water Alliance (LOTT). The IA for each parcel was implemented concurrently with development of each parcel.

The Site consists of eight public and commercial mixed-used development properties located on the Port of Olympia (Port) peninsula in Olympia, Washington. Parcels 4 and 5 are part of the Site. A map of the Site and the surrounding area is shown on Figure 1-1. Prior to short platting into eight parcels, the Site was a single, 13.3-acre property. Remedial activities at the Site are carried out under Agreed Order (AO) No. DE7830 between the Port, the City, LOTT, and the Washington State Department of Ecology (Ecology). The AO provides for completion of a Remedial Investigation/Feasibility Study (RI/FS) of the Site and the Parcel 4 and 5 IA. An RI work plan and an IA for Site infrastructure were completed under a previous AO between the Port and Ecology.

## 1.1 Regulatory Basis

The following section provides the regulatory basis for the IA, including its purpose, requirements, and relationship to the Cleanup Action.

### 1.1.1 Interim Action Purpose

According to Washington Administrative Code (WAC) 173-340-430(1), an IA is distinguished from a Cleanup Action in that an IA only partially addresses the cleanup of a site. An IA is one or more of the following:

- a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance at a facility
- a remedial action that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed
- a remedial action needed to provide for completion of a site hazard assessment, RI/FS, or design of a Cleanup Action

The IA proposed herein provides for the cleanup of a portion of the Site and reduces a threat to human health and the environment by addressing impacts to Parcel 4 and Parcel 5.

### 1.1.2 Interim Action General Requirements

General requirements of IAs are described in WAC 173-340-430(2). The IA implemented provided cleanup of a portion of the Site by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance at or originating from Parcel 4 and Parcel 5.

### 1.1.3 Relationship to the Cleanup Action

The relationship of an IA to the final Cleanup Action is described in WAC 173-340-430(3). If the final Cleanup Action for a site is known, the IA must be consistent with the final Cleanup Action. If it is not known, the IA must not foreclose any reasonable cleanup alternatives.



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The final Cleanup Action for the Site is not known. The IA described in this technical memorandum will not foreclose any reasonable alternatives for the final Cleanup Action.

## 1.2 Studies and Plans to Date

A number of studies and planning documents have been completed for the Site. These include:

- Phase I ESA, Port of Olympia East Bay Redevelopment. Prepared by GeoEngineers, Inc. for the Port of Olympia. March 14, 2007.
- RI/FS and Conceptual CAP (now known as the RI/FS IA), Port of Olympia East Bay Redevelopment, City Hall lot. Prepared by GeoEngineers, Inc. for The Rants Group. April 24, 2007.
- Supplemental Site Use History and Soil and Groundwater Sampling Clarifications, Port of Olympia East Bay Redevelopment. Prepared by GeoEngineers, Inc. for the Port of Olympia. August 3, 2007.
- Voluntary Cleanup Program (VCP) Draft Remedial Investigation and Feasibility Study and Conceptual Cleanup Action Plan, East Bay Redevelopment, Port of Olympia. Prepared by GeoEngineers Inc. for the Port of Olympia. December 20, 2007.
- Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia. Prepared by GeoEngineers, Inc, and Pioneer Technologies Corporation for the Port of Olympia. October 22, 2008, amended January 30, 2009.
- East Bay Remedial Investigation Phase 1 Summary. Prepared by Pioneer Technologies Corporation for the Port of Olympia. December 2008.
- Final Interim Action Work Plan, East Bay Redevelopment, Port of Olympia. Prepared by Pioneer Technologies Corporation for the Port of Olympia. May 2009.
- Draft Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the Port of Olympia's East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. February 2010. Ecology Comments issued by letter on April 16, 2010.
- Infrastructure Interim Action Report for East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. June 2010.
- Parcel 4/Parcel 5 Interim Action Work Plan. Prepared by Brown and Caldwell for the LOTT Clean Water Alliance and the City of Olympia. September 2010.
- Site Boundary Technical Memorandum for the East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. November 2010.
- Final Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. May 2011.
- Data Gap Investigation Work Plan and Schedule, East Bay Redevelopment Site, Olympia, Washington. Prepared by Pioneer Technologies Corporation for the Port of Olympia. October 2011.
- Site Boundary, East Bay Redevelopment Site, Ecology Facility/Site No. 5785176, Agreed Order DE7830. Prepared by Pioneer Technologies Corporation for the Port of Olympia. December 2011.

## 1.3 East Bay Properties History

Parcels 4 and 5 lie within the original tideflat of Budd Inlet, and soils above the tideflat elevation are fill material. Fill operations on the Site began as early as the late 1800s and continued until as late as the 1970s. Much of the fill on the Site appears to be marine dredge spoils from dredging operations in the East and West Bays of Budd Inlet. In addition, fill has been found to contain wood debris, construction debris, and roadway fill.



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Lumber milling operations were located on the Site as early as 1888 and operated until 1968. Various support facilities and services accompanied the lumber milling operations. Log booming operations also took place in the adjacent East Bay of Budd Inlet. Following cessation of lumber milling activities in 1968, the area was used for commercial and light industrial activities and warehousing. Warehousing and light industry ceased in 2008 as the Site was cleared of tenants and operators in preparation for redevelopment.

Historical shorelines, interpreted from aerial photography, were developed in the Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia (GeoEngineers/PIONEER, 2008, 2009) and included in the IAWP. Fill lithologies were classified, as follows, from oldest to youngest:

- Pre-1891: Dark-colored sand with pockets of wood debris and pockets of silt.
- 1891 to 1908: Dark brown to black coarse to fine sand. Based on historical records, this fill may have been sourced from a dredging operation to widen the Budd Inlet shipping channel.
- 1908 to 1948: Light colored sand with pockets of wood debris and pockets of gravel.
- 1948 to 1975: Light colored sand with pockets of gravel.

Underlying the fill layers are native silt and clay sediments.

A detailed historical review of fill horizons and the associated fill operation dates, as well as fill cross-sections developed based on boring and drilling observations, is presented in “Section 2.0 Site History” of the Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia (GeoEngineers/PIONEER, 2008, 2009). This review was revised with additional subsurface observations and aerial photographs and presented in the Site Boundary Technical Memorandum for the East Bay Redevelopment Site (Pioneer, 2010).

### 1.3.1 Historical Areas of Concern

Historical areas of concern were identified in the IAWP. The St. Paul and Tacoma Lumber Mill, in operation between 1942 and 1968, was the primary industrial operator on Parcels 4 and 5. Historical areas of concern associated with this mill include an oil house and engine room, tar dipping tanks, a boiler house, transformers, and a spray-painting shop. These areas of concern are identified on Figure 1-2. Chemicals typically associated with these types of operations include petroleum hydrocarbons for the oil house; petroleum hydrocarbons and carcinogenic polynuclear aromatic hydrocarbons (cPAHs) for the tar dipping tanks; petroleum hydrocarbons, PAHs, and dioxins/furans for the boiler house; petroleum hydrocarbons and polychlorinated biphenyls (PCBs) for the transformers; and metals and volatile organic compounds (VOCs) for the spray-painting shop.

## 1.4 IA Report

This IA Report includes the following:

- A review of the understanding of Site conditions under which the IAWP was developed.
- A review of the evaluation of IA alternatives and selection of the IA.
- A description of soil management activities, including a timeline and volumes of soil excavated, segregated, stockpiled, reused, and disposed of offsite. The narrative will include descriptions of locations onsite where excavated soils were reused.
- A description of engineering control implementation.
- A description of compliance monitoring sampling and results.
- A discussion of the quantitative sampling results from soil stockpile sampling and confirmation sampling.
- A discussion of quality assurance/quality control (QA/QC) review results per the procedures described in the Quality Assurance Project Plan (QAPP).
- A discussion of deviations from the IA Work Plan.



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- Figures summarizing compliance monitoring sampling locations and results.
- Tables summarizing volumes of soil excavated, stockpiled, reused, and disposed of offsite.
- Tables summarizing stockpile sampling results and compliance monitoring results.
- Copies of daily reports and field notes (including field screening logs and sample data sheets).
- Copies of waste disposal documentation, including manifests, weight slips, and receipts.
- Copies of laboratory analytical results and chains-of-custody.

# 2. Site Conditions

The following section describes Site conditions, including land use, constituents of potential concern (COPCs), the conceptual Site contaminant transport model, the conceptual Site exposure model (CSEM), and Site subsurface conditions

## 2.1 Land Use

Parcels 4 and 5 were developed concurrently with implementation of the IA. A public-use plaza was constructed on Parcel 4. The original design of the Parcel 4 plaza discussed in the IAWP included a water feature running approximately east-west through the center of the parcel. This feature was eliminated from the design after the IAWP was issued, and the plaza as constructed does not include a water feature. The HOCM and landscape improvements were constructed on the southern portion of Parcel 5. The northern portion of Parcel 5 consists of a parking lot for the HOCM.

The landscaping on both parcels consists of a mix of hardscaped areas (areas surfaced with an impervious material such as concrete or brick paving) and planted areas. In addition to landscaping, portions of Parcel 5 are covered by the HOCM building and parking lot. Figure 2-1 includes the current planned configuration of softscape and hardscape areas at the Site.

## 2.2 Constituents of Potential Concern

The following COPCs for Parcel 4 and 5 were identified in the IAWP:

- arsenic
- cadmium
- lead
- copper
- nickel
- total cPAHs
- total dioxins/furans
- total naphthalenes
- diesel-range total petroleum hydrocarbons (TPH-D)
- heavy oil-range total petroleum hydrocarbons (TPH-HO)
- gasoline-range total petroleum hydrocarbons (TPH-G)
- benzene
- toluene
- ethylbenzene
- total xylenes



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## 2.3 Conceptual Site Contaminant Transport Model

The Conceptual Site Contaminant Transport Model for the Site, which was developed in the *Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia* (GeoEngineers/PIONEER, 2008, 2009), shows potential historical sources of releases of COPCs, as well as potential routes of migration. This model was used as the basis for the IAWP. The Conceptual Site Contaminant Transport Model is shown on Figure 2-2. Potential sources and migration paths are discussed below.

Subsequent to the completion of the IAWP, the Port completed the *Final Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site* (Pioneer, 2011a). This report concluded that, with the possible exception of arsenic and TPH-D/TPH-HO, COPCs in soils at the Site are not being transported to groundwater. The transport of other COPCs, including metals in addition to arsenic, TPH-G, and VOCs were considered potential transport pathways at the time the IAWP was developed. They are therefore included on Figure 2-2 and in the discussion below. The transport of COPCs from soil to surface water via groundwater, with the exception of arsenic and TPH-D/TPH-HO, will not be included in future evaluations of contaminant transport at the Site.

1. **Direct discharge to ground surface:** Spills, leaks, or operational discharges from former industries onsite may have resulted in contaminants on the historical working surface. This contamination may have been covered by fill or seeped further into the ground. Potential sources include tanks, hog fuel or refuse piles, or transformers.
2. **Contaminated fill:** Dredge spoils or other material used as fill may be a source of contaminants.
3. **Buried debris:** Debris from former industrial operations at the Site may be buried at the Site.
4. **Leaching to groundwater:** Some contaminants may have leached to groundwater, and may be transported as dissolved chemicals in groundwater.
5. **Air deposition:** Contaminant containing airborne particulates from onsite or offsite smokestacks or burn piles may be deposited on the historical working surface. The contaminated surface would be buried under subsequent layers of fill.
6. **Groundwater flow:** Constituents may be transported through the movement of groundwater.
7. **Vertical groundwater gradients:** Artesian pressure in the area of the Site may result in upward gradients in the shallow groundwater unit.
8. **Historical artesian flow/leakage:** Artesian wells may have been historically located on the Site.

## 2.4 Conceptual Site Exposure Model

A conceptual Site exposure model (CSEM) was developed in “Section 6: Conceptual Site Exposure Model” in the *Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia* (GeoEngineers/PIONEER, 2008, 2009), and revised based on an Ecology comment in the *Final Interim Action Work Plan, East Bay Redevelopment, Port of Olympia* (PIONEER, 2009) prepared by Pioneer Technologies Corporation on behalf of the Port for the infrastructure IA. The CSEM is presented on Figure C-1 of the *Final Interim Action Work Plan, East Bay Redevelopment, Port of Olympia* (PIONEER, 2009) report. This CSEM was used as the basis for the IAWP.

Subsequent to the completion of the IAWP, the Port completed the *Final Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site* (Pioneer, 2011a). This report concluded that, with the possible exceptions of arsenic and TPH-D/TPH-HO, COPCs in soils at the Site are not being transported to groundwater. The report recommends that, with the exception of arsenic, TPH-D, and TPH-HO, exposure pathways with a soil-to-groundwater or groundwater-to-surface water transport component be considered incomplete.



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## 2.5 Site Subsurface Conditions

The following conditions are summarized based on a series of studies evaluating subsurface conditions at the Site, including conditions at Parcel 4 and Parcel 5, as well as data collected during the IA.

### 2.5.1 Hydrogeologic Conditions

Subsurface hydrogeologic conditions at the Site are the result of decades of fill operations that elevated the ground surface and extended usable land seaward into Budd Inlet. The thick heterogeneous sequence of fill deposits beneath the Site extends from ground surface to elevations as deep as -10 feet. A detailed historical review of fill horizons and the associated fill operation dates, as well as fill cross-sections developed based on boring and drilling observations, is presented in "Section 2.0 Site History" of the *Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia* (GeoEngineers/PIONEER, 2008, 2009).

A network of groundwater monitoring wells was installed on the Site (including on Parcels 4 and 5) and on the adjacent Parcel 8 for the study of groundwater conditions. On Parcels 4 and 5 and the adjacent parcels, MW-01, MW-02, MW-03, MW-04, MW-16, MW-17 (Parcel 8), MW-18 (in the adjacent infrastructure corridor), and MW-19 (Parcel 7) were installed in 2007. MW-02R, MW-23S, and MW-21S (Parcel 7) were installed in 2009. Monitoring well locations are shown on Figure 2-3. Monitoring wells MW-01, MW-03, MW-23S, and MW-16 were abandoned during the IA. These are discussed in Section 4 below. Driller logs from well decommissioning are included as Appendix A.

The occurrence and flow of groundwater beneath the Site is predicated upon the various fill horizons and respective hydraulic properties. Localized groundwater gradients occur across the Site where zones of more permeable fill are bounded by less permeable materials. Additionally, water levels fluctuate throughout the course of the year as a result of seasonal fluctuations in atmospheric conditions. Groundwater levels at the Site are historically variable; the difference between the minimum and maximum elevations in a single well was as high as 5.9 feet. The average difference between the minimum and maximum elevations was 2.17 feet. While groundwater flow generally appears to be from the southwest to northeast across Parcels 4 and 5, there may be an artesian influence on the Site with upward gradients from deeper confined groundwater units.

Tidal influence at the Site was assessed by GeoEngineers in 2007 and Greylock Consulting, LLC, in 2008. The 2007 study concluded that groundwater monitoring well elevations in the Parcel 3 area were not strongly influenced by tidal fluctuations (GeoEngineers, 2007b), while the Greylock study concluded that tidal influence was limited to areas near the shoreline (GeoEngineers/PIONEER, 2008, 2009). Observations by Pioneer Technologies Corporation during groundwater monitoring events at the Site have indicated high salinity in MW-04, MW-12, MW-16, and MW-18, wells that are located near the Budd Inlet shoreline. Salinity measurements and anecdotal observations in construction trenches also suggest tidal influence in the area near the shoreline (PIONEER, 2010a).

### 2.5.2 Soil and Groundwater COPC Concentrations

Soil and groundwater COPC data from reports including the *Voluntary Cleanup Program (VCP) Draft Remedial Investigation and Feasibility Study and Conceptual Cleanup Action Plan, East Bay Redevelopment, Port of Olympia* (GeoEngineers, 2007), the *Remedial Investigation Work Plan, East Bay Redevelopment, Port of Olympia* (GeoEngineers/PIONEER, 2008, 2009), the *East Bay Remedial Investigation Phase 1 Summary* (PIONEER, 2008), and the *Draft Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the Port of Olympia's East Bay Redevelopment Site* (PIONEER, 2010) were reviewed in the IAWP. Additionally, data from the second phase of the RI completed by the Port and data from a series of supplemental soil samples from Parcels 4 and 5 completed by LOTT and the City were reviewed. These data were discussed in detail in the IAWP.



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Following completion of the IAWP, additional Site data were presented in the Final *Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site* (Pioneer, 2011a). A complete review of Site-wide data is outside the scope of this report.

### 2.5.3 Potential Transport of COPCs from Soil to Surface Water

The IAWP reviewed empirical data and evidence presented in the *Draft Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the Port of Olympia's East Bay Redevelopment Site* (PIONEER, 2010a). Data reviewed in this report suggested that an empirical demonstration in accordance with WAC 173-340-747(9) is complete for cadmium, cPAHs, dioxins/furans, and total naphthalenes.

Subsequent to the completion of the IAWP, the Port completed the *Final Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site* (Pioneer, 2011a). This report concluded that, with the possible exception of arsenic and TPH-D/TPH-HO, COPCs in soils at the Site are not being transported to groundwater.

# 3. Interim Action Work Plan Alternatives Evaluation and Selection

IA alternatives were screened in the IAWP to identify potential means to control the complete or potentially complete exposure pathways identified in Section 2.4 above. These alternatives were screened using the procedure described for final Cleanup Actions in WAC 173-340-360. Threshold criteria for Cleanup Actions (WAC 173-340-360(2)(a)) are as follows: the selected action must protect human health and the environment, must comply with cleanup standards, must comply with applicable state and federal laws, and must provide for compliance monitoring.

Alternatives meeting these threshold criteria were further evaluated based on the additional minimum criteria for Cleanup Actions (WAC 173-340-360(2)(b)): the use of permanent solutions to the maximum extent practicable, provision of a reasonable restoration time frame, and consideration of public concerns.

"Permanent" solutions are those that do not require future action to meet cleanup standards. By "maximum extent practicable," it is meant that the incremental benefits of a particular alternative are not outweighed by the incremental costs. A basis for proposed alternatives, an evaluation of those alternatives, including a disproportionate cost analysis, are documented in the IAWP, and provided the foundation for implementing *Capping with Partial Excavation and Controls*. An generalized figure of the components of this alternative are provided as Figure 3-1.

## 3.1 Interim Action Activities

Specific activities necessary for completion of the IA for Parcels 4 and 5 were identified in the IAWP. These included the following:

- Control of Site access, including installation of a fence with a locking gate, implementation of traffic control measures, and Site control to ensure that only authorized personnel enter the Site during working hours.
- Well decommissioning, including decommissioning of MW-17 and decommissioning of wells where remediation activities present a risk of direct discharge or damage to wells. Alternatively, wells may be raised to the new Site grade. All work will be performed by a licensed driller. Monitoring wells MW-01, MW-03, MW-4, MW-23S, and MW-16 were abandoned during the IA. These are discussed in Section 4. Driller logs from well decommissioning are included as Appendix A. MW-17 was not located by the



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contractors. The well was presumed to be buried or previously abandoned. Subsequent work on Parcel 8, for part of the LOTT Budd Inlet Treatment Plant expansion, included mass excavation in the area of MW-17. However, the MW-17 was not found during the excavation work and assumed previously decommissioned.

- Excavation, stockpiling, and screening of soils for COPCs. Screening included sampling for COPCs as described in the Sampling and Analysis Plan (SAP) included with the IAWP, as well as evaluation of the geotechnical properties of soil to ensure its suitability for use as fill. The SAP is included as Appendix B to this report. Excavation of known hot spots was completed as described in the SAP and summarized in Table 3-1. As noted below, additional analytical testing was performed on samples collected from the DP-11 hot spot at the request of Ecology. Interim Action Cleanup Levels (IACLs) and Interim Action Remediation Levels (IARLs) are provided in Table 3-2.
- Offsite disposal of soils that have COPC concentrations in excess of IARLs or are geotechnically unsuitable.
- Reuse of soils onsite. Soils with COPC concentrations below IACLs may be used as fill anywhere onsite, while soils with COPC concentrations in excess of IACLs but below IARLs may be reused only in capped areas.
- Capping of portions of the Site with impervious materials such as pavement or hardscape.
- Particulate (dust) control.
- Dewatering and stormwater control, including treatment in Baker tanks and filtration as necessary and discharge of treated stormwater/excavation groundwater to the LOTT Budd Inlet Treatment Plant.

The IAWP developed a number of supplementary documents for implementation of the IA, including the SAP, a QAPP, a Heath and Safety Plan (HASP), and standard operating procedures (SOPs) for sample collection and handling. The SAP, QAPP, and HASP are included as Appendices B, C, and D to this report.

# 4. Interim Action Implementation

The following section describes implementation of the IA.

## 4.1 Implementation Summary

The IA was implemented in two stages. The first stage consisted of hot spot excavation on both Parcel 4 and Parcel 5, and partial excavation and capping on Parcel 5. This stage began in October 2010. Work was performed as part of the construction for the HOCM building and property improvements. The second stage consisted of partial excavation and capping on Parcel 4. This stage began in September 2011. Work was performed as part of the construction for the public plaza property improvements.

Locations for confirmation (CNF) samples taken from hot spot excavations are shown on Figure 4-1, with Universal Transverse Mercator (UTM) coordinates for samples shown in Table 4-1. Confirmation sample results are summarized in Tables 4-2 through 4-8. Results from stockpile (SPL) samples are shown in Tables 4-9 through 4-23.

Complete laboratory reports are included as Appendix E.

## 4.2 Parcel 4

This section describes IA activities on Parcel 4.



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### 4.2.1 Hot Spot Remediation

Parcel 4 hot spot remediation included the excavation and disposal of soil at hot spots DP-17, DP-18, and TP-02.

#### 4.2.1.1 DP-18 (CNF-4)

DP-18 was initially completed on August 3, 2007. Soil sampling identified elevated levels of TPH-HO, cPAHs, and VOCs at depths between 10 and 12 feet bgs. DP-18 was excavated on November 8, 2010. Samples collected from this hot spot are designated as CNF-4.

The hot spot was excavated to dimensions of 20 x 20 x 15 feet (L x W x H). A total of 16 samples were collected from the excavation. Due to a later identified discrepancy in the IAWP/SAP, samples were analyzed for metals per the SAP, rather than the historically identified COCs (TPH, cPAH, VOCs). Sample locations are shown on Figure 4-3. Stockpile samples were later analyzed for the complete list of Site COCs.

Sample results were below IACLs for all COPCs. Sample results are shown on Table 4-2. The excavation was backfilled with clean material sourced from offsite. Logs of the hot spot excavation are provided in Appendix H.

#### 4.2.1.2 DP-17 (CNF-5)

DP-17 was initially completed on August 3, 2007. Soil sampling identified elevated levels of arsenic at depths between 10 and 12 feet bgs. Pursuant to the IAWP, the DP-17 hot spot was excavated on November 8, 2010. Samples collected from this hot spot are designated as CNF-5.

The hot spot was excavated to dimensions of 20 x 20 x 15 feet (L x W x H). A total of 13 samples were collected from the excavation. Due to a later identified discrepancy in the IAWP/SAP, samples were analyzed for TPH, and VOCs per the SAP, rather than the historically identified COCs (metals). Sample locations are shown on Figure 4-3.

Sample results were below IACLs for all COPCs. Sample results are shown on Table 4-3. The excavation was backfilled with clean material sourced from offsite. Logs of the hot spot excavation are provided in Appendix H.

#### 4.2.1.3 TP-02 (CNF-3, CNF-3A)

TP-02 was initially completed on October 4, 2007. Soil sampling identified elevated levels of dioxin at depths between 2 and 3 feet bgs. The hot spot excavation began on November 9, 2010. However, the hot spot was located adjacent to the eastern edge of Parcel 4, next to a sidewalk, irrigation lines, and the tree-lined Marine View Drive, with a portion of the hot spot falling outside of the ownership of the City. To minimize impacts to the sidewalk and other features, and avoid extending off the City's property onto Port land, Ecology approved a minor adjustment to the excavation dimensions. The excavation dimensions were reduced to 20 x 13 x 10 feet (L x W x H). At the direction of Ecology, additional sidewall samples were collected from the east face of the excavation, the direction in which the excavation was shortened. A total of 25 samples were collected. Sample locations are shown on Figure 4-4. Samples collected from this hot spot are designated as CNF-3.

Analysis of the samples resulted in one sample on the east face in excess of the IARL for dioxins/furans. Additionally, several samples exceeded the IACL for dioxins/furans. In accordance with the IAWP, the excavation was expanded to remove additional material.

On January 5, 2011, the excavation was expanded to the east by 7 feet, so that the overall surface dimensions of the excavation were 20 x 20 feet. With Ecology approval, the depth of the extension of the excavation was limited to 6.5 feet rather than the 10-foot depth of the original excavation. This depth was based on the sample results from the first round of excavation and sampling; concentrations in samples



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below a depth of 6 feet in the first round of sampling were below the IACL with one exception, and all samples below 6 feet were below the IARL. A total of 11 additional samples were collected. Locations for additional samples are shown on Figure 4-5 and were designated as CNF-3A.

All samples from the second round of excavation and sampling showed dioxin/furan concentrations below the IARL. Based on these results, the excavation was backfilled on with clean material sourced from offsite. Sample results for the original hot spot excavation and expanded area are shown on Tables 4-4 and 4-5. Logs of the hot spot excavation are provided in Appendix H.

### 4.2.2 Soil Management

Soil management activities on Parcel 4 deviated from the work plan. Bulk excavation of softscaped areas on Parcel 5 preceded work on Parcel 4, with the exception of hot spot excavation and disposal. During the Parcel 5 work, it was observed that the majority of soils had COPC concentrations between IACLs and IARLs, making them suitable for reuse only in capped areas. While the development plans for Parcel 5 presented opportunities for the reuse of soil in capped areas, these opportunities were limited on Parcel 4. Additionally, a significant fraction of Parcel 5 soils were not geotechnically suitable for reuse.

The project management team determined that the cost savings resulting from reuse of soil were likely to be outweighed by the costs of stockpiling. Stockpile sampling would result in significant costs due to the full suite of analyses required. Additionally, stockpiling soils from Parcel 4 would have required a dedicated stockpiling area located across the street to the south of Parcel 4. This would have added temporary rental costs for the stockpiling area to the project cost, and would have generated frequent truck or equipment traffic transporting soils across the public right-of-way. The transportation of soils across the public right-of-way raised Site control issues for the potentially contaminated material.

With Ecology approval, the management team elected to load excavated soils directly into trucks for offsite disposal. Historical Site data were provided to the disposal facility for approved acceptance of the material. The 6-foot excavation depth in softscaped areas was not altered. Only material excavated from the Parcel 4 hot spots was stockpiled on site. A summary of stockpiles, including source, estimated volume, COPC concentrations, and geotechnical suitability is shown in Table 4-24.

A summary of Parcel 4 soils hauled for disposal is shown in Table 4-25. A total of 8,692 tons of soil were hauled offsite from Parcel 4 for disposal. Soils were hauled to the Weyerhaeuser Regional Landfill in Castle Rock, Washington, for disposal. Weight slips for disposed material are included in Appendix F. A total of 291 tons of soil from the Parcel 4 soils excavations was available for reuse under cap. A portion of this material was used to backfill utility trenching and footings under Parcel 4 hardscaped areas, while the remainder was emplaced under the Parcel 5 parking lot area.

### 4.2.3 Monitoring Well Decommissioning

Monitoring wells MW-23S and MW-16 were decommissioned during the construction phase of the Plaza. Driller decommissioning logs are provided in Appendix A.

### 4.2.4 Capping

Containment caps consisting of hardscape materials, pavement, or the HOCM building were constructed per the IAWP. Site land use/cover is shown in Figure 2-1. Soil available for reuse under cap was only placed under the parking lot area.

## 4.3 Parcel 5

This section describes IA activities on Parcel 5.



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### 4.3.1 Hot Spot Remediation

Parcel 5 hot spot remediation included the excavation and disposal of soil at hot spots DP-11 and DP-21.

#### 4.3.1.1 DP-11 (CNF-1)

DP-11 was initially completed on January 2, 2007. Soil sampling identified elevated levels of cPAHs at depths between 0 and 2 feet bgs and lead and cPAHs at depths between 8 and 10 feet bgs. The DP-11 excavation began on November 2, 2010. Excavation work was halted after the excavation became inundated with groundwater. Work resumed on November 3, 2010, after improvements to the dewatering system, and the excavation was completed the same day.

The hot spot was excavated to dimensions of 20 x 20 x 10 feet (L x W x H). A total of 12 samples were collected from the excavation. Samples were analyzed for metals per the SAP. At the direction of Ecology staff onsite during the excavation, TPH samples were also collected based on visual and olfactory observations. Sample locations are shown on Figure 4-6. Samples collected from this hot spot are designated as CNF-1.

Sample results were below IACLs for all COPCs. Sample results are shown on Table 4-6. The excavation was backfilled with clean material sourced from offsite. Logs of the hot spot excavation are provided in Appendix H.

#### 4.3.1.2 DP-21 (CNF-2, CNF2A)

DP-21 was initially completed on August 3, 2007. Soil sampling identified elevated levels of arsenic at depths between 6 and 8 feet bgs. DP-21 was excavated on January 10, 2011.

The hot spot was excavated to dimensions of 20 x 20 x 10 feet (L x W x H). A total of 15 samples were collected from the excavation. Samples were analyzed for metals per the SAP. Sample locations are shown on Figure 4-6. Samples collected from this hot spot are designated as CNF-2.

One confirmation sample exceeded IACLs; the arsenic concentration in CNF-2-5-1.75 was 159 milligrams per kilogram (mg/kg), exceeding the IACL of 20 mg/kg. This sample was located on the north wall of the excavation at a depth of 1.75 feet. No other sample concentrations exceeded IACLs or IARLs.

On January 21, 2011, the excavation was expanded to the north by 20 feet per the IAWP, bringing the total dimensions of the excavation to 40 x 20 x 10 feet (L x W x H). Ten addition samples were collected from the east, west, and north sidewalls and floor of the expanded excavation. Samples were analyzed for metals per the SAP. Additional sample locations are shown on Figure 4-6. Samples from the additional excavation are designated as CNF-2A.

Sample results were below IACLs for all COPCs. Sample results are shown on Table 4-7 and 4-8. The excavation was backfilled with clean material sourced from offsite. Logs of the hot spot excavation are provided in Appendix H.

### 4.3.2 Soil Management

Soil management for the handling of hot spot excavation soils and soils from the bulk excavation of softscaped areas followed the procedures in the IAWP. Excavated soils were stockpiled in designated areas of the Site. Visqueen was placed below and on top of stockpiles, with sheeting on top of the stockpiles secured with ropes and sandbags. Stockpiles were covered at all times unless material was actively being added to or removed from the stockpile. Visqueen-covered straw bales were set up around stockpile areas to prevent the run-on of water into the stockpile areas and the runoff of rainwater coming into contact with active piles. A placard system, described in the IAWP, was initially used to track the status of stockpiles. Information recorded on the placards included stockpile number, sampling status, date sampled, date of analytical results, and the suitability of soils for reuse (i.e., suitable for reuse in any location, suitable for



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reuse in capped areas, not suitable for reuse). After wind storms repeatedly blew placards away, stockpile information was written directly on the visqueen covering the stockpiles using a grease pen or marking paint in lieu of the placard system to track stockpile information.

During excavation, materials were separated into stockpiles based on both soil type and location of the source excavation. Material from hot spot excavations was sorted into separate stockpiles from material from bulk excavation of softscaped areas. Additionally, material that appeared to be geotechnically suitable for reuse, such as sand and gravel, was stockpiled separately from silt or organic material.

Stockpiles were sampled according to the schedule included in the IAWP. Samples were collected from locations spatially distributed around the stockpile and at the approximate midpoint of the stockpile height. Sample locations were selected such that soil type sampled was representative of the material comprising the majority of the stockpile. Where stockpiles comprised large fractions of two or more soil types, at least one sample of each type was collected.

A summary of stockpiles, including source, estimated volume, COPC concentrations, and geotechnical suitability is shown in Table 4-26. Analytical results from stockpile samples are provided in Tables 4-9 through 4-23. The majority of soils excavated had COPC concentrations in excess of IACLs for one or more COPCs. However, the majority of soils excavated did not contain COPCs at concentrations exceeding IARLs. Lead concentrations exceeding 250 mg/kg were encountered in stockpile material sourced from two different hot spot excavations, and TPH-HO concentrations exceeding 2,000 mg/kg were encountered in two stockpiles, one sourced from a hot spot excavation and one sourced from a softscaped area excavation. Excavated soils were generally geotechnically suitable for reuse. Soils not suitable for reuse typically consisted of silt or of wood fragments and were encountered in deeper portions of hot spot excavations.

A summary of the total quantities from Parcel 5 is shown in Table 4-27. Note that the quantities shown in Table 4-27 are measured totals for the project. Reused soils were placed in the parking lot and building areas of the HOCM site. No soils were reused in softscaped areas. Soils removed from the Site for disposal were hauled to the Weyerhaeuser Regional Landfill in Castle Rock, Washington. Weight slips for material disposed of offsite is are included in Appendix F.

The total quantity of soils removed from the Site for disposal includes some surplus soils that were reusable in capped locations. This surplus volume was due in part to the prevalence of IACL exceedances, resulting in a low volume of soils that were usable in uncapped areas. The surplus soil was also due in part to the delay imposed by stockpile sample turnaround times. In several instances, material was imported to backfill before stockpile sample results were available in order to avoid unacceptable project delays. A total of 6,002 tons were available for reuse under cap, most of which was emplaced beneath the parking lot on Parcel 5, with lesser quantities used to backfill footings and utility trenches beneath hardscaped areas. However, with limited under cap areas for reuse potential, 342 tons that fell within the reuse under cap disposition were ultimately sent off site with materials not suitable for reuse. A total of 1,879 tons were disposed of off site, including 342 tons that was available for reuse under cap.

### 4.3.3 Monitoring Well Decommissioning

Monitoring wells MW-01 and MW-03 were in the HOCM footprint and were decommissioned. MW-04 was protected temporarily during construction. However, when damage to the riser as a result of construction activities became apparent, the well was decommissioned. Well decommissioning logs are included in Appendix A. The contractor that provided decommissioning work for the project provided a decommissioning log for BCN886 rather than AKA424 (MW-4). Documentation of this, as well as dual entries in Ecology's well log database for AKA424 is included in Appendix A..



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### 4.3.4 Capping

Containment caps consisting of hardscape materials, pavement, or the HOCM building were constructed per the IAWP. Site land use/cover is shown in Figure 2-1. Soil available for reuse under cap was only placed under the parking lot area.

## 4.4 Deviations from Interim Action Work Plan

Deviations from the IAWP include the following:

- reduced excavation volume of the TP-02 hot spot
- marked stockpile coverings rather than using a placard system for Parcel 5 soil management
- revised soil management plan for Parcel 4

These deviations are described in their respective sections above.

# 5. Data Quality Review

The following sections provide summaries of the data quality review for both field and analytical data collected during the IA.

## 5.1 Field Methods

Field methods and sample collection were completed in accordance with the project SAP and QAPP. Field-collected quality control samples consisted of field duplicates and trip blanks. Field duplicates were collected to assess the precision of all steps of the sample acquisition and analysis process. A total of 249 samples were collected during the IA work, with a total of 14 duplicate samples, resulting in a duplicate rate of 5.6 percent.

Trip blanks were used to determine potential cross-contamination issues during sample transportation, delivery, and storage. Trip blanks were included in each shipment of samples from the Site to the laboratory. A total of 17 trip blanks were collected during the IA.

## 5.2 Laboratory Data Assessment

A qualitative data usability review was performed on all analytical data collected from Parcels 4 and 5 during the IA. The review was performed in accordance with the general guidance provided by the National Functional Guideline for Data Review and with the project SAP and QAPP.

Overall, the data quality review found the data to be generally acceptable for the intended purposes. No data were rejected as a result of the review, and most data met the quality criteria for the parameters reviewed. Minor data quality issues with respect to field and laboratory duplicate precisions, matrix interferences, and laboratory control sample recovery were identified. Some of these issues resulted the following qualification of data:

- B: The analyte was detected in the method blank.
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ: The analyte was not detected above the sample reporting limit. The reporting limit is approximate.
- U: The analyte was tested, but was not detected above the sample reporting limit.



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A complete data validation report is included as Appendix G.

# 6. Discussion and Conclusions

The following section provides a general summary of the IA work.

Hot spots identified as known areas of contamination were excavated with sidewall and bottom samples confirming that the volume of contaminated soils were removed. Each hot spot excavation was proposed to have an area of 20 x 20 feet, and a target depth identified by historically observed contamination depths. However, two hot spot excavations were slightly modified. To protect the integrity of infrastructure off the City of Olympia property, the TP-02 hot spot was initially excavated to dimensions of 20 x 13 x 10 feet (L x W x H) and sampled, with one sample from the eastern sidewall exceeding the IARL for dioxins/furans and other samples exceeding the IACL. After authorization from Ecology, the excavation was later expanded by 7 feet to the east, to a depth of 6.5 feet and additional sidewall sampling confirmed that the sidewall concentrations were below the IARLs. Hot spot DP-21 was initially excavated to dimensions of 20 x 20 x 10 feet; however, one sample from the northern sidewall exceeded the IACL for arsenic. As prescribed by the IAWP, the excavation was expanded an additional 20 feet to the north for final excavation dimensions of 40 x 20 x 10 feet. Sidewall sampling of the expanded excavation confirmed the removal of soil to sidewall concentrations below the IACLs for COPCs.

Areas of the Site proposed to have ground surface completed with landscaping or otherwise softscaped materials were excavated to a depth of 6 feet below finished Site grade, or the first contact with groundwater. As discussed above, to the greatest extent practicable, soil was tested and reused, according to its suitability. Based on analytical results, geotechnical suitability, and construction sequencing, this action resulted in the removal of approximately 5,600 tons of soil from Parcel 4 and 2,130 tons of soil from Parcel 5 for off-site disposal. In accordance with the IAWP, a geotextile fabric was used to line the softscape area excavations prior to backfilling. All other areas of the site were completed, or will be completed with a hardscape cap over the soil.



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PIONEER, 2010a. Draft Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the Port of Olympia's East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. February 2010.

PIONEER, 2010b. Infrastructure Interim Action Report for East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. June 2010.

PIONEER, 2010c. Site Boundary Technical Memorandum for the East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. November 2010.

PIONEER, 2011a. Final Empirical Evaluation of the Potential for Soil Constituents to Migrate to Surface Water via Groundwater at the East Bay Redevelopment Site. Prepared by Pioneer Technologies Corporation for the Port of Olympia. May 2011.

PIONEER, 2011b. Data Gap Investigation Work Plan and Schedule, East Bay Redevelopment Site, Olympia, Washington. Prepared by Pioneer Technologies Corporation for the Port of Olympia. October 2011.

PIONEER, 2011c. Site Boundary, East Bay Redevelopment Site, Ecology Facility/Site No. 5785176, Agreed Order DE7830. Prepared by Pioneer Technologies Corporation for the Port of Olympia. December 2011.



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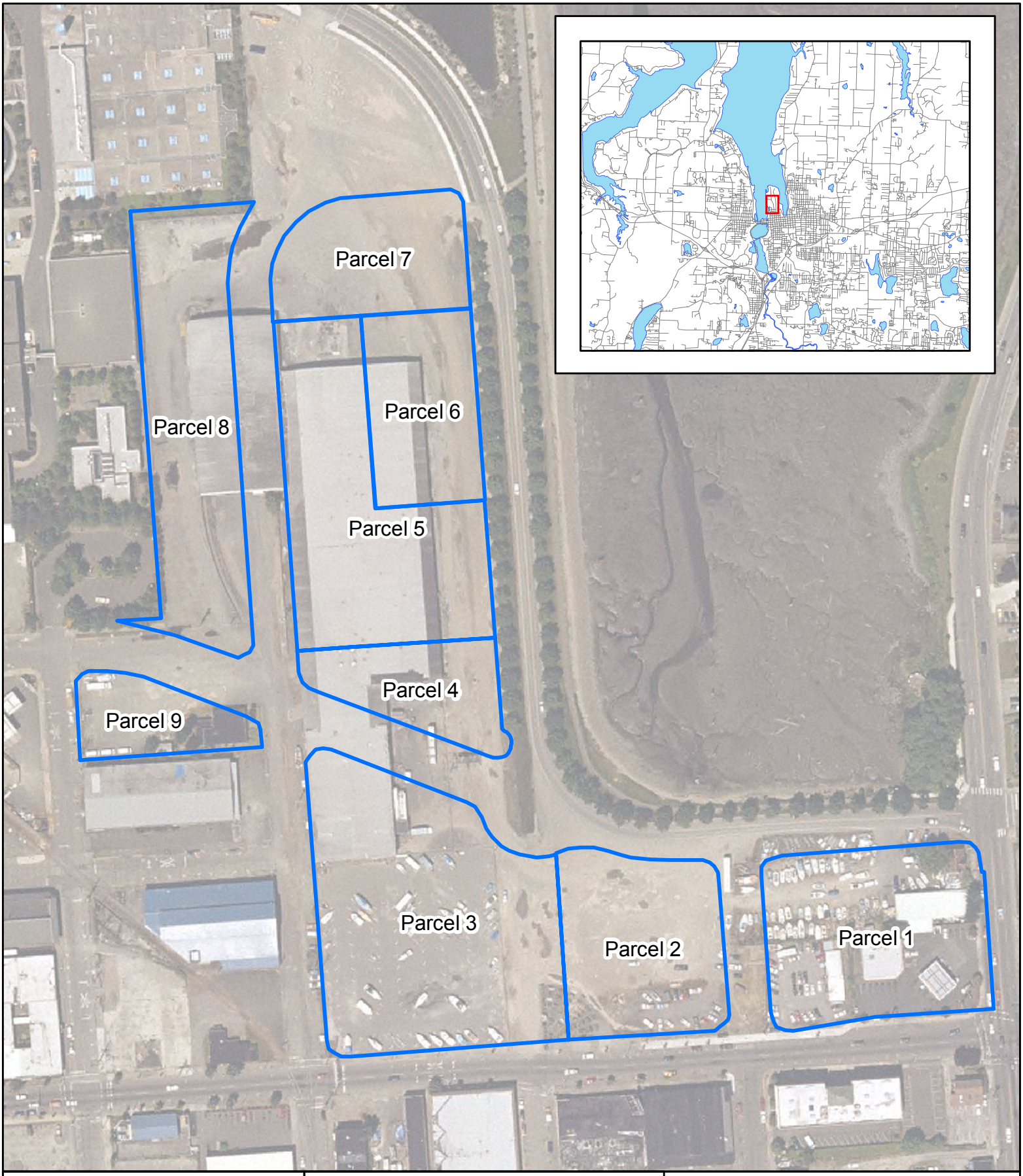



**Figure 1-1:**
**Site Map, East Bay Redevelopment**
**Sept 2013**

Brown AND Caldwell

LOTT Clean Water Alliance

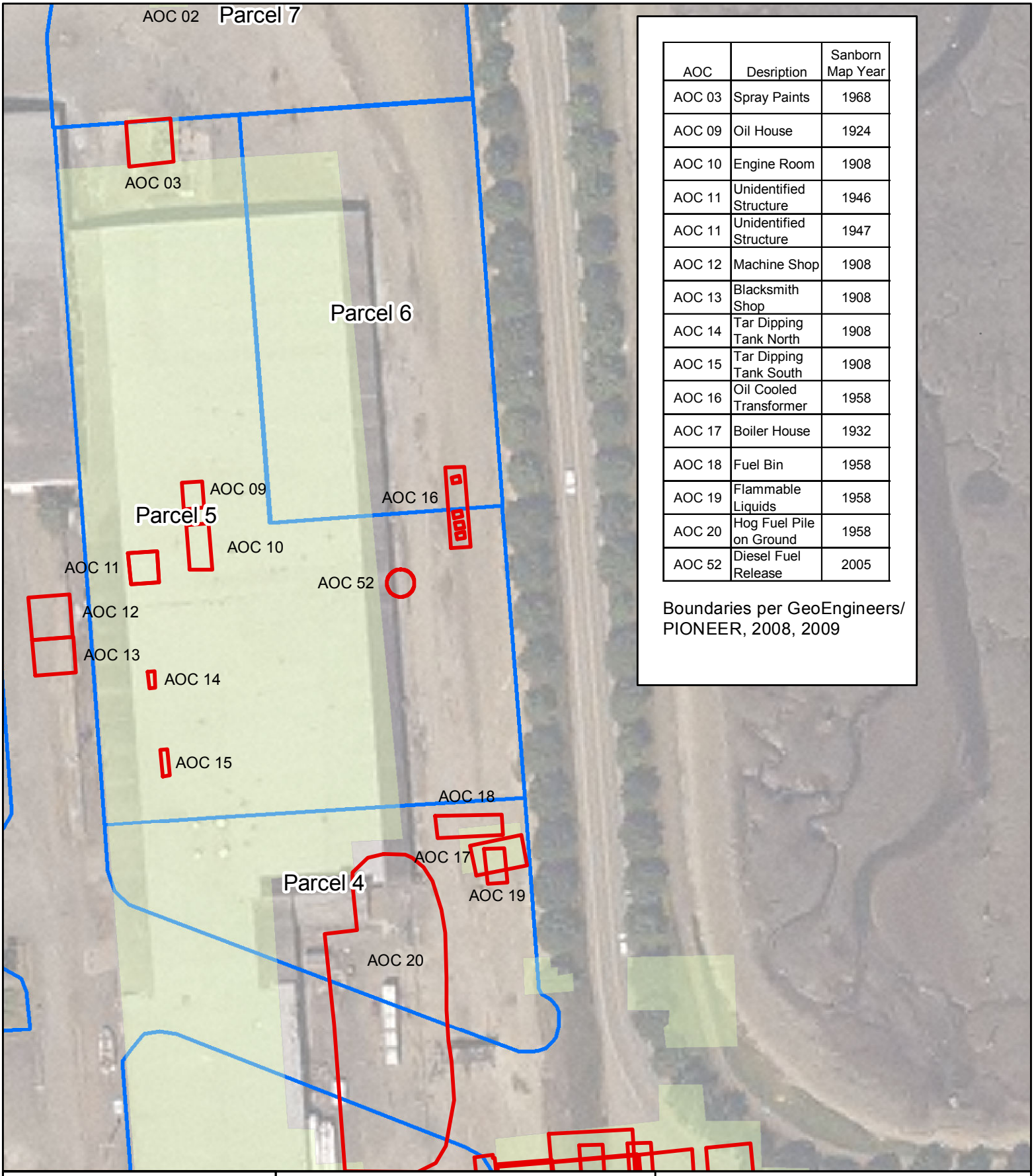
0 37.575 150 225 300 Feet

N

**Legend**

East Bay Redevelopment Boundaries

Parcel Boundaries




| AOC | Desription | Sanborn Map Year |
|---|---|---|
| AOC 03 | Spray Paints | 1968 |
| AOC 09 | Oil House | 1924 |
| AOC 10 | Engine Room | 1908 |
| AOC 11 | Unidentified Structure | 1946 |
| AOC 11 | Unidentified Structure | 1947 |
| AOC 12 | Machine Shop | 1908 |
| AOC 13 | Blacksmith Shop | 1908 |
| AOC 14 | Tar Dipping Tank North | 1908 |
| AOC 15 | Tar Dipping Tank South | 1908 |
| AOC 16 | Oil Cooled Transformer | 1958 |
| AOC 17 | Boiler House | 1932 |
| AOC 18 | Fuel Bin | 1958 |
| AOC 19 | Flammable Liquids | 1958 |
| AOC 20 | Hog Fuel Pile on Ground | 1958 |
| AOC 52 | Diesel Fuel Release | 2005 |

Boundaries per GeoEngineers/ PIONEER, 2008, 2009

**Figure 1-2:**
**Historical Operations/AOCs**
**Sept 2013**

Brown AND Caldwell

LOTT Clean Water Alliance

0 20 40 80 120 160 Feet

N

**Legend**

AOCs

St. Paul and Tacoma Lumber Mill

East Bay Parcels

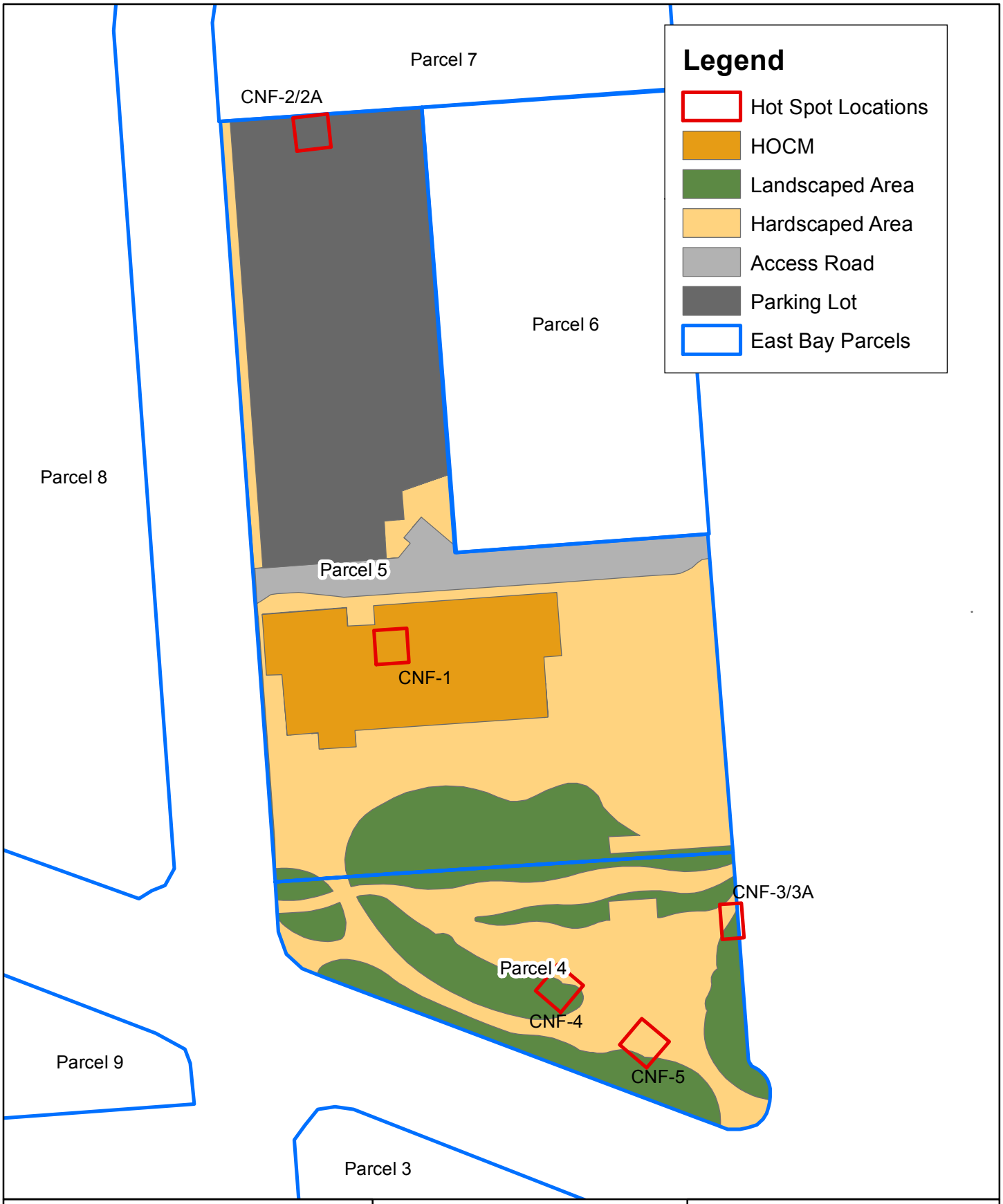



**Figure 2-1. Land Use**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

Feet
0 15 30 60 90

N

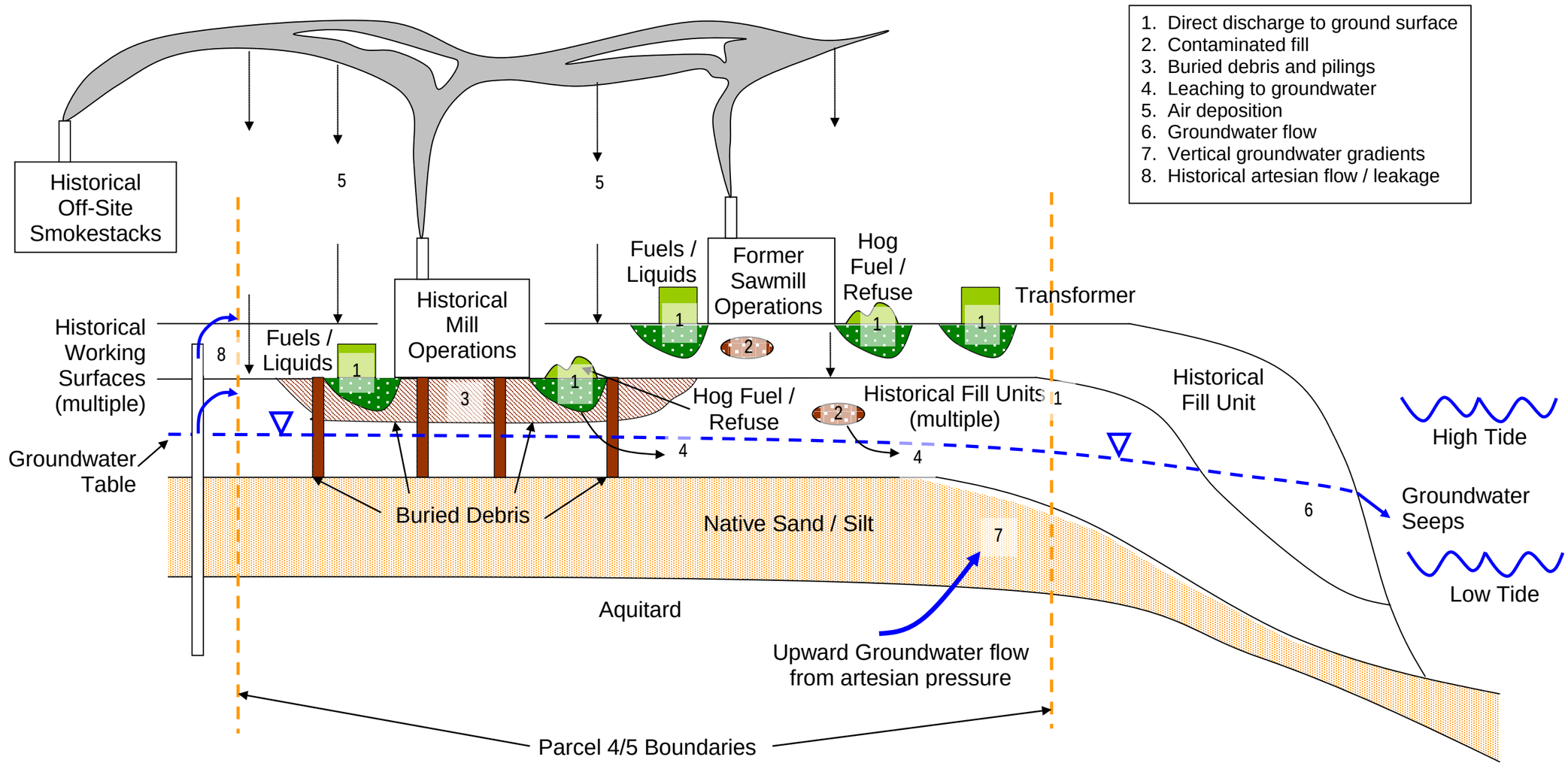



Figure 2-2: Conceptual Site Contaminant Transport Model

*Fate and Transport Pathways GeoEngineers/Pioneer, 2008, 2009*

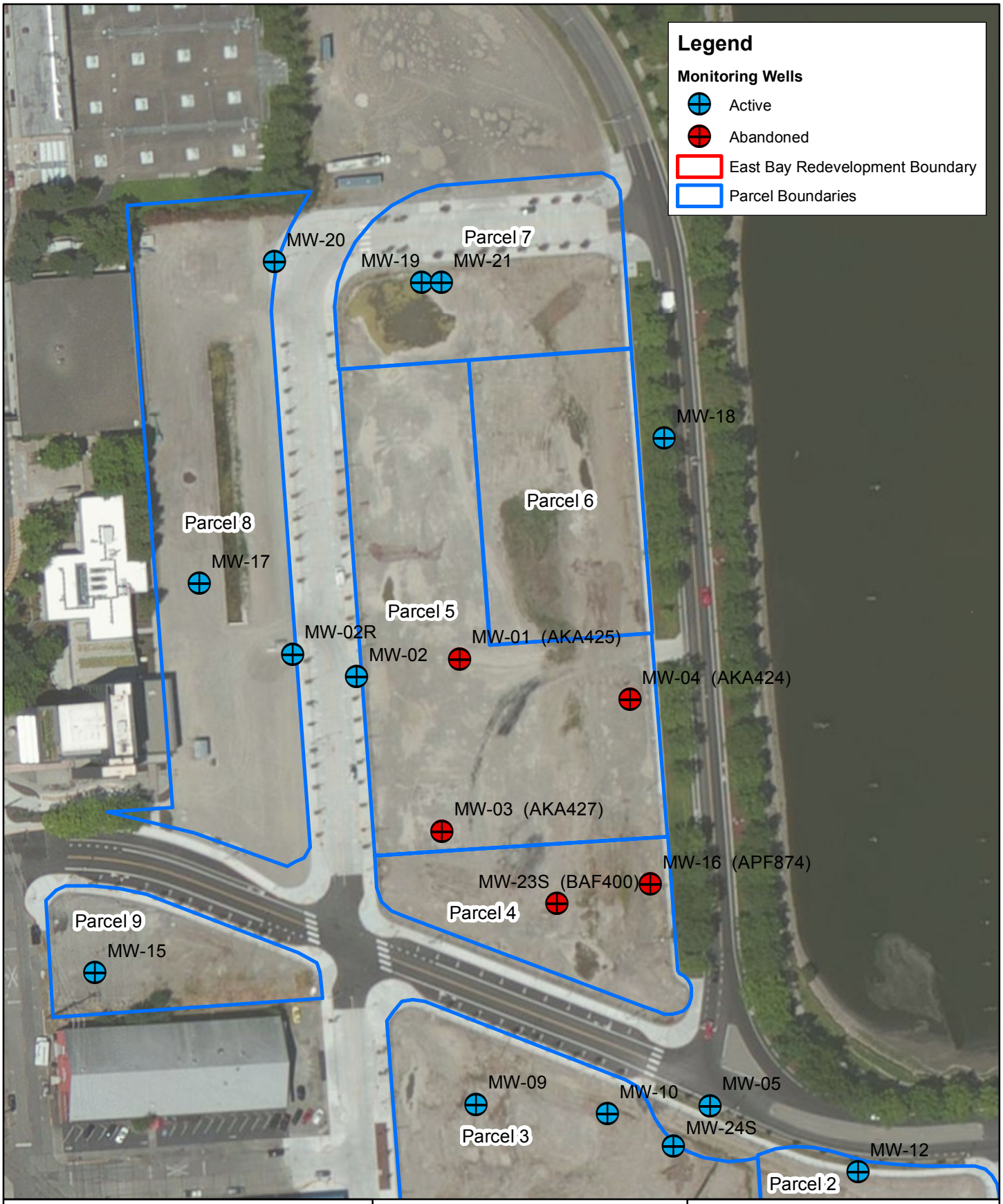



**Figure 2-3. Monitoring Well Locations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell | LOTT Clean Water Alliance | City of OLYMPIA

Feet
0 25 50 100 150

N

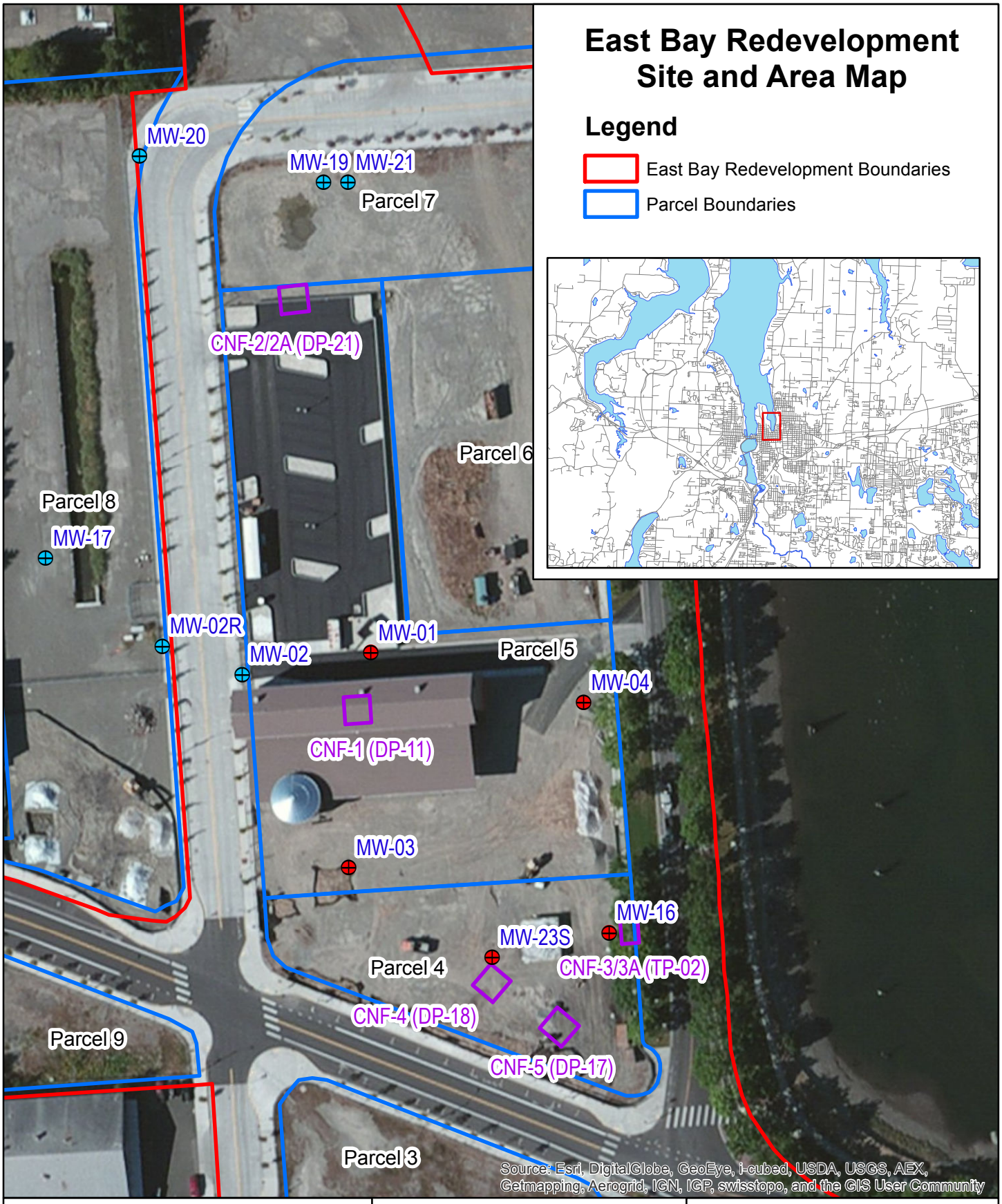
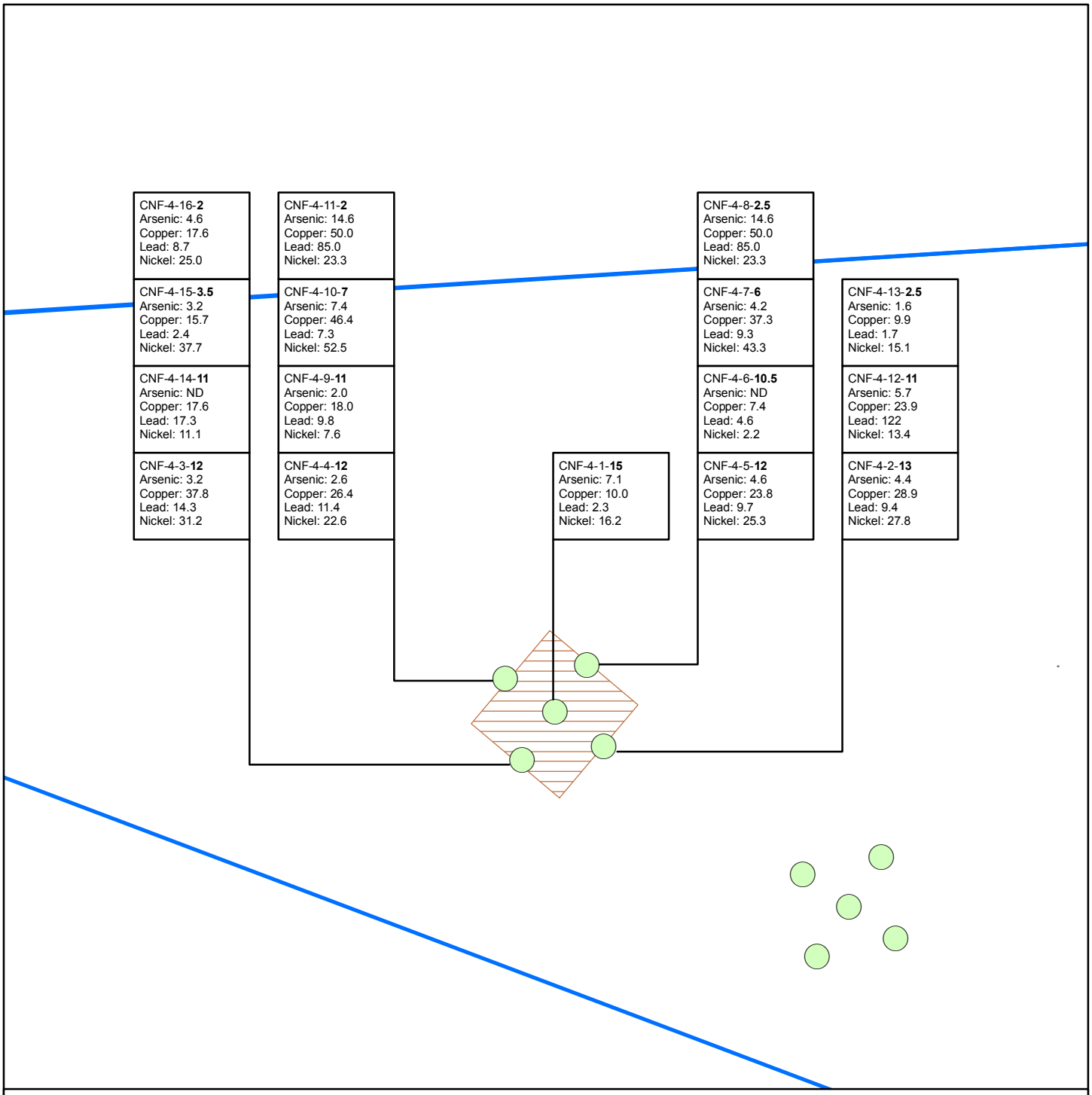



**Figure 4-1. East Bay Redevelopment Site Map**
**Parcel 4/ Parcel 5 Interim Action Report**
**February, 2015**

Brown AND Caldwell | LOTT Clean Water Alliance | City of OLYMPIA

Feet
0 15 30 60 90

N




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Arsenic | mg/kg | 20 | 20 |
| Copper | mg/kg | 2,700 | 2,700 |
| Lead | mg/kg | 250 | 250 |
| Nickel | mg/kg | 1,400 | 1,400 |

Notes
1. All results given as mg/kg.
2. Samples named using the formula:
   CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
3. Analytical results given in bold exceed the IARL.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).

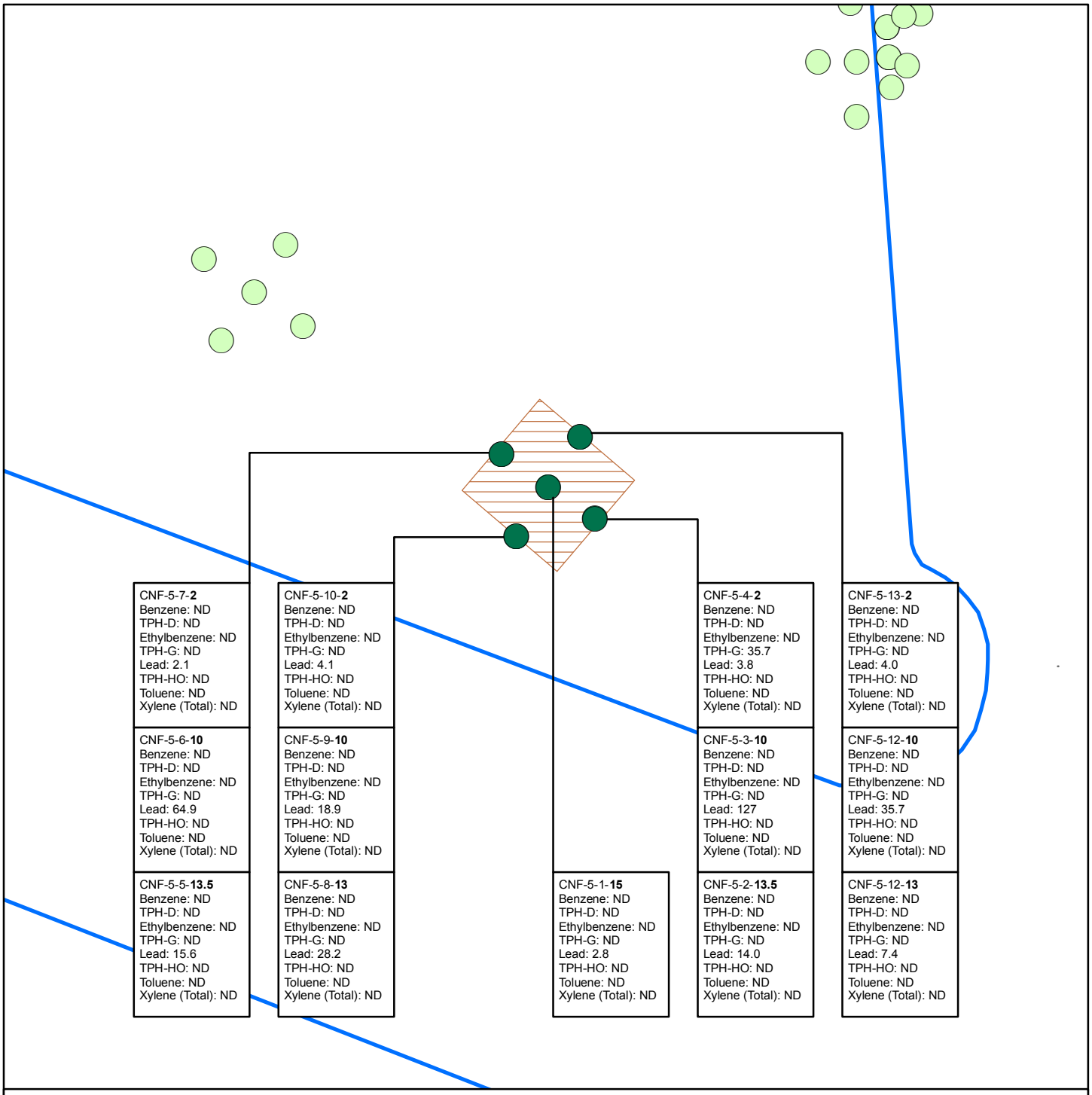
**Figure 4-2. CNF-4 Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N
Feet
0 25

## Explanation

Sample Point
Excavation
East Bay Parcels




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Benzene | mg/kg | 0.22 | 0.22 |
| Ethylbenzene | mg/kg | 43 | 43 |
| Toluene | mg/kg | 240 | 240 |
| Xylene (Total) | mg/kg | 23 | 23 |
| Lead | mg/kg | 250 | 250 |
| TPH-G | mg/kg | 100 | 100 |
| TPH-D | mg/kg | 2,000 | 2,000 |
| TPH-HO | mg/kg | 2,000 | 2,000 |

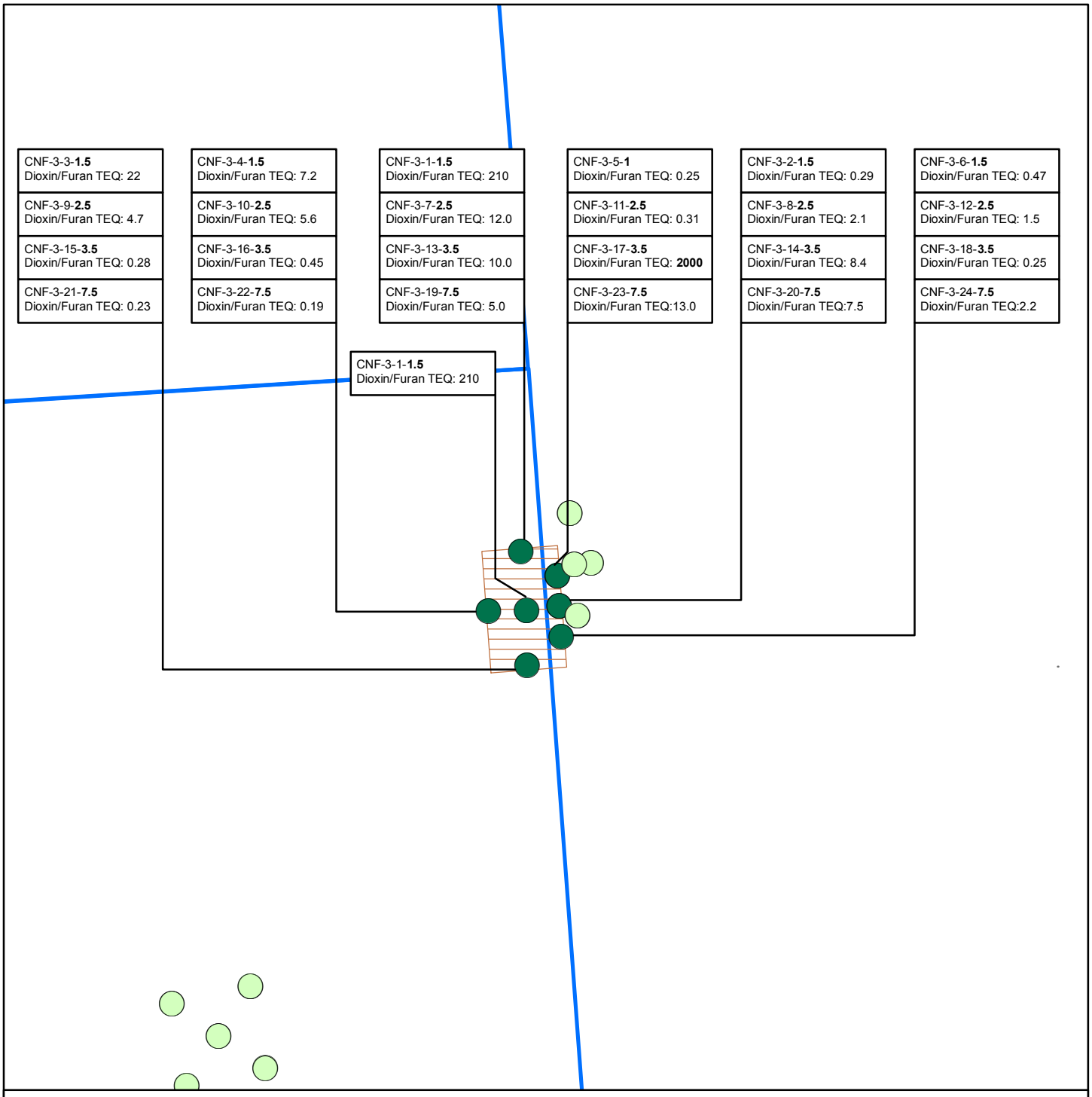
Notes
1. Samples named using the formula:
CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
2. Analytical results given in bold exceed the IARL.
3. All results given as mg/kg.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).

**Figure 4-3. CNF-5 Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N
Feet
0 25

**Explanation**
Sample Point
Excavation
East Bay Parcels




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Dioxin/Furan TEQ | ng/kg | 9.8 | 510 |

Notes
1. All results given as Toxicity Equivalent (TEQ) of 2,3,88-TCDD in ug/kg.
2. Samples named using the formula:
   CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
3. Analytical results given in bold exceed the IARL.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).

**Figure 4-4. CNF-3 Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

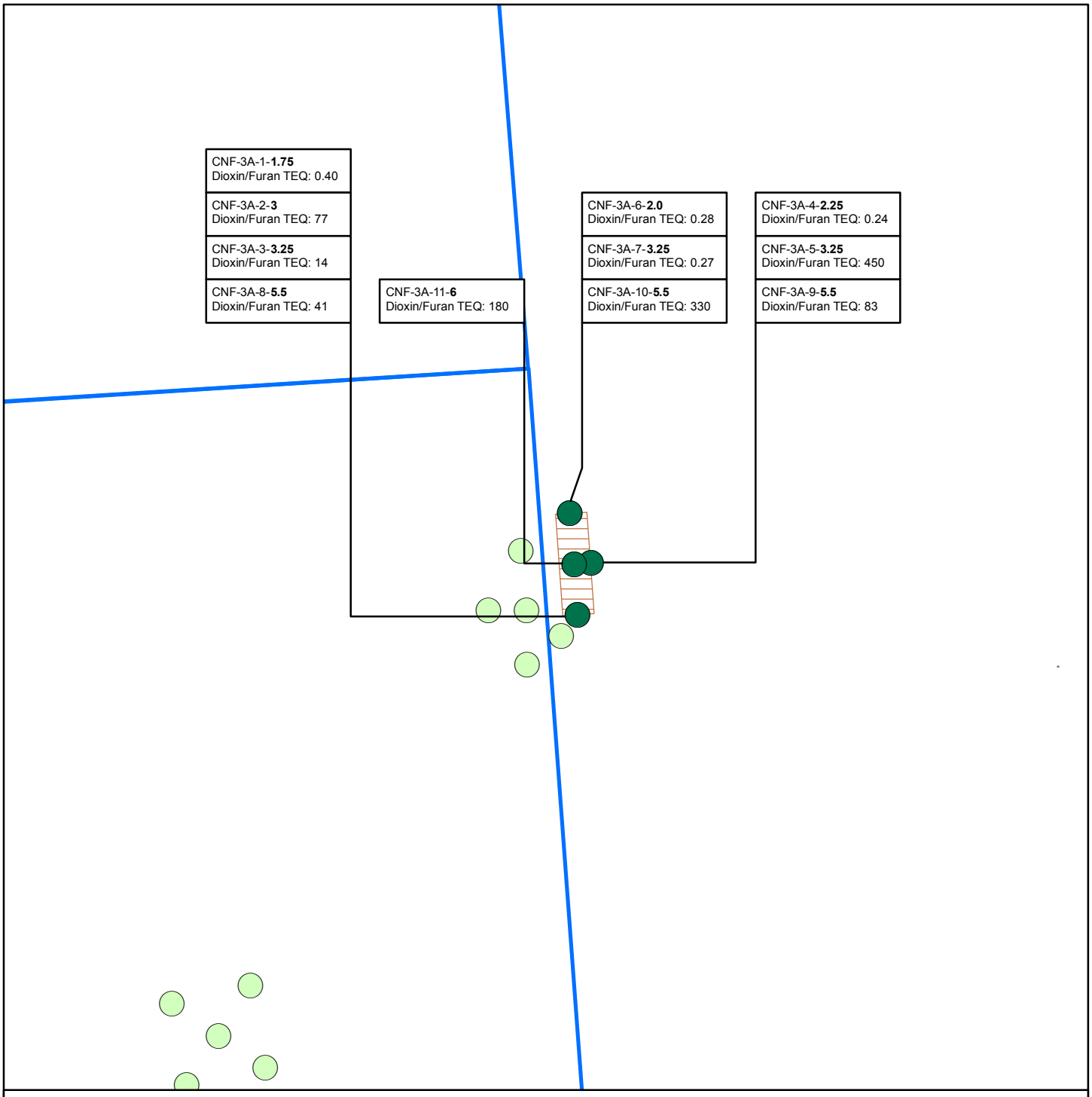
Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N

Feet
0 25

**Explanation**

Sample Point
Excavation
East Bay Parcels




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Dioxin/Furan TEQ | ng/kg | 9.8 | 510 |

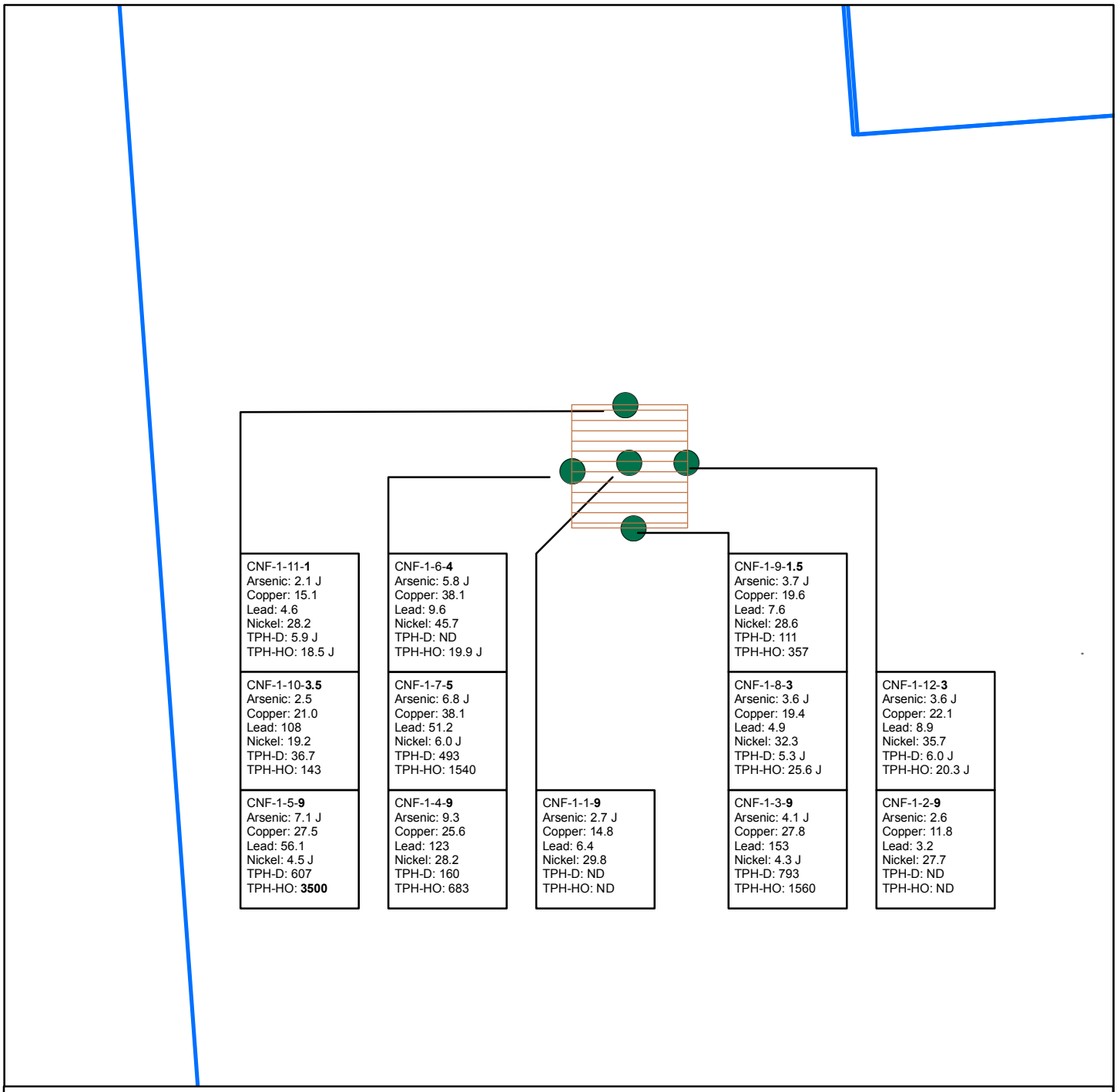
Notes
1. All results given as Toxicity Equivalent (TEQ) of 2,3,8,8-TCDD in ng/kg.
2. Samples named using the formula:
   CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
3. Analytical results given in bold exceed the IARL.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).

**Figure 4-5. CNF-3A Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**February, 2015**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N
Feet
0 25

**Explanation**
Sample Point
Excavation
East Bay Parcels




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Aresnic | mg/kg | 20 | 20 |
| Copper | mg/kg | 2,700 | 2,700 |
| Lead | mg/kg | 250 | 250 |
| Nickel | mg/kg | 1,400 | 1,400 |
| TPH-D | mg/kg | 2,000 | 2,000 |
| TPH-HO | mg/kg | 2,000 | 2,000 |

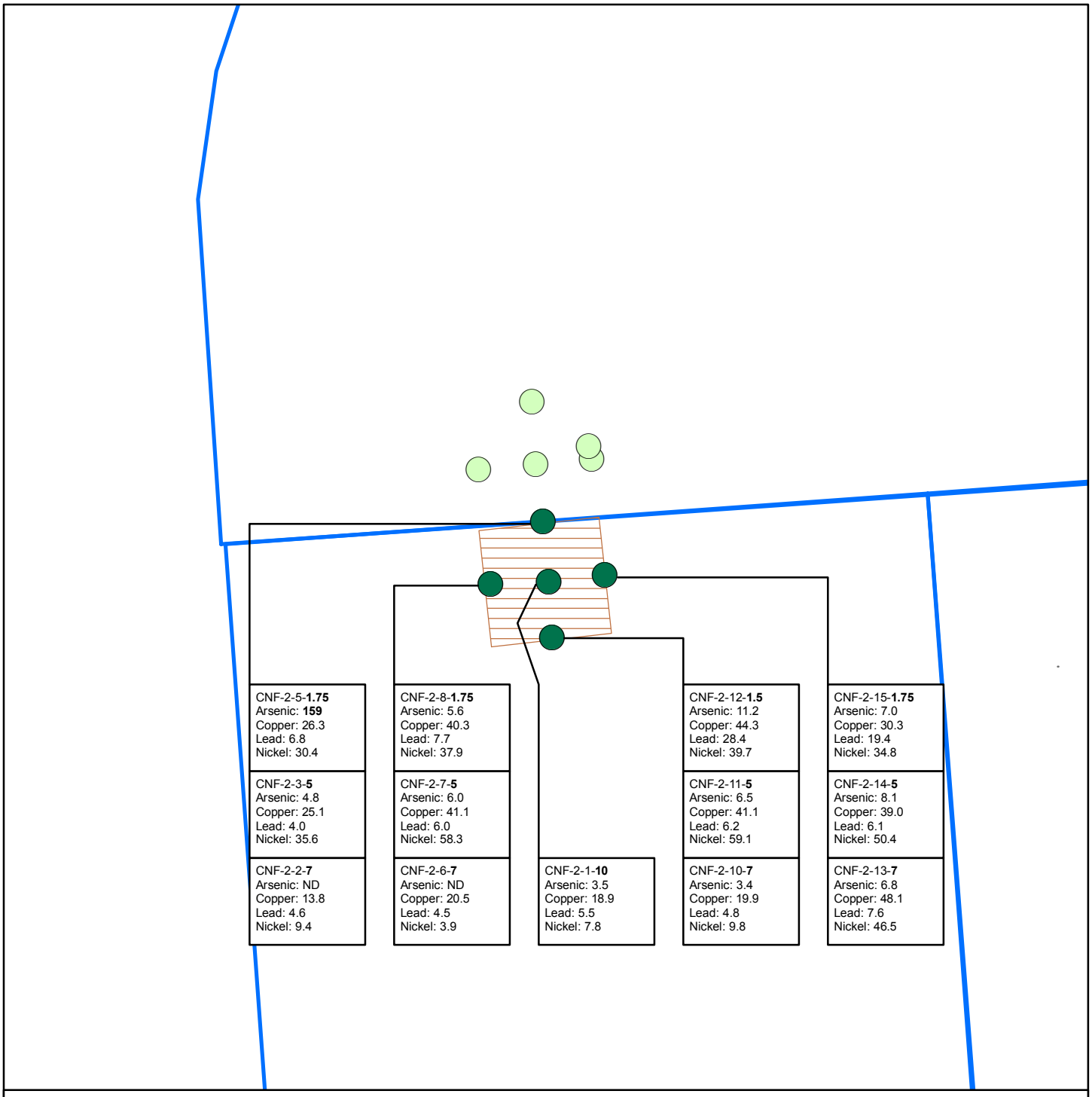
Notes
1. All results given as mg/kg.
2. Samples named using the formula:
   CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
3. Analytical results given in bold exceed the IARL.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).
5. 'J' flag indicates reported value is between the MDL and PQL.

**Figure 4-6. CNF-1 Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N
Feet
0 25

**Explanation**
Sample Point
Excavation
East Bay Parcels




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Aresnic | mg/kg | 20 | 20 |
| Copper | mg/kg | 2,700 | 2,700 |
| Lead | mg/kg | 250 | 250 |
| Nickel | mg/kg | 1,400 | 1,400 |

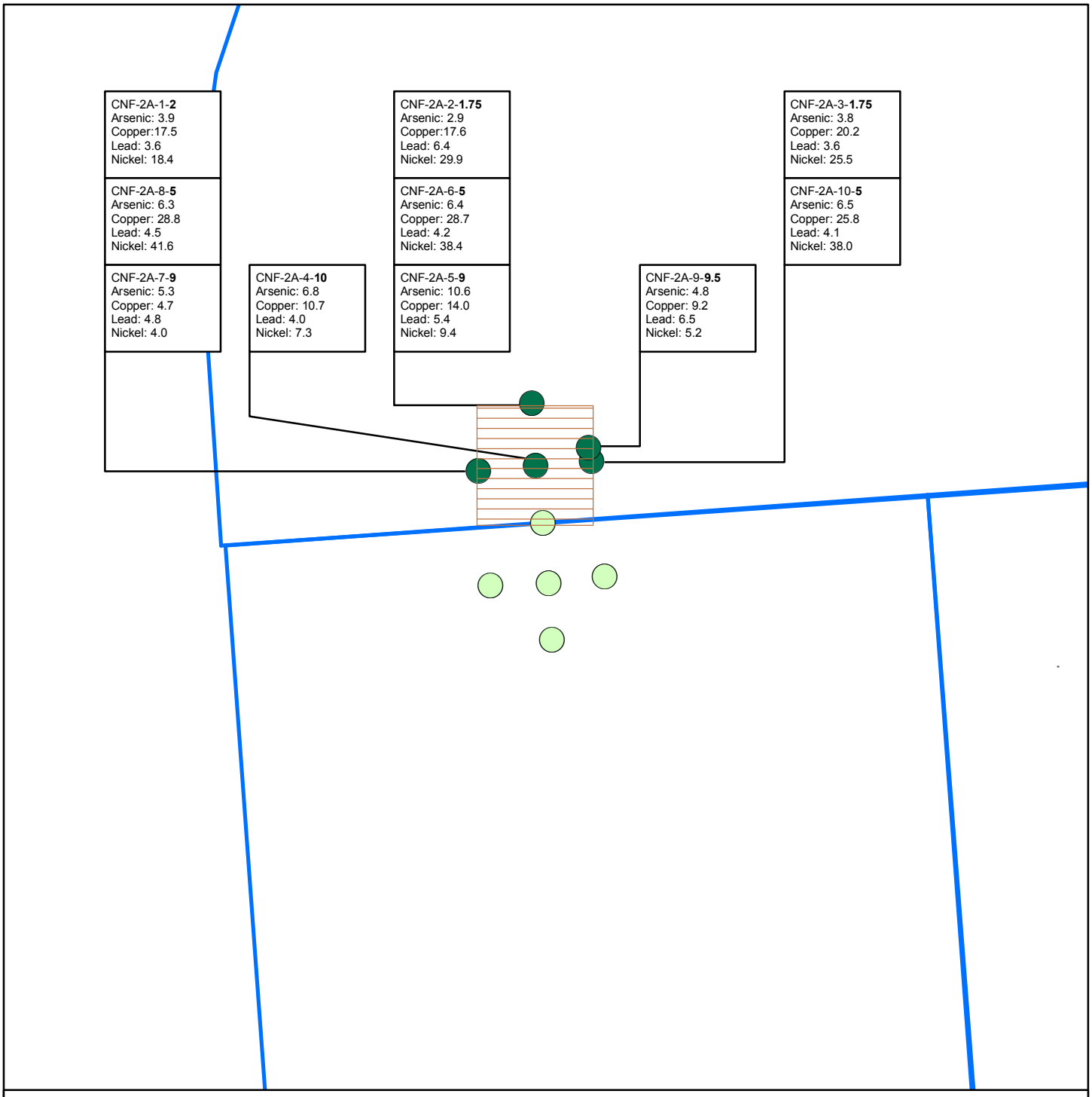
Notes
1. All results given as mg/kg.
2. Samples named using the formula:
   CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
3. Analytical results given in bold exceed the IARL.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).

**Figure 4-7. CNF-2 Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N
Feet
0 25

**Explanation**
Sample Point
Excavation
East Bay Parcels




| Constituent | Units | IACL | IARL |
|---|---|---|---|
| Aresnic | mg/kg | 20 | 20 |
| Copper | mg/kg | 2,700 | 2,700 |
| Lead | mg/kg | 250 | 250 |
| Nickel | mg/kg | 1,400 | 1,400 |

Notes
1. All results given as mg/kg.
2. Samples named using the formula:
   CNF- Hot Spot # - Sample Sequence # - **Sample Depth** (in bold).
3. Analytical results given in bold exceed the IARL.
4. Projection: Washington State Plane, South Zone, NAD 1983 datum (feet).

**Figure 4-8. CNF-2A Concentrations**
**Parcel 4/ Parcel 5 Interim Action Report**
**Sept, 2013**

Brown AND Caldwell
LOTT Clean Water Alliance
City of OLYMPIA

N

Feet
0 25

## Explanation

Sample Point
Excavation
East Bay Parcels

# Tables



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**Table 3-1. Sample Locations and Analytical Constituents**

| Location | Sample type | Depth of contamination (feet) | Hotspot constituent | Initial excavation depth (feet) | Initial sidewall sample depths (feet) | Analytical constituents |
|---|---|---|---|---|---|---|
| TP-02 (CNF-3, CNF-3A) | Sidewall and Bottom Confirmation Samples | 2 | Dioxins/Furans | 10 | 0-2, 2-3, 3-4, 7-8* | Dioxins/Furans |
| DP-11 (CNF-1) | Sidewall and Bottom Confirmation Samples | 8-10 | Lead | 12 | 8-10* | Arsenic, Lead, Copper, Nickel, TPH-D, TPH-HO, TPH-G |
| DP-17 (CNF-5)[a] | Sidewall and Bottom Confirmation Samples | 10-12 | Arsenic | 15 | 10-12* | Arsenic, Lead, Copper, and Nickel |
| DP-18 (CNF-4)[a] | Sidewall and Bottom Confirmation Samples | 10-12 | TPH-HO | 15 | 10-12* | TPH-D, TPH-HO, BTEX, and lead |
| DP-21 (CNF-2, CNF-2A) | Sidewall and Bottom Confirmation Samples | 6-8 | Arsenic | 10 | 6-8* | Arsenic, Lead, Copper, and Nickel |
| Stockpiles | Stockpile samples | NA | NA | NA | NA | All constituents of concern (See Table 3-2). |

*Notes:*

** Samples will be collected from the depth interval shown and including each lithologic unit.*

*NA - Not Applicable*

*See Sampling and Analysis Plan Table 2-1 for quantity of stockpile samples.*

*Soil from the excavations of locations TP-02, DP-11, DP-17, and DP-21 will be field screened for the presence of TPH. Analyses for TPH (all ranges) and BTEX will be added if field screening indicates potential TPH presence.*

*(a) CNF-4/CNF-5 locations have been updated, please not that the IAWP and SAP incorrectly referenced the spatial locations of DP-17 and DP-18, originally assigned samples of the CNF-4 and CNF-5 series, respectively. Therefore, these locations were sampled for incorrect COCs. Subsequent explanation is provided.*



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Tables compiled Final.docx

| Table 3-2. Interim Action Cleanup Levels (IACLs) and Interim Action Remediation Levels (IARLs) | | |
|---|---|---|
| COPC | IACL (mg/Kg) | IARL (mg/Kg) |
| Arsenic | 20(1) | 20(1) |
| Cadmium | 2(1) | 2(1) |
| Lead | 250(1) | 250(1) |
| TPH-G | 100(1) | 100(1) |
| Benzene | 0.22(2) | 0.22(2) |
| Toluene | 240(2) | 240(2) |
| Ethylbenzene | 43(2) | 43(2) |
| Total Xylenes | 23(2) | 23(2) |
| TPH-D | 2,000(1) | 2,000(1) |
| TPH-HO | 2,000(1) | 2,000(1) |
| Total Naphthalenes | 160(2) | 160(2) |
| Total cPAH TEQ | 0.10(1) | 1.4(3) |
| Total Dioxin/Furan TEQ | 9.8E-6(4) | 5.1E-4(5) |

*(1) Per MTCA Method A, WAC 173-340-900 Table 740-1.*

*(2) Level based on vapor intrusion. The vapor intrusion pathway was determined to be incomplete based on the soil sampling coverage for the property. However, levels based on vapor intrusion will be applied to ensure that the reuse of soil does not bring volatile constituents into proximity to buildable areas or off property structures. Calculations included in IAWP.*

*(3) Level based on marine surface water ARAR of 0.018 ug/L (human health, Clean Water Act §304) as calculated per MTCA Method B. Calculations included in IAWP.*

*(4) Level based on direct contact with soil for residents, recreators, and commercial workers as calculated per MTCA Method B. Calculations included in IAWP.*

*(5) Level based on direct contact with soil for utility workers as calculated per MTCA Method B. Calculations included in IAWP.*



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| Table 4-1. Confirmation Sample Locations | | |
|---|---|---|
| Sample ID | Northing | Easting |
| CNF-1-10-3.5 | 634424.52 | 1043029.6 |
| CNF-1-11-1 | 634424.52 | 1043029.6 |
| CNF-1-12-3 | 634414.83 | 1043040 |
| CNF-1-1-9 | 634414.85 | 1043030.3 |
| CNF-1-2-9 | 634414.83 | 1043040 |
| CNF-1-3-9 | 634403.72 | 1043031.1 |
| CNF-1-4-9 | 634413.42 | 1043020.7 |
| CNF-1-5-9 | 634424.52 | 1043029.6 |
| CNF-1-6-4 | 634413.42 | 1043020.7 |
| CNF-1-7-5 | 634413.42 | 1043020.7 |
| CNF-1-8-3 | 634403.72 | 1043031.1 |
| CNF-1-9-1.5 | 634403.72 | 1043031.1 |
| CNF-2-10-7 | 634713.67 | 1042983.3 |
| CNF-2-10A-5 | 634744.53 | 1042990.1 |
| CNF-2-1-10 | 634723.36 | 1042982.8 |
| CNF-2-11-5 | 634713.67 | 1042983.3 |
| CNF-2-12-1.5 | 634713.67 | 1042983.3 |
| CNF-2-13-7 | 634724.5 | 1042992.4 |
| CNF-2-14-5 | 634724.5 | 1042992.4 |
| CNF-2-15-1.75 | 634724.5 | 1042992.4 |
| CNF-2-1A-2 | 634742.77 | 1042970.5 |
| CNF-2-2-7 | 634733.8 | 1042981.7 |
| CNF-2-2A-1.75 | 634754.43 | 1042979.8 |
| CNF-2-3-5 | 634733.8 | 1042981.7 |
| CNF-2-4-5 | 634733.8 | 1042981.7 |
| CNF-2-3A-1.75 | 634744.53 | 1042990.1 |
| CNF-2-4A-10 | 634743.65 | 1042980.4 |
| CNF-2-5-1.75 | 634733.8 | 1042981.7 |
| CNF-2-5A-9 | 634754.43 | 1042979.8 |
| CNF-2-6-7 | 634722.98 | 1042972.6 |
| CNF-2-6A-5 | 634754.43 | 1042979.8 |
| CNF-2-7-5 | 634722.98 | 1042972.6 |
| CNF-2-7A-9 | 634742.77 | 1042970.5 |
| CNF-2-8-1.75 | 634722.98 | 1042972.6 |
| CNF-2-9-1.75 | 634722.98 | 1042972.6 |
| CNF-2-8A-5 | 634742.77 | 1042970.5 |



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| Table 4-1. Confirmation Sample Locations | | |
|---|---|---|
| Sample ID | Northing | Easting |
| CNF-2-9A-9.5 | 634746.73 | 1042989.7 |
| CNF-3-10-2.5 | 634247.97 | 1043228.8 |
| CNF-3-1-1.5 | 634258.21 | 1043234.4 |
| CNF-3-11-2.5[a] | 634254.03 | 1043240.7 |
| CNF-3-12-2.5[a] | 634243.57 | 1043241.4 |
| CNF-3-13-3.5 | 634258.21 | 1043234.4 |
| CNF-3-14-3.5[a] | 634248.79 | 1043241.1 |
| CNF-3-15-3.5 | 634238.55 | 1043235.5 |
| CNF-3-16-3.5 | 634247.97 | 1043228.8 |
| CNF-3-17-3.5[a] | 634254.03 | 1043240.7 |
| CNF-3-17-3.5 | 634254.03 | 1043240.7 |
| CNF-3-18-3.5[a] | 634243.57 | 1043241.4 |
| CNF-3-19-7.5 | 634258.21 | 1043234.4 |
| CNF-3-20-7.5[a] | 634248.79 | 1043241.1 |
| CNF-3-2-1.5[a] | 634248.79 | 1043241.1 |
| CNF-3-21-7.5 | 634238.55 | 1043235.5 |
| CNF-3-22-7.5 | 634247.97 | 1043228.8 |
| CNF-3-23-7.5[a] | 634254.03 | 1043240.7 |
| CNF-3-24-7.5[a] | 634243.57 | 1043241.4 |
| CNF-3-25-10 | 634248.03 | 1043235.4 |
| CNF-3-3-1.5 | 634238.55 | 1043235.5 |
| CNF-3-4-1.5 | 634247.97 | 1043228.8 |
| CNF-3-5-1[a] | 634254.03 | 1043240.7 |
| CNF-3-6-1[a] | 634243.57 | 1043241.4 |
| CNF-3-7-2.5 | 634258.21 | 1043234.4 |
| CNF-3-8-2.5[a] | 634248.79 | 1043241.1 |
| CNF-3-9-2.5 | 634238.55 | 1043235.5 |
| CNF-3A-10-5.5 | 634264.81 | 1043242.9 |
| CNF-3A-1-1.75 | 634247.24 | 1043244.2 |
| DUP | 634247.24 | 1043244.2 |
| CNF-3A-11-6 | 634255.98 | 1043243.6 |
| CNF-3A-2-3.0 | 634247.24 | 1043244.2 |
| CNF-3A-3-3.25 | 634247.24 | 1043244.2 |
| CNF-3A-4-2.25 | 634256.24 | 1043246.5 |
| CNF-3A-5-3.25 | 634256.24 | 1043246.5 |
| CNF-3A-6-2.0 | 634264.81 | 1043242.9 |



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Tables compiled Final.docx

| Table 4-1. Confirmation Sample Locations | | |
|---|---|---|
| Sample ID | Northing | Easting |
| CNF-3A-7-3.25 | 634264.81 | 1043242.9 |
| CNF-3A-8-5.5 | 634247.24 | 1043244.2 |
| CNF-3A-9-5.5 | 634256.24 | 1043246.5 |
| CNF-4-10-7 | 634180.08 | 1043174.1 |
| CNF-4-11-2 | 634180.08 | 1043174.1 |
| CNF-4-1-15 | 634174.47 | 1043182.1 |
| CNF-4-12-11 | 634169 | 1043190.2 |
| CNF-4-13-2.5 | 634169 | 1043190.2 |
| CNF-4-14-11 | 634165.95 | 1043176.6 |
| CNF-4-15-3.5 | 634165.95 | 1043176.6 |
| CNF-4-16-2 | 634165.95 | 1043176.6 |
| CNF-4-2-13 | 634169 | 1043190.2 |
| CNF-4-3-12 | 634165.95 | 1043176.6 |
| CNF-4-4-12 | 634180.08 | 1043174.1 |
| CNF-4-5-12 | 634183.13 | 1043187.7 |
| CNF-4-6-10.5 | 634183.13 | 1043187.7 |
| CNF-4-7-6 | 634183.13 | 1043187.7 |
| CNF-4-8-2.5 | 634183.13 | 1043187.7 |
| CNF-4-9-11 | 634180.08 | 1043174.1 |
| CNF-5-10-2 | 634199.84 | 1043125.6 |
| CNF-5-11-13 | 634216.29 | 1043136.7 |
| CNF-5-1-15 | 634208.17 | 1043131.3 |
| CNF-5-12-10 | 634216.29 | 1043136.7 |
| CNF-5-13-2 | 634216.29 | 1043136.7 |
| CNF-5-2-13.5 | 634202.24 | 1043139.7 |
| CNF-5-3-10 | 634202.24 | 1043139.7 |
| CNF-5-4-2 | 634202.24 | 1043139.7 |
| CNF-5-5-13.5 | 634213.9 | 1043122.7 |
| CNF-5-6-10 | 634213.9 | 1043122.7 |
| CNF-5-7-2 | 634213.9 | 1043122.7 |
| CNF-5-8-13 | 634199.84 | 1043125.6 |
| CNF-5-9-10 | 634199.84 | 1043125.6 |

*Note: Last numeric of the sample ID represents sample depth (CNF-#-#-Z, where Z is depth in feet)*

*Duplicate samples are shown in shaded rows.*

*(a) Material removed during subsequent excavation*



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**Table 4-2. CNF-4 (DP-18)[a] Concentrations in Soil**

| Sample ID | Date | Depth (feet bgs) | Concentration (mg/kg) | | | |
|---|---|---|---|---|---|---|
| | | | Arsenic | Copper | Lead | Nickel |
| CNF-4-1-15 | 11/8/2010 | 15 | 7.1 | 10.0 | 2.3 | 16.2 |
| CNF-4-2-13 | 11/8/2010 | 13 | 4.4 | 28.9 | 9.4 | 27.8 |
| CNF-4-3-12 | 11/8/2010 | 12 | 3.2 | 37.8 | 14.3 | 31.2 |
| CNF-4-4-12 | 11/8/2010 | 12 | 2.6 | 26.4 | 11.4 | 22.6 |
| CNF-4-5-12 | 11/8/2010 | 12 | 4.6 | 23.8 | 9.7 | 25.3 |
| CNF-4-6-10.5 | 11/8/2010 | 10.5 | ND | 7.4 | 6.4 | 2.2 |
| CNF-4-7-6 | 11/8/2010 | 6 | 4.2 | 37.3 | 9.3 | 43.3 |
| CNF-4-8-2.5 | 11/8/2010 | 2.5 | 5.1 | 36.7 | 8.7 | 47.1 |
| CNF-4-9-11 | 11/8/2010 | 11 | 2.0 | 18.0 | 9.8 | 7.6 |
| CNF-4-10-7 | 11/8/2010 | 7 | 7.4 | 46.4 | 7.3 | 52.5 |
| CNF-4-11-2 | 11/8/2010 | 2 | 14.6 J | 50.0 J | 85.0 J | 26.3 |
| CNF-4-12-11 | 11/8/2010 | 11 | 5.7 | 23.9 | 122 | 13.4 |
| CNF-4-13-2.5 | 11/8/2010 | 2.5 | 1.6 | 9.9 | 1.7 | 15.1 |
| CNF-4-14-11 | 11/8/2010 | 11 | ND | 17.6 | 17.3 | 11.1 |
| CNF-4-15-3.5 | 11/8/2010 | 3.5 | 3.2 | 15.7 | 2.4 | 37.7 |
| CNF-4-16-2 | 11/8/2010 | 2 | 4.6 | 17.6 | 8.7 | 25.0 |
| **Interim Action Cleanup Level** | | | **20** | **NA** | **250** | **NA** |
| **Interim Action Remediation Level** | | | **20** | **NA** | **250** | **NA** |

*IACL/IARL exceedances in bold.*
*J – Estimated concentration based on data validation.*
*ND – Not detected*
*a Locations of DP-17 and DP-18 locations were transposed in the IAWP and SAP, this report has been includes reference to the historically correct locations.*



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**Table 4-3. CNF-5 (DP-17)[a] Concentrations in Soil**

| Sample ID | Date | Depth (feet bgs) | Concentration (mg/kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lead | TPH-D | TPH-HO | TPH-G | Benzene | Ethylbenzene | Toluene | Total Xylenes |
| CNF-5-1-15 | 11/8/2010 | 15 | 2.8 J | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-2-13.5 | 11/8/2010 | 13.5 | 14.0 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-3-10 | 11/8/2010 | 10 | 127 | 135 | ND | ND | ND | ND | ND | ND |
| CNF-5-4-2 | 11/8/2010 | 2 | 3.8 | ND | ND | 35.7 | ND | ND | ND | ND |
| CNF-5-5-13.5 | 11/8/2010 | 13.5 | 15.6 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-6-10 | 11/8/2010 | 10 | 64.9 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-7-2 | 11/8/2010 | 2 | 2.1 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-8-13 | 11/8/2010 | 13 | 28.2 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-9-10 | 11/8/2010 | 10 | 18.9 | 137 | ND | ND | ND | ND | ND | ND |
| CNF-5-10-2 | 11/8/2010 | 2 | 4.1 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-11-13 | 11/8/2010 | 13 | 7.4 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-12-10 | 11/8/2010 | 10 | 35.7 | ND | ND | ND | ND | ND | ND | ND |
| CNF-5-13-2 | 11/8/2010 | 2 | 4.0 | ND | ND | ND | ND | ND | ND | ND |
| **Interim Action Cleanup Level** | | | **250** | **2000** | **2000** | **100** | **0.22** | **240** | **43** | **23** |
| **Interim Action Remediation Level** | | | **250** | **2000** | **2000** | **100** | **0.22** | **240** | **43** | **23** |

*IACL/IARL exceedances in bold.*
*J – Estimated concentration based on data validation.*
*ND – Not detected*
*a Locations of DP-17 and DP-18 locations were transposed in the IAWP and SAP, this report has been includes reference to the historically correct locations.*



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| Table 4-4. CNF-3 (TP-02) Concentrations in Soil | | | |
|---|---|---|---|
| Sample ID | Date | Depth (feet bgs) | Dioxin/Furan TEQ[(a)] (ng/kg) |
| CNF-3-1-1.5 | 11/9/2010 | 5 | **210** J, P |
| CNF-3-2-1.5[a] | 11/9/2010 | 5 | 0.29 J, B, P |
| CNF-3-3-1.5 | 11/9/2010 | 5 | **22** J, P |
| CNF-3-4-1.5 | 11/9/2010 | 5 | 7.2 J, B, I, D |
| CNF-3-5-1[b] | 11/9/2010 | 1 | 0.25 J, B |
| CNF-3-6-1[b] | 11/9/2010 | 1 | 0.47 J, B, P |
| CNF-3-7-2.5 | 11/9/2010 | 2.5 | **12** J |
| CNF-3-8-2.5[b] | 11/9/2010 | 2.5 | 2.1 J, P |
| CNF-3-9-2.5 | 11/9/2010 | 2.5 | 4.7 J |
| CNF-3-10-2.5 | 11/9/2010 | 2.5 | 5.6 J, P |
| CNF-3-11-2.5[b] | 11/9/2010 | 2.5 | 0.31 J, B, P, I |
| CNF-3-12-2.5[b] | 11/9/2010 | 2.5 | 1.5 J, P |
| CNF-3-13-3.5 | 11/9/2010 | 3.5 | **10** J |
| CNF-3-14-3.5[b] | 11/9/2010 | 3.5 | 8.4 J, I |
| CNF-3-15-3.5 | 11/9/2010 | 3.5 | 0.28 J, B, R, P, I |
| CNF-3-16-3.5 | 11/9/2010 | 3.5 | 0.45 J, B, P, I |
| CNF-3-17-3.5[b] | 11/9/2010 | 3.5 | **2200** P, E |
| CNF-3-18-3.5[b] | 11/9/2010 | 3.5 | 0.25 J, B, P, I |
| CNF-3-19-7.5 | 11/9/2010 | 7.5 | 5.0 J, R, P, I |
| CNF-3-20-7.5[b] | 11/9/2010 | 7.5 | 0.47 J, B, R, I |
| CNF-3-21-7.5 | 11/9/2010 | 7.5 | 0.23 J, B, I |
| CNF-3-22-7.5 | 11/9/2010 | 7.5 | 0.19 J,B , I |
| CNF-3-23-7.5[b] | 11/9/2010 | 7.5 | **13** J, R, P, I |
| CNF-3-24-7.5[a] | 11/9/2010 | 7.5 | 2.2 J, B, P |
| CNF-3-25-10 | 11/9/2010 | 10 | 0.21 J, B, R, I |
| **Interim Action Cleanup Level** | | | **9.81** |
| **Interim Action Remediation Level** | | | **510** |

*IACL/IARL exceedances in bold.*
*B = Less than 10x higher than method blank level*
*D= Results obtained from analysis of diluted sample*
*E = Exceeds calibration range*
*I = Interference present*
*J = Estimated value*
*P = PCDE Interference*
*R = Recovery outside target range*
*Y = Calculated using average of daily RFs*

*(a) TEQ per WAC 173-340-708(8). Calculated per Teel, 2010. For constituents detected on site, concentration = ½ reporting limit for results below reporting limit.*
*(b) Denotes sampled area that was removed during subsequent excavation efforts.*



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| Table 4-5. CNF-3A (TP-02) Concentrations in Soil | | | |
|---|---|---|---|
| Sample ID | Date | Depth (feet bgs) | Dioxin/Furan TEQ[(a)] (ng/kg) |
| CNF-3A-1-1.75 | 1/5/2011 | 1.75 | 0.40 J, I |
| CNF-3A-2-3.0 | 1/5/2011 | 3 | **77** P, E, Y |
| CNF-3A-3-3.25 | 1/5/2011 | 3.25 | **14** J, P, I |
| CNF-3A-4-2.25 | 1/5/2011 | 2.25 | 0.24 J, B, P |
| CNF-3A-5-3.25 | 1/5/2011 | 3.25 | **450** P, E, D, Nn, Y |
| CNF-3A-6-2.0 | 1/5/2011 | 2 | 0.28 J, B |
| CNF-3A-7-3.25 | 1/5/2011 | 3.25 | 0.27 J, P, I |
| CNF-3A-8-5.5 | 1/5/2011 | 5.5 | **41** J, P, Y |
| CNF-3A-9-5.5 | 1/5/2011 | 5.5 | **83** P, E, Y |
| CNF-3A-10-5.5 | 1/5/2011 | 5.5 | **330** J, P, E |
| CNF-3A-11-6 | 1/5/2011 | 6 | **180** J, P, E, D, Nn, Y |
| **Interim Action Cleanup Level** | | | **9.81** |
| **Interim Action Remediation Level** | | | **510** |

*IACL/IARL exceedances in bold.*
*B = Less than 10x higher than method blank level*
*D= Results obtained from analysis of diluted sample*
*E = Exceeds calibration range*
*I = Interference present*
*J = Estimated value*
*Nn = Value obtained from additional analysis*
*P = PCDE Interference*
*R = Recovery outside target range*
*Y = Calculated using average of daily RFs*

*(a) TEQ per WAC 173-340-708(8). Calculated per Teel, 2010. For constituents detected on site, concentration = ½ reporting limit for results below reporting limit.*



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**Table 4-6. CNF-1 (DP-11) Concentrations in Soil**

| Sample ID | Date | Depth (feet bgs) | Concentration (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Arsenic | Copper | Lead | Nickel | TPH-D | TPH-HO |
| CNF-1-1-9 | 11/3/2010 | 9 | 2.7 J | 14.8 | 6.4 | 29.8 | 4.7 U | 16.4 U |
| CNF-1-2-9 | 11/3/2010 | 9 | 2.6 | 11.8 | 3.2 | 27.7 | 5.1 U | 17.8 U |
| CNF-1-3-9 | 11/3/2010 | 9 | 4.1 J | 27.8 | 153 | 4.3 J | 793 | 1560 |
| CNF-1-4-9 | 11/3/2010 | 9 | 9.3 | 25.6 | 123 | 28.2 | 160 | 683 |
| CNF-1-5-9 | 11/3/2010 | 9 | 7.1 J | 27.5 | 56.1 | 4.5 J | 607 | **3500** |
| CNF-1-5-9[(a)] | 11/3/2010 | 9 | --- | --- | --- | --- | 263 | 1250 |
| CNF-1-6-4 | 11/3/2010 | 4 | 5.8 J | 38.1 | 9.6 | 45.7 | 4.7 U | 19.9 J |
| CNF-1-7-5 | 11/3/2010 | 5 | 6.8 J | 38.1 | 51.2 | 6.0 J | 493 | 1540 |
| CNF-1-8-3 | 11/3/2010 | 3 | 3.6 J | 19.4 | 4.9 | 32.3 | 5.3 J | 25.6 J |
| CNF-1-9-1.5 | 11/3/2010 | 1.5 | 3.7 J | 19.6 | 7.6 | 28.6 | 111 | 357 |
| CNF-1-10-3.5 | 11/3/2010 | 3.5 | 2.5 | 21.0 | 108 | 19.2 | 36.7 | 143 |
| CNF-1-11-1 | 11/3/2010 | 1 | 2.1 J | 15.1 | 4.6 | 28.2 | 5.9 J | 18.5 J |
| CNF-1-12-3 | 11/3/2010 | 3 | 3.6 J | 22.1 | 8.9 | 35.7 | 6.0 J | 20.3 J |
| **Interim Action Cleanup Level** | | | **20** | **NA** | **250** | **NA** | **2000** | **2000** |
| **Interim Action Remediation Level** | | | **20** | **NA** | **250** | **NA** | **2000** | **2000** |

*IACL/IARL exceedances in bold.*
*NM – Not measured*
*J – Estimated concentration. Concentration between Method Detection Limit (MDL) and Practical Quantitation Limit (PQL).*
*U – MDL shown. The COPC was not detected at this concentration.*
*(a) TPH results with silica gel cleanup.*



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**Table 4-7. CNF-2 (DP-21) Concentrations in Soil**

| Sample ID | Date | Depth (feet bgs) | Concentration (mg/kg) | | | |
|---|---|---|---|---|---|---|
| | | | Arsenic | Copper | Lead | Nickel |
| CNF-2-1-10 | 1/10/2011 | 10 | 3.5 | 18.9 | 5.5 | 7.8 |
| CNF-2-2-7[a] | 1/10/2011 | 7 | ND | 13.8 | 4.6 | 9.4 |
| CNF-2-3-5[a] | 1/10/2011 | 5 | 4.8 | 25.1 | 4.0 | 35.6 |
| CNF-2-4-5[a] | 1/10/2011 | 5 | 4.6 | 29.1 | 4.6 | 38.0 |
| CNF-2-5-1.75[a] | 1/10/2011 | 1.75 | **159** | 26.3 | 6.8 | 30.4 |
| CNF-2-6-7 | 1/10/2011 | 7 | ND | 20.5 | 4.5 | 3.9 |
| CNF-2-7-5 | 1/10/2011 | 5 | 6.0 | 41.1 | 6.0 | 58.3 |
| CNF-2-8-1.75 | 1/10/2011 | 1.75 | 5.6 J | 40.3 | 7.7 J | 37.9 |
| CNF-2-9-1.75 | 1/10/2011 | 1.75 | 9.1J | 47.8 | 10.8J | 35.7 |
| CNF-2-10-7 | 1/10/2011 | 7 | 3.4 | 19.9 | 4.8 | 9.8 |
| CNF-2-11-5 | 1/10/2011 | 5 | 6.5 | 41.1 J | 6.2 | 59.1 J |
| CNF-2-12-1.5 | 1/10/2011 | 1.5 | 11.2 | 44.3 | 28.4 | 39.7 |
| CNF-2-13-7 | 1/10/2011 | 7 | 6.8 | 48.1 | 7.6 | 46.5 |
| CNF-2-14-5 | 1/10/2011 | 5 | 8.1 | 39.0 | 6.1 | 50.4 |
| CNF-2-15-1.75 | 1/10/2011 | 1.75 | 7.0 | 30.3 | 19.4 | 34.8 |
| **Interim Action Cleanup Level** | | | **20** | **NA** | **250** | **NA** |
| **Interim Action Remediation Level** | | | **20** | **NA** | **250** | **NA** |

*IACL/IARL exceedances in bold.*
*J – Estimated concentration based on data validation.*
*NM – Not measured*
*ND – Not detected*

*Duplicate samples are shown in shaded rows.*

*(a) Material removed during subsequent excavation.*



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**Table 4-8. CNF-2A (DP-21) Concentrations in Soil**

| Sample ID | Date | Depth (feet bgs) | Concentration (mg/kg) | | | |
|---|---|---|---|---|---|---|
| | | | Arsenic | Copper | Lead | Nickel |
| CNF 2-1A-2 | 1/21/2011 | 2 | 3.9 | 17.5 | 3.6 | 18.4 |
| CNF 2-2A-1.75 | 1/21/2011 | 1.75 | 2.9 | 17.6 | 6.4 | 29.9 |
| CNF 2-3A-1.75 | 1/21/2011 | 1.75 | 3.8 | 20.2 | 3.6 | 25.5 |
| DUP | 1/21/2011 | 1.75 | 3.3 | 21.5 | 4.1 | 25.7 |
| CNF 2-4A-10 | 1/21/2011 | 10 | 6.8 | 10.7 | 4.0 | 7.3 |
| CNF-2-5A-9 | 1/21/2011 | 9 | 10.6 | 14.0 | 5.4 | 9.4 |
| CNF 2-6A-5 | 1/21/2011 | 5 | 6.4 | 28.7 | 4.2 | 38.4 |
| CNF 2-7A-9 | 1/21/2011 | 9 | 5.3 | 4.7 | 4.8 | 4.0 |
| CNF 2-8A-5 | 1/21/2011 | 5 | 6.3 | 28.8 | 4.5 | 41.6 |
| CNF 2-9A-9.5 | 1/21/2011 | 9.5 | 4.8 | 9.2 | 6.5 | 5.2 |
| CNF 2-10A-5 | 1/21/2011 | 5 | 6.5 | 25.8 | 4.1 | 38.0 |
| **Interim Action Cleanup Level** | | | **20** | **NA** | **250** | **NA** |
| **Interim Action Remediation Level** | | | **20** | **NA** | **250** | **NA** |

*IACL/IARL exceedances in bold.*

*Duplicate samples are shown in shaded rows.*



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| Table 4-9. Arsenic Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Arsenic Concentration (mg/Kg) |
| SPL-1-1 | 11/02/2010 | 2.1 |
| SPL-1-2 | 11/02/2010 | 6.5 |
| SPL-1-3 | 11/02/2010 | 2.2 |
| SPL-2-1 | 11/02/2010 | 2.6 |
| SPL-2-2 | 11/02/2010 | 3.4 |
| SPL-2-3 | 11/02/2010 | 3.9 |
| SPL-3-1 | 11/03/2010 | 7.1 |
| SPL-3-2 | 11/03/2010 | 7.4 |
| SPL-3-3 | 11/03/2010 | 4.8 |
| SPL-4-1 | 11/03/2010 | 2.8 |
| SPL-4-2 | 11/03/2010 | 2.6 |
| SPL-4-3 | 11/03/2010 | 3.5 |
| SPL-5-1 | 11/03/2010 | 2.9 |
| SPL-5-2 | 11/03/2010 | 4.6 |
| SPL-5-3 | 11/03/2010 | 2.6 |
| SPL-6-1 | 11/22/2010 | 7.0 |
| SPL-6-2 | 11/22/2010 | 5.5 |
| SPL-6-3 | 11/22/2010 | 6.8 |
| SPL-6-4 | 11/22/2010 | 5.5 |
| SPL-6-5 | 11/22/2010 | 5.6 |
| SPL-7-1 | 11/22/2010 | 5.4 |
| SPL-7-2 | 11/22/2010 | 2.7 |
| SPL-7-3 | 11/22/2010 | 10.2 |
| SPL-7-4 | 11/22/2010 | 7.7 |
| SPL-7-5 | 11/22/2010 | 4.6 |
| SPL-8-1 | 11/22/2010 | 3.2 |
| SPL-8-2 | 11/22/2010 | 6.0 |
| SPL-8-3 | 11/22/2010 | 4.3 |
| SPL-9-1 | 11/22/2010 | 5.4 |
| SPL-9-2 | 11/22/2010 | 4.0 |
| SPL-9-3 | 11/22/2010 | 3.0 |
| SPL-10-1 | 11/16/2010 | 3.3 |
| SPL-10-2 | 11/16/2010 | 5.2 |
| SPL-10-3 | 11/16/2010 | 7.7 |
| SPL-11-1 | 11/16/2010 | 4.5 |
| SPL-11-2 | 11/16/2010 | 4.4 |
| SPL-11-3 | 11/16/2010 | 3.6 |



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| Table 4-9. Arsenic Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Arsenic Concentration (mg/Kg) |
| SPL-12-1 | 11/10/2010 | 3.9 J |
| SPL-12-2 | 11/10/2010 | 7.0 |
| SPL-12-3 | 11/10/2010 | 4.6 |
| SPL-12-4 | 11/10/2010 | 6.8 |
| SPL-12-5 | 11/11/2010 | 5.6 |
| SPL-12-6 | 11/11/2010 | 3.2 |
| SPL-12-7 | 11/11/2010 | 3.4 |
| SPL-13-1 | 12/03/2010 | 5.5 |
| SPL-13-2 | 12/03/2010 | 4.4 |
| SPL-13-3 | 12/03/2010 | 3.3 |
| SPL-13-4 | 12/03/2010 | 4.4 |
| SPL-13-5 | 12/03/2010 | 4.1 |
| SPL-13-6 | 12/03/2010 | 9.6 |
| SPL-13-7 | 12/03/2010 | 4.0 |
| SPL-14-1 | 12/03/2010 | 4.1 |
| SPL-14-2 | 12/03/2010 | 4.6 |
| SPL-14-3 | 12/03/2010 | 4.2 |
| SPL-14-4 | 12/03/2010 | 4.0 |
| SPL-14-5 | 12/03/2010 | 7.0 |
| SPL-15-1 | 12/10/2010 | 5.0 |
| SPL-15-2 | 12/10/2010 | 5.7 |
| SPL-15-3 | 12/10/2010 | 4.7 |
| SPL-16-1 | 12/20/2010 | 4.1 |
| SPL-16-2 | 12/20/2010 | 5.0 |
| SPL-16-3 | 12/20/2010 | 4.7 |
| SPL-16-4 | 12/20/2010 | 1.9 |
| SPL-16-5 | 12/20/2010 | 6.6 |
| SPL-16-6 | 12/20/2010 | 3.9 |
| SPL-16-7 | 12/20/2010 | 3.8 |
| SPL-17-1 | 1/5/2011 | 7.7 |
| SPL-17-2 | 1/5/2011 | 4.9 |
| SPL-17-3 | 1/5/2011 | 7.1 |
| SPL-18-1 | 1/4/2011 | 3.5 |
| SPL-18-2 | 1/4/2011 | 6.3 |
| SPL-18-3 | 1/4/2011 | 5.4 |
| SPL-18-4 | 1/4/2011 | 4.6 |
| SPL-18-5 | 1/4/2011 | 4.8 |



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| Table 4-9. Arsenic Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Arsenic Concentration (mg/Kg) |
| SPL-18-6 | 1/4/2011 | 10.7 |
| SPL-19-1 | 1/13/2011 | 2.3 |
| SPL-19-2 | 1/13/2011 | 4.7 |
| SPL-19-3 | 1/13/2011 | 5.9 |
| SPL-19-4 | 1/13/2011 | 5.5 |
| SPL-19-5 | 1/13/2011 | 10.3 |
| SPL-19-6 | 1/13/2011 | 4.4 |
| SPL-20-1 | 1/19/2011 | 5.3 |
| SPL-20-2 | 1/19/2011 | 5.5 |
| SPL-20-3 | 1/19/2011 | 4.8 |
| SPL-20-4 | 1/19/2011 | 4.5 |
| SPL-20-5 | 1/19/2011 | 10.1 |
| SPL-20-6 | 1/19/2011 | 9.5 |
| SPL-21-1 | 1/19/2011 | 9.9 J |
| SPL-21-2 | 1/19/2011 | 7.0 |
| SPL-21-3 | 1/19/2011 | 5.9 |
| SPL-21-4 | 1/19/2011 | 6.3 |
| SPL-21-5 | 1/19/2011 | 7.8 |
| SPL-21-6 | 1/19/2011 | 7.1 |
| SPL-22-1 | 2/7/2011 | 3.1 |
| SPL-22-2 | 2/7/2011 | 4.6 |
| SPL-22-3 | 2/7/2011 | 4.2 |
| SPL-23-1 | 2/7/2011 | 6.4 |
| SPL-23-2 | 2/7/2011 | 3.6 |
| SPL-23-3 | 2/7/2011 | 5.8 |
| SPL-24-1 | 2/7/2011 | 4.5 |
| SPL-24-2 | 2/7/2011 | 9.3 J |
| SPL-24-3 | 2/7/2011 | 6.2 |
| SPL-24-4 | 2/7/2011 | 5.6 |
| SPL-25-1 | 2/9/2011 | 4.0 |
| SPL-25-2 | 2/9/2011 | 4.7 |
| SPL-25-3 | 2/9/2011 | 4.0 |
| SPL-25-4 | 2/9/2011 | 2.9 |
| SPL-25-5 | 2/9/2011 | 5.3 |
| SPL-26-1 | 2/9/2011 | 5.8 |
| SPL-26-2 | 2/9/2011 | 5.6 |
| SPL-26-3 | 2/9/2011 | 7.4 |



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| Table 4-9. Arsenic Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Arsenic Concentration (mg/Kg) |
| SPL-26-4 | 2/9/2011 | 7.3 |
| SPL-27-1 | 2/9/2011 | 3.3 |
| SPL-27-2 | 2/9/2011 | 2.9 |
| SPL-27-3 | 2/9/2011 | 4.6 |
| SPL-27-4 | 2/9/2011 | 3.9 |
| SPL-27-5 | 2/9/2011 | 4.2 |
| SPL-28-1 | 2/9/2011 | 4.7 J |
| SPL-28-2 | 2/9/2011 | 3.6 |
| SPL-28-3 | 2/9/2011 | 3.4 |
| SPL-28-4 | 2/9/2011 | 3.3 |
| SPL-29-1 | 2/4/2011 | 4.0 |
| SPL-29-2 | 2/4/2011 | 4.8 |
| SPL-29-3 | 2/4/2011 | 4.9 |
| SPL-29-4 | 2/4/2011 | 3.8 |
| SPL-29-5 | 2/4/2011 | 3.7 |
| SPL-29-6 | 2/4/2011 | 14.2 |
| SPL-29-7 | 2/4/2011 | 5.0 |
| SPL-29-8 | 2/4/2011 | 3.7 |
| SPL-30-1 | 2/3/2011 | 4.2 |
| SPL-30-2 | 2/3/2011 | 4.2 |
| SPL-30-3 | 2/3/2011 | 4.3 |
| SPL-30-4 | 2/3/2011 | 5.1 |
| SPL-30-5 | 2/3/2011 | 9.0 |
| SPL-30-6 | 2/3/2011 | 5.3 |
| SPL-30-7 | 2/3/2011 | 4.1 |
| SPL-31-1 | 2/18/2011 | 10.4 J |
| SPL-31-2 | 2/18/2011 | 4.1 J |
| SPL-31-3 | 2/18/2011 | 2.4 |
| SPL-31-4 | 2/18/2011 | 5.7 |
| SPL-31-5 | 2/18/2011 | 1.6 |
| SPL-31-6 | 2/18/2011 | 4.5 |
| SPL-32-1 | 2/18/2011 | 4.9 |
| SPL-32-2 | 2/18/2011 | 4.8 |
| SPL-32-3 | 2/18/2011 | 3.3 |
| **Interim Action Cleanup Level** | | **20** |
| **Interim Action Remediation Level** | | **20** |

*IACL/IARL exceedances in bold.*
*J – Estimated concentration based on data validation.*
*Duplicate samples are shown in shaded rows.*



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| Table 4-10. Cadmium Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Cadmium Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | ND |
| SPL-3-1 | 11/3/2010 | ND |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | ND |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 11/22/2010 | 0.80 |
| SPL-6-2 | 11/22/2010 | ND |
| SPL-6-3 | 11/22/2010 | 1.8 |
| SPL-6-4 | 11/22/2010 | 1.3 |
| SPL-6-5 | 11/22/2010 | ND |
| SPL-7-1 | 11/22/2010 | 0.47 |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | 1.2 |
| SPL-7-4 | 11/22/2010 | 0.85 |
| SPL-7-5 | 11/22/2010 | 2.0 |
| SPL-8-1 | 11/22/2010 | 0.080 |
| SPL-8-2 | 11/22/2010 | ND |
| SPL-8-3 | 11/22/2010 | ND |
| SPL-9-1 | 11/22/2010 | 0.12 |
| SPL-9-2 | 11/22/2010 | 0.079 |
| SPL-9-3 | 11/22/2010 | ND |
| SPL-10-1 | 11/16/2010 | 0.12 |
| SPL-10-2 | 11/16/2010 | 0.14 |
| SPL-10-3 | 11/16/2010 | 0.15 |
| SPL-11-1 | 11/16/2010 | 0.084 |
| SPL-11-2 | 11/16/2010 | 0.10 |



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| Table 4-10. Cadmium Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Cadmium Concentration (mg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | 0.48 |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | 0.092 |
| SPL-13-2 | 12/3/2010 | 0.065 |
| SPL-13-3 | 12/3/2010 | 0.11 |
| SPL-13-4 | 12/3/2010 | 0.29 |
| SPL-13-5 | 12/3/2010 | 0.084 |
| SPL-13-6 | 12/3/2010 | 0.18 |
| SPL-13-7 | 12/3/2010 | 0.23 |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | 0.083 |
| SPL-14-3 | 12/3/2010 | 0.084 |
| SPL-14-4 | 12/3/2010 | ND |
| SPL-14-5 | 12/3/2010 | ND |
| SPL-15-1 | 12/10/2010 | 0.10 |
| SPL-15-2 | 12/10/2010 | 0.087 |
| SPL-15-3 | 12/10/2010 | 0.082 |
| SPL-16-1 | 12/20/2010 | 0.10 |
| SPL-16-2 | 12/20/2010 | 0.13 |
| SPL-16-3 | 12/20/2010 | 0.23 |
| SPL-16-4 | 12/20/2010 | 0.15 |
| SPL-16-5 | 12/20/2010 | ND |
| SPL-16-6 | 12/20/2010 | 0.10 |
| SPL-16-7 | 12/20/2010 | 0.12 |
| SPL-17-1 | 1/5/2011 | 0.38 |
| SPL-17-2 | 1/5/2011 | 0.28 |
| SPL-17-3 | 1/5/2011 | 0.32 |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | 0.14 |
| SPL-18-4 | 1/4/2011 | 0.19 |



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| Table 4-10. Cadmium Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Cadmium Concentration (mg/Kg) |
| SPL-18-5 | 1/4/2011 | 0.089 |
| SPL-18-6 | 1/4/2011 | 0.80 |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | 0.17 |
| SPL-19-3 | 1/13/2011 | 0.24 |
| SPL-19-4 | 1/13/2011 | 0.19 |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | 0.18 |
| SPL-20-1 | 1/19/2011 | 0.16 |
| SPL-20-2 | 1/19/2011 | 0.12 |
| SPL-20-3 | 1/19/2011 | 0.20 |
| SPL-20-4 | 1/19/2011 | 0.17 |
| SPL-20-5 | 1/19/2011 | 0.15 |
| SPL-20-6 | 1/19/2011 | 0.20 |
| SPL-21-1 | 1/19/2011 | 0.11 |
| SPL-21-2 | 1/19/2011 | 0.55 |
| SPL-21-3 | 1/19/2011 | 0.11 |
| SPL-21-4 | 1/19/2011 | 0.14 |
| SPL-21-5 | 1/19/2011 | 0.098 |
| SPL-21-6 | 1/19/2011 | 0.10 |
| SPL-22-1 | 2/7/2011 | 0.074 |
| SPL-22-2 | 2/7/2011 | 0.092 |
| SPL-22-3 | 2/7/2011 | 0.10 |
| SPL-23-1 | 2/7/2011 | 0.11 |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | 0.19 |
| SPL-24-1 | 2/7/2011 | 0.17 |
| SPL-24-2 | 2/7/2011 | 0.13 |
| SPL-24-3 | 2/7/2011 | 0.10 |
| SPL-24-4 | 2/7/2011 | 0.12 |
| SPL-25-1 | 2/9/2011 | 0.14 |
| SPL-25-2 | 2/9/2011 | 0.53 |
| SPL-25-3 | 2/9/2011 | 0.12 |
| SPL-25-4 | 2/9/2011 | 0.14 |
| SPL-25-5 | 2/9/2011 | 0.43 |
| SPL-26-1 | 2/9/2011 | 1.6 |
| SPL-26-2 | 2/9/2011 | 1.4 |
| SPL-26-3 | 2/9/2011 | 1.9 |



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| Table 4-10. Cadmium Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Cadmium Concentration (mg/Kg) |
| SPL-26-4 | 2/9/2011 | 1.7 |
| SPL-27-1 | 2/9/2011 | 0.11 |
| SPL-27-2 | 2/9/2011 | 0.11 |
| SPL-27-3 | 2/9/2011 | 0.10 |
| SPL-27-4 | 2/9/2011 | 0.11 |
| SPL-27-5 | 2/9/2011 | 0.11 |
| SPL-28-1 | 2/9/2011 | 0.11 |
| SPL-28-2 | 2/9/2011 | 0.088 |
| SPL-28-3 | 2/9/2011 | ND |
| SPL-28-4 | 2/9/2011 | 0.087 |
| SPL-29-1 | 2/4/2011 | 0.10 |
| SPL-29-2 | 2/4/2011 | 0.14 |
| SPL-29-3 | 2/4/2011 | 0.14 |
| SPL-29-4 | 2/4/2011 | 0.085 |
| SPL-29-5 | 2/4/2011 | 0.088 |
| SPL-29-6 | 2/4/2011 | 0.098 |
| SPL-29-7 | 2/4/2011 | 0.17 |
| SPL-29-8 | 2/4/2011 | 0.095 |
| SPL-30-1 | 2/3/2011 | 0.086 |
| SPL-30-2 | 2/3/2011 | 0.10 |
| SPL-30-3 | 2/3/2011 | 0.12 |
| SPL-30-4 | 2/3/2011 | 0.11 |
| SPL-30-5 | 2/3/2011 | 0.12 |
| SPL-30-6 | 2/3/2011 | 0.12 |
| SPL-30-7 | 2/3/2011 | 0.11 |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | 0.11 J |
| SPL-31-3 | 2/18/2011 | ND |
| SPL-31-4 | 2/18/2011 | 0.16 |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | 0.48 |
| SPL-32-2 | 2/18/2011 | 0.17 |
| SPL-32-3 | 2/18/2011 | 0.22 |
| **Interim Action Cleanup Level** | | **2** |
| **Interim Action Remediation Level** | | |

*IACL/IARL exceedances in bold.*
*J – Estimated concentration based on data validation.*
*ND – Not detected*

*Duplicate samples are shown in shaded rows.*



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| Table 4-11. Lead Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Lead Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | 3.3 |
| SPL-1-2 | 11/2/2010 | 7.5 |
| SPL-1-3 | 11/2/2010 | 3.4 |
| SPL-2-1 | 11/2/2010 | 4.5 |
| SPL-2-2 | 11/2/2010 | 7.9 |
| SPL-2-3 | 11/2/2010 | 11.6 |
| SPL-3-1 | 11/3/2010 | **553** |
| SPL-3-2 | 11/3/2010 | 56.3 |
| SPL-3-3 | 11/3/2010 | 45.2 |
| SPL-4-1 | 11/3/2010 | 5.1 |
| SPL-4-2 | 11/3/2010 | 3.8 |
| SPL-4-3 | 11/3/2010 | 6.4 |
| SPL-5-1 | 11/3/2010 | 4.4 |
| SPL-5-2 | 11/3/2010 | 6.9 |
| SPL-5-3 | 11/3/2010 | 1.8 |
| SPL-6-1 | 11/22/2010 | 26.1 |
| SPL-6-2 | 11/22/2010 | 11.3 |
| SPL-6-3 | 11/22/2010 | 14.2 |
| SPL-6-4 | 11/22/2010 | 13.8 |
| SPL-6-5 | 11/22/2010 | 22.9 |
| SPL-7-1 | 11/22/2010 | 10.0 J |
| SPL-7-2 | 11/22/2010 | 18.8 |
| SPL-7-3 | 11/22/2010 | **514** |
| SPL-7-4 | 11/22/2010 | **1210** |
| SPL-7-5 | 11/22/2010 | 18.8 |
| SPL-8-1 | 11/22/2010 | 9.3 J |
| SPL-8-2 | 11/22/2010 | 5.7 |
| SPL-8-3 | 11/22/2010 | 3.8 |
| SPL-9-1 | 11/22/2010 | 6.7 |
| SPL-9-2 | 11/22/2010 | 6.7 |
| SPL-9-3 | 11/22/2010 | 4.7 |
| SPL-10-1 | 11/16/2010 | 6.0 |
| SPL-10-2 | 11/16/2010 | 16.3 |
| SPL-10-3 | 11/16/2010 | 20.9 |
| SPL-11-1 | 11/16/2010 | 8.1 |
| SPL-11-2 | 11/16/2010 | 13.0 |



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| Table 4-11. Lead Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Lead Concentration (mg/Kg) |
| SPL-11-3 | 11/16/2010 | 4.5 |
| SPL-12-1 | 11/10/2010 | 2.6 J |
| SPL-12-2 | 11/10/2010 | 3.8 |
| SPL-12-3 | 11/10/2010 | 5.9 |
| SPL-12-4 | 11/10/2010 | 17.3 |
| SPL-12-5 | 11/11/2010 | 5.3 |
| SPL-12-6 | 11/11/2010 | 3.3 |
| SPL-12-7 | 11/11/2010 | 2.4 |
| SPL-13-1 | 12/3/2010 | 7.4 |
| SPL-13-2 | 12/3/2010 | 8.2 |
| SPL-13-3 | 12/3/2010 | 4.3 |
| SPL-13-4 | 12/3/2010 | 9.6 |
| SPL-13-5 | 12/3/2010 | 8.1 |
| SPL-13-6 | 12/3/2010 | 7.0 |
| SPL-13-7 | 12/3/2010 | 10.4 |
| SPL-14-1 | 12/3/2010 | 5.4 |
| SPL-14-2 | 12/3/2010 | 8.6 |
| SPL-14-3 | 12/3/2010 | 6.3 |
| SPL-14-4 | 12/3/2010 | 7.4 |
| SPL-14-5 | 12/3/2010 | 7.7 |
| SPL-15-1 | 12/10/2010 | 10.9 |
| SPL-15-2 | 12/10/2010 | 10.4 |
| SPL-15-3 | 12/10/2010 | 9.2 |
| SPL-16-1 | 12/20/2010 | 10.4 |
| SPL-16-2 | 12/20/2010 | 9.5 |
| SPL-16-3 | 12/20/2010 | 33.4 J |
| SPL-16-4 | 12/20/2010 | 4.9 |
| SPL-16-5 | 12/20/2010 | 4.8 |
| SPL-16-6 | 12/20/2010 | 9.7 |
| SPL-16-7 | 12/20/2010 | 10.0 |
| SPL-17-1 | 1/5/2011 | 15.6 |
| SPL-17-2 | 1/5/2011 | 18.6 J |
| SPL-17-3 | 1/5/2011 | 18.9 |
| SPL-18-1 | 1/4/2011 | 3.1 |
| SPL-18-2 | 1/4/2011 | 3.2 |
| SPL-18-3 | 1/4/2011 | 143 |



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| Table 4-11. Lead Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Lead Concentration (mg/Kg) |
| SPL-18-4 | 1/4/2011 | 14.6 |
| SPL-18-5 | 1/4/2011 | 2.9 |
| SPL-18-6 | 1/4/2011 | 54.4 |
| SPL-19-1 | 1/13/2011 | 3.5 |
| SPL-19-2 | 1/13/2011 | 4.0 |
| SPL-19-3 | 1/13/2011 | 4.9 |
| SPL-19-4 | 1/13/2011 | 4.8 |
| SPL-19-5 | 1/13/2011 | 10.1 |
| SPL-19-6 | 1/13/2011 | 4.9 |
| SPL-20-1 | 1/19/2011 | 24.5 J |
| SPL-20-2 | 1/19/2011 | 9.1 |
| SPL-20-3 | 1/19/2011 | 35.2 |
| SPL-20-4 | 1/19/2011 | 24.7 J |
| SPL-20-5 | 1/19/2011 | 27.1 |
| SPL-20-6 | 1/19/2011 | 35.0 |
| SPL-21-1 | 1/19/2011 | 10.6 |
| SPL-21-2 | 1/19/2011 | 16.2 |
| SPL-21-3 | 1/19/2011 | 8.8 |
| SPL-21-4 | 1/19/2011 | 74.6 |
| SPL-21-5 | 1/19/2011 | 8.8 J |
| SPL-21-6 | 1/19/2011 | 8.1 |
| SPL-22-1 | 2/7/2011 | 4.5 |
| SPL-22-2 | 2/7/2011 | 7.9 |
| SPL-22-3 | 2/7/2011 | 7.3 |
| SPL-23-1 | 2/7/2011 | 12.3 |
| SPL-23-2 | 2/7/2011 | 6.0 |
| SPL-23-3 | 2/7/2011 | 32.3 |
| SPL-24-1 | 2/7/2011 | 11.1 |
| SPL-24-2 | 2/7/2011 | 11.9 |
| SPL-24-3 | 2/7/2011 | 11.0 |
| SPL-24-4 | 2/7/2011 | 13.0 |
| SPL-25-1 | 2/9/2011 | 4.9 |
| SPL-25-2 | 2/9/2011 | 21.2 |
| SPL-25-3 | 2/9/2011 | 7.4 |
| SPL-25-4 | 2/9/2011 | 7.8 |
| SPL-25-5 | 2/9/2011 | 17.2 |



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| Table 4-11. Lead Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Lead Concentration (mg/Kg) |
| SPL-26-1 | 2/9/2011 | 40.3 |
| SPL-26-2 | 2/9/2011 | 21.7 |
| SPL-26-3 | 2/9/2011 | 49.6 J |
| SPL-26-4 | 2/9/2011 | 34.5 |
| SPL-27-1 | 2/9/2011 | 7.7 |
| SPL-27-2 | 2/9/2011 | 8.0 |
| SPL-27-3 | 2/9/2011 | 16.1 |
| SPL-27-4 | 2/9/2011 | 8.7 |
| SPL-27-5 | 2/9/2011 | 8.4 |
| SPL-28-1 | 2/9/2011 | 8.7 |
| SPL-28-2 | 2/9/2011 | 7.3 |
| SPL-28-3 | 2/9/2011 | 7.5 |
| SPL-28-4 | 2/9/2011 | 7.0 |
| SPL-29-1 | 2/4/2011 | 8.7 |
| SPL-29-2 | 2/4/2011 | 9.0 |
| SPL-29-3 | 2/4/2011 | 7.1 |
| SPL-29-4 | 2/4/2011 | 4.3 |
| SPL-29-5 | 2/4/2011 | 3.5 |
| SPL-29-6 | 2/4/2011 | 9.3 |
| SPL-29-7 | 2/4/2011 | 5.3 |
| SPL-29-8 | 2/4/2011 | 4.0 |
| SPL-30-1 | 2/3/2011 | 5.2 J |
| SPL-30-2 | 2/3/2011 | 8.0 |
| SPL-30-3 | 2/3/2011 | 9.3 |
| SPL-30-4 | 2/3/2011 | 9.5 |
| SPL-30-5 | 2/3/2011 | 6.1 |
| SPL-30-6 | 2/3/2011 | 44.9 |
| SPL-30-7 | 2/3/2011 | 6.4 |
| SPL-31-1 | 2/18/2011 | 9.2 |
| SPL-31-2 | 2/18/2011 | 3.9 J |
| SPL-31-3 | 2/18/2011 | 4.8 |
| SPL-31-4 | 2/18/2011 | 9.4 |
| SPL-31-5 | 2/18/2011 | 2.1 |
| SPL-31-6 | 2/18/2011 | 4.9 |
| SPL-32-1 | 2/18/2011 | 165 |
| SPL-32-2 | 2/18/2011 | 63.2 |



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| Table 4-11. Lead Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Lead Concentration (mg/Kg) |
| SPL-32-3 | 2/18/2011 | 66.1 |
| **Interim Action Cleanup Level** | | **250** |
| **Interim Action Reporting Level** | | **250** |

*IACL/IARL exceedances in bold.*

*J – Estimated concentration based on data validation.*

*Duplicate samples are shown in shaded rows.*



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| Table 4-12. Copper Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Copper Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | 11.8 |
| SPL-1-2 | 11/2/2010 | 19.9 |
| SPL-1-3 | 11/2/2010 | 11.6 |
| SPL-2-1 | 11/2/2010 | 17.0 |
| SPL-2-2 | 11/2/2010 | 22.9 |
| SPL-2-3 | 11/2/2010 | 21.8 |
| SPL-3-1 | 11/3/2010 | 139 |
| SPL-3-2 | 11/3/2010 | 46.8 |
| SPL-3-3 | 11/3/2010 | 31.5 |
| SPL-4-1 | 11/3/2010 | 16.1 |
| SPL-4-2 | 11/3/2010 | 12.9 |
| SPL-4-3 | 11/3/2010 | 23.6 |
| SPL-5-1 | 11/3/2010 | 13.0 |
| SPL-5-2 | 11/3/2010 | 29.0 |
| SPL-5-3 | 11/3/2010 | 10.7 |
| SPL-6-1 | 11/22/2010 | 43.3 |
| SPL-6-2 | 11/22/2010 | 43.4 |
| SPL-6-3 | 11/22/2010 | 36.9 |
| SPL-6-4 | 11/22/2010 | 31.3 |
| SPL-6-5 | 11/22/2010 | 28.6 |
| SPL-7-1 | 11/22/2010 | 12.2 J |
| SPL-7-2 | 11/22/2010 | 12.5 |
| SPL-7-3 | 11/22/2010 | 53.6 |
| SPL-7-4 | 11/22/2010 | 37.9 |
| SPL-7-5 | 11/22/2010 | 40.4 |
| SPL-8-1 | 11/22/2010 | 15.4 |
| SPL-8-2 | 11/22/2010 | 29.4 |
| SPL-8-3 | 11/22/2010 | 15.3 |
| SPL-9-1 | 11/22/2010 | 26.0 |
| SPL-9-2 | 11/22/2010 | 22.1 |
| SPL-9-3 | 11/22/2010 | 15.8 |
| SPL-10-1 | 11/16/2010 | 20.3 |
| SPL-10-2 | 11/16/2010 | 34.3 |
| SPL-10-3 | 11/16/2010 | 36.0 |
| SPL-11-1 | 11/16/2010 | 35.2 |
| SPL-11-2 | 11/16/2010 | 27.2 |



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| Table 4-12. Copper Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Copper Concentration (mg/Kg) |
| SPL-11-3 | 11/16/2010 | 17.2 |
| SPL-12-1 | 11/10/2010 | 12.3 J |
| SPL-12-2 | 11/10/2010 | 14.2 |
| SPL-12-3 | 11/10/2010 | 19.4 |
| SPL-12-4 | 11/10/2010 | 33.1 |
| SPL-12-5 | 11/11/2010 | 21.1 |
| SPL-12-6 | 11/11/2010 | 11.6 |
| SPL-12-7 | 11/11/2010 | 12.2 |
| SPL-13-1 | 12/3/2010 | 18.5 |
| SPL-13-2 | 12/3/2010 | 30.5 |
| SPL-13-3 | 12/3/2010 | 16.4 |
| SPL-13-4 | 12/3/2010 | 28.1 |
| SPL-13-5 | 12/3/2010 | 24.4 |
| SPL-13-6 | 12/3/2010 | 24.9 |
| SPL-13-7 | 12/3/2010 | 23.4 J |
| SPL-14-1 | 12/3/2010 | 15.3 J |
| SPL-14-2 | 12/3/2010 | 21.4 |
| SPL-14-3 | 12/3/2010 | 17.3 |
| SPL-14-4 | 12/3/2010 | 17.3 |
| SPL-14-5 | 12/3/2010 | 27.4 |
| SPL-15-1 | 12/10/2010 | 22.9 |
| SPL-15-2 | 12/10/2010 | 20.6 |
| SPL-15-3 | 12/10/2010 | 24.2 |
| SPL-16-1 | 12/20/2010 | 35.4 J |
| SPL-16-2 | 12/20/2010 | 24.7 |
| SPL-16-3 | 12/20/2010 | 30.2 |
| SPL-16-4 | 12/20/2010 | 12.5 |
| SPL-16-5 | 12/20/2010 | 13.9 |
| SPL-16-6 | 12/20/2010 | 25.4 |
| SPL-16-7 | 12/20/2010 | 21.7 |
| SPL-17-1 | 1/5/2011 | 47.3 |
| SPL-17-2 | 1/5/2011 | 52.5 J |
| SPL-17-3 | 1/5/2011 | 39.8 |
| SPL-18-1 | 1/4/2011 | 15.6 |
| SPL-18-2 | 1/4/2011 | 12.8 |
| SPL-18-3 | 1/4/2011 | 23.7 |



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| Table 4-12. Copper Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Copper Concentration (mg/Kg) |
| SPL-18-4 | 1/4/2011 | 24.4 |
| SPL-18-5 | 1/4/2011 | 15.3 |
| SPL-18-6 | 1/4/2011 | 82.1 |
| SPL-19-1 | 1/13/2011 | 13.7 |
| SPL-19-2 | 1/13/2011 | 26.4 |
| SPL-19-3 | 1/13/2011 | 32.0 |
| SPL-19-4 | 1/13/2011 | 27.8 |
| SPL-19-5 | 1/13/2011 | 65.9 |
| SPL-19-6 | 1/13/2011 | 30.6 J |
| SPL-20-1 | 1/19/2011 | 23.6 J |
| SPL-20-2 | 1/19/2011 | 22.4 |
| SPL-20-3 | 1/19/2011 | 27.0 |
| SPL-20-4 | 1/19/2011 | 29.3 |
| SPL-20-5 | 1/19/2011 | 24.8 |
| SPL-20-6 | 1/19/2011 | 35.8 |
| SPL-21-1 | 1/19/2011 | 23.6 |
| SPL-21-2 | 1/19/2011 | 42.2 |
| SPL-21-3 | 1/19/2011 | 23.7 |
| SPL-21-4 | 1/19/2011 | 28.5 |
| SPL-21-5 | 1/19/2011 | 24.6 J |
| SPL-21-6 | 1/19/2011 | 21.4 |
| SPL-22-1 | 2/7/2011 | 15.3 J |
| SPL-22-2 | 2/7/2011 | 21.0 |
| SPL-22-3 | 2/7/2011 | 20.0 |
| SPL-23-1 | 2/7/2011 | 27.2 |
| SPL-23-2 | 2/7/2011 | 15.4 |
| SPL-23-3 | 2/7/2011 | 28.1 |
| SPL-24-1 | 2/7/2011 | 23.0 |
| SPL-24-2 | 2/7/2011 | 23.7 |
| SPL-24-3 | 2/7/2011 | 25.1 |
| SPL-24-4 | 2/7/2011 | 26.0 |
| SPL-25-1 | 2/9/2011 | 24.2 |
| SPL-25-2 | 2/9/2011 | 69.4 J |
| SPL-25-3 | 2/9/2011 | 21.6 |
| SPL-25-4 | 2/9/2011 | 17.5 |
| SPL-25-5 | 2/9/2011 | 67.3 |



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| Table 4-12. Copper Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Copper Concentration (mg/Kg) |
| SPL-26-1 | 2/9/2011 | 58.0 |
| SPL-26-2 | 2/9/2011 | 37.8 |
| SPL-26-3 | 2/9/2011 | 85.7 J |
| SPL-26-4 | 2/9/2011 | 59.1 |
| SPL-27-1 | 2/9/2011 | 19.8 J |
| SPL-27-2 | 2/9/2011 | 17.2 |
| SPL-27-3 | 2/9/2011 | 21.7 |
| SPL-27-4 | 2/9/2011 | 17.7 |
| SPL-27-5 | 2/9/2011 | 19.4 |
| SPL-28-1 | 2/9/2011 | 24.1 |
| SPL-28-2 | 2/9/2011 | 25.3 |
| SPL-28-3 | 2/9/2011 | 23.1 |
| SPL-28-4 | 2/9/2011 | 20.1 |
| SPL-29-1 | 2/4/2011 | 23.3 |
| SPL-29-2 | 2/4/2011 | 22.8 |
| SPL-29-3 | 2/4/2011 | 22.6 |
| SPL-29-4 | 2/4/2011 | 12.8 |
| SPL-29-5 | 2/4/2011 | 13.6 |
| SPL-29-6 | 2/4/2011 | 58.7 |
| SPL-29-7 | 2/4/2011 | 37.9 |
| SPL-29-8 | 2/4/2011 | 18.3 |
| SPL-30-1 | 2/3/2011 | 21.0 J |
| SPL-30-2 | 2/3/2011 | 24.6 |
| SPL-30-3 | 2/3/2011 | 26.1 |
| SPL-30-4 | 2/3/2011 | 27.6 |
| SPL-30-5 | 2/3/2011 | 33.5 |
| SPL-30-6 | 2/3/2011 | 31.2 |
| SPL-30-7 | 2/3/2011 | 22.7 |
| SPL-31-1 | 2/18/2011 | 29.1 J |
| SPL-31-2 | 2/18/2011 | 23.8 |
| SPL-31-3 | 2/18/2011 | 10.6 |
| SPL-31-4 | 2/18/2011 | 23.3 |
| SPL-31-5 | 2/18/2011 | 5.5 |
| SPL-31-6 | 2/18/2011 | 12.6 |
| SPL-32-1 | 2/18/2011 | 59.9 |
| SPL-32-2 | 2/18/2011 | 35.8 |



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| Table 4-12. Copper Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Copper Concentration (mg/Kg) |
| SPL-32-3 | 2/18/2011 | 36.1 |
| **Interim Action Cleanup Level** | | **NA** |
| **Interim Action Remediation Level** | | **NA** |

*J – Estimated concentration based on data validation.*

*Duplicate samples are shown in shaded rows.*



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| Table 4-13. Nickel Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Nickel Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | 24.0 |
| SPL-1-2 | 11/2/2010 | 35.8 |
| SPL-1-3 | 11/2/2010 | 27.2 |
| SPL-2-1 | 11/2/2010 | 26.6 |
| SPL-2-2 | 11/2/2010 | 32.5 |
| SPL-2-3 | 11/2/2010 | 23.5 |
| SPL-3-1 | 11/3/2010 | 23.5 |
| SPL-3-2 | 11/3/2010 | 43.1 |
| SPL-3-3 | 11/3/2010 | 41.5 |
| SPL-4-1 | 11/3/2010 | 30.7 |
| SPL-4-2 | 11/3/2010 | 20.1 |
| SPL-4-3 | 11/3/2010 | 31.4 |
| SPL-5-1 | 11/3/2010 | 29.6 |
| SPL-5-2 | 11/3/2010 | 28.8 |
| SPL-5-3 | 11/3/2010 | 34.4 |
| SPL-6-1 | 11/22/2010 | 26.5 |
| SPL-6-2 | 11/22/2010 | 47.6 |
| SPL-6-3 | 11/22/2010 | 35.1 |
| SPL-6-4 | 11/22/2010 | 28.0 |
| SPL-6-5 | 11/22/2010 | 12.1 |
| SPL-7-1 | 11/22/2010 | 16.0 J |
| SPL-7-2 | 11/22/2010 | 5.7 |
| SPL-7-3 | 11/22/2010 | 19.7 |
| SPL-7-4 | 11/22/2010 | 20.5 |
| SPL-7-5 | 11/22/2010 | 32.7 |
| SPL-8-1 | 11/22/2010 | 28.2 J |
| SPL-8-2 | 11/22/2010 | 39.8 |
| SPL-8-3 | 11/22/2010 | 31.6 |
| SPL-9-1 | 11/22/2010 | 26.7 |
| SPL-9-2 | 11/22/2010 | 22.9 |
| SPL-9-3 | 11/22/2010 | 18.5 |
| SPL-10-1 | 11/16/2010 | 28.8 |
| SPL-10-2 | 11/16/2010 | 38.5 |
| SPL-10-3 | 11/16/2010 | 38.5 |
| SPL-11-1 | 11/16/2010 | 36.0 |
| SPL-11-2 | 11/16/2010 | 26.6 |



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| Table 4-13. Nickel Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Nickel Concentration (mg/Kg) |
| SPL-11-3 | 11/16/2010 | 29.6 |
| SPL-12-1 | 11/10/2010 | 23.6 J |
| SPL-12-2 | 11/10/2010 | 24.7 |
| SPL-12-3 | 11/10/2010 | 27.5 |
| SPL-12-4 | 11/10/2010 | 38.7 |
| SPL-12-5 | 11/11/2010 | 44.0 |
| SPL-12-6 | 11/11/2010 | 26.3 |
| SPL-12-7 | 11/11/2010 | 30.4 |
| SPL-13-1 | 12/3/2010 | 29.9 |
| SPL-13-2 | 12/3/2010 | 27.7 |
| SPL-13-3 | 12/3/2010 | 29.2 |
| SPL-13-4 | 12/3/2010 | 35.1 |
| SPL-13-5 | 12/3/2010 | 33.5 |
| SPL-13-6 | 12/3/2010 | 41.2 |
| SPL-13-7 | 12/3/2010 | 31.8 J |
| SPL-14-1 | 12/3/2010 | 15.6 J |
| SPL-14-2 | 12/3/2010 | 22.2 |
| SPL-14-3 | 12/3/2010 | 25.1 |
| SPL-14-4 | 12/3/2010 | 21.6 |
| SPL-14-5 | 12/3/2010 | 26.2 |
| SPL-15-1 | 12/10/2010 | 28.2 |
| SPL-15-2 | 12/10/2010 | 20.9 |
| SPL-15-3 | 12/10/2010 | 25.1 |
| SPL-16-1 | 12/20/2010 | 49.9 J |
| SPL-16-2 | 12/20/2010 | 30.7 |
| SPL-16-3 | 12/20/2010 | 25.0 J |
| SPL-16-4 | 12/20/2010 | 19.6 |
| SPL-16-5 | 12/20/2010 | 29.8 |
| SPL-16-6 | 12/20/2010 | 29.6 |
| SPL-16-7 | 12/20/2010 | 24.5 |
| SPL-17-1 | 1/5/2011 | 34.6 |
| SPL-17-2 | 1/5/2011 | 26.9 |
| SPL-17-3 | 1/5/2011 | 32.2 |
| SPL-18-1 | 1/4/2011 | 28.1 |
| SPL-18-2 | 1/4/2011 | 29.1 |
| SPL-18-3 | 1/4/2011 | 33.2 |



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| Table 4-13. Nickel Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Nickel Concentration (mg/Kg) |
| SPL-18-4 | 1/4/2011 | 29.8 |
| SPL-18-5 | 1/4/2011 | 33.6 |
| SPL-18-6 | 1/4/2011 | 57.2 |
| SPL-19-1 | 1/13/2011 | 8.3 |
| SPL-19-2 | 1/13/2011 | 42.7 |
| SPL-19-3 | 1/13/2011 | 43.4 |
| SPL-19-4 | 1/13/2011 | 41.9 |
| SPL-19-5 | 1/13/2011 | 67.2 |
| SPL-19-6 | 1/13/2011 | 40.4 J |
| SPL-20-1 | 1/19/2011 | 32.0 J |
| SPL-20-2 | 1/19/2011 | 21.3 |
| SPL-20-3 | 1/19/2011 | 31.8 |
| SPL-20-4 | 1/19/2011 | 36.6 |
| SPL-20-5 | 1/19/2011 | 23.2 |
| SPL-20-6 | 1/19/2011 | 34.8 |
| SPL-21-1 | 1/19/2011 | 27.1 |
| SPL-21-2 | 1/19/2011 | 26.1 |
| SPL-21-3 | 1/19/2011 | 34.5 |
| SPL-21-4 | 1/19/2011 | 30.6 |
| SPL-21-5 | 1/19/2011 | 29.9 J |
| SPL-21-6 | 1/19/2011 | 28.2 |
| SPL-22-1 | 2/7/2011 | 23.0 |
| SPL-22-2 | 2/7/2011 | 25.5 |
| SPL-22-3 | 2/7/2011 | 24.7 |
| SPL-23-1 | 2/7/2011 | 34.7 |
| SPL-23-2 | 2/7/2011 | 24.3 |
| SPL-23-3 | 2/7/2011 | 33.1 |
| SPL-24-1 | 2/7/2011 | 27.0 |
| SPL-24-2 | 2/7/2011 | 27.6 |
| SPL-24-3 | 2/7/2011 | 27.4 |
| SPL-24-4 | 2/7/2011 | 39.1 |
| SPL-25-1 | 2/9/2011 | 33.8 |
| SPL-25-2 | 2/9/2011 | 26.9 |
| SPL-25-3 | 2/9/2011 | 23.0 |
| SPL-25-4 | 2/9/2011 | 26.2 |
| SPL-25-5 | 2/9/2011 | 32.4 |



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| Table 4-13. Nickel Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Nickel Concentration (mg/Kg) |
| SPL-26-1 | 2/9/2011 | 25.3 |
| SPL-26-2 | 2/9/2011 | 23.9 |
| SPL-26-3 | 2/9/2011 | 26.8 |
| SPL-26-4 | 2/9/2011 | 24.1 |
| SPL-27-1 | 2/9/2011 | 21.8 J |
| SPL-27-2 | 2/9/2011 | 20.3 |
| SPL-27-3 | 2/9/2011 | 30.4 |
| SPL-27-4 | 2/9/2011 | 24.1 |
| SPL-27-5 | 2/9/2011 | 28.9 |
| SPL-28-1 | 2/9/2011 | 24.2 |
| SPL-28-2 | 2/9/2011 | 25.1 |
| SPL-28-3 | 2/9/2011 | 21.7 |
| SPL-28-4 | 2/9/2011 | 23.1 |
| SPL-29-1 | 2/4/2011 | 36.1 J |
| SPL-29-2 | 2/4/2011 | 31.2 |
| SPL-29-3 | 2/4/2011 | 32.0 |
| SPL-29-4 | 2/4/2011 | 32.4 |
| SPL-29-5 | 2/4/2011 | 26.3 |
| SPL-29-6 | 2/4/2011 | 68.7 |
| SPL-29-7 | 2/4/2011 | 61.0 |
| SPL-29-8 | 2/4/2011 | 29.8 |
| SPL-30-1 | 2/3/2011 | 22.5 J |
| SPL-30-2 | 2/3/2011 | 31.1 |
| SPL-30-3 | 2/3/2011 | 31.5 |
| SPL-30-4 | 2/3/2011 | 31.1 |
| SPL-30-5 | 2/3/2011 | 32.7 |
| SPL-30-6 | 2/3/2011 | 34.3 |
| SPL-30-7 | 2/3/2011 | 27.0 |
| SPL-31-1 | 2/18/2011 | 29.5 |
| SPL-31-2 | 2/18/2011 | 26.5 J |
| SPL-31-3 | 2/18/2011 | 16.3 |
| SPL-31-4 | 2/18/2011 | 36.4 |
| SPL-31-5 | 2/18/2011 | 3.6 |
| SPL-31-6 | 2/18/2011 | 9.1 |
| SPL-32-1 | 2/18/2011 | 23.9 |
| SPL-32-2 | 2/18/2011 | 34.3 |



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| Table 4-13. Nickel Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Nickel Concentration (mg/Kg) |
| SPL-32-3 | 2/18/2011 | 19.5 |
| **Interim Action Cleanup Level** | | NA |
| **Interim Action Remediation Level** | | NA |

*J – Estimated concentration based on data validation.*

*Duplicate samples are shown in shaded rows.*



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| Table 4-14. TPH-G Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-G Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | ND |
| SPL-3-1 | 11/3/2010 | ND |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | ND |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 11/22/2010 | ND |
| SPL-6-1 | 12/10/2010 | ND |
| SPL-6-2 | 11/22/2010 | ND |
| SPL-6-2 | 12/10/2010 | ND |
| SPL-6-3 | 11/22/2010 | ND |
| SPL-6-3 | 12/10/2010 | ND |
| SPL-6-4 | 11/22/2010 | ND |
| SPL-6-4 | 12/10/2010 | ND |
| SPL-6-5 | 11/22/2010 | ND |
| SPL-6-5 | 12/10/2010 | ND |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | ND |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 11/22/2010 | 9.8 |
| SPL-8-1 | 12/10/2010 | 25.1 |
| SPL-8-2 | 11/22/2010 | 9.2 |
| SPL-8-2 | 12/10/2010 | ND |
| SPL-8-3 | 11/22/2010 | 17.0 |
| SPL-9-1 | 11/22/2010 | ND |



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| Table 4-14. TPH-G Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-G Concentration (mg/Kg) |
| SPL-9-1 | 12/10/2010 | ND |
| SPL-9-2 | 11/22/2010 | ND |
| SPL-9-2 | 12/10/2010 | ND |
| SPL-9-3 | 11/22/2010 | ND |
| SPL-9-3 | 12/10/2010 | ND |
| SPL-10-1 | 11/16/2010 | ND |
| SPL-10-2 | 11/16/2010 | ND |
| SPL-10-3 | 11/16/2010 | ND |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | ND |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | ND |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | ND |
| SPL-13-7 | 12/3/2010 | ND |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | ND |
| SPL-14-4 | 12/3/2010 | ND |
| SPL-14-5 | 12/3/2010 | ND |
| SPL-15-1 | 12/10/2010 | ND |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | ND |
| SPL-16-1 | 12/20/2010 | 4.6 |
| SPL-16-2 | 12/20/2010 | ND |
| SPL-16-3 | 12/20/2010 | ND |



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| Table 4-14. TPH-G Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-G Concentration (mg/Kg) |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | 24.2 |
| SPL-16-6 | 12/20/2010 | ND |
| SPL-16-7 | 12/20/2010 | ND |
| SPL-17-1 | 1/5/2011 | ND |
| SPL-17-2 | 1/5/2011 | ND |
| SPL-17-3 | 1/5/2011 | ND |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |
| SPL-18-4 | 1/4/2011 | ND |
| SPL-18-5 | 1/4/2011 | ND |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | ND |
| SPL-19-4 | 1/13/2011 | ND |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | ND |
| SPL-20-2 | 1/19/2011 | ND |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | ND |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | ND |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | ND |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | 19.5 |
| SPL-23-2 | 2/7/2011 | ND |



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| Table 4-14. TPH-G Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-G Concentration (mg/Kg) |
| SPL-23-3 | 2/7/2011 | ND |
| SPL-24-1 | 2/7/2011 | ND |
| SPL-24-2 | 2/7/2011 | ND |
| SPL-24-3 | 2/7/2011 | 6.6 |
| SPL-24-4 | 2/7/2011 | 76.5 |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | ND |
| SPL-25-3 | 2/9/2011 | ND |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | ND |
| SPL-26-1 | 2/9/2011 | ND |
| SPL-26-2 | 2/9/2011 | ND |
| SPL-26-3 | 2/9/2011 | ND |
| SPL-26-4 | 2/9/2011 | ND |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | ND |
| SPL-27-3 | 2/9/2011 | ND |
| SPL-27-4 | 2/9/2011 | ND |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | ND |
| SPL-28-2 | 2/9/2011 | ND |
| SPL-28-3 | 2/9/2011 | ND |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | ND |
| SPL-29-2 | 2/4/2011 | ND |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | ND |
| SPL-30-2 | 2/3/2011 | ND |
| SPL-30-3 | 2/3/2011 | ND |
| SPL-30-4 | 2/3/2011 | ND |
| SPL-30-5 | 2/3/2011 | ND |



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| Table 4-14. TPH-G Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-G Concentration (mg/Kg) |
| SPL-30-6 | 2/3/2011 | ND |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | ND |
| SPL-31-4 | 2/18/2011 | ND |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | ND |
| SPL-32-2 | 2/18/2011 | ND |
| SPL-32-3 | 2/18/2011 | ND |
| **Interim Action Cleanup Level** | | **100** |
| **Interim Action Remediation Level** | | **100** |

*IACL/IARL exceedances in bold.*

*ND – Not detected*

*Duplicate samples are shown in shaded rows.*

| Table 4-15. Benzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Benzene Conc. (µg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | ND |
| SPL-3-1 | 11/3/2010 | ND |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | ND |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 12/10/2010 | ND |
| SPL-6-2 | 12/10/2010 | ND |
| SPL-6-3 | 12/10/2010 | ND |
| SPL-6-4 | 12/10/2010 | ND |
| SPL-6-5 | 12/10/2010 | ND |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | ND |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 12/10/2010 | ND |
| SPL-8-2 | 12/10/2010 | ND |
| SPL-8-3 | 11/22/2010 | ND |
| SPL-9-1 | 12/10/2010 | ND |
| SPL-9-2 | 12/10/2010 | ND |
| SPL-9-3 | 12/10/2010 | ND |
| SPL-10-1 | 11/16/2010 | ND |
| SPL-10-2 | 11/16/2010 | ND |
| SPL-10-3 | 11/16/2010 | ND |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | ND |



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| Table 4-15. Benzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Benzene Conc. (µg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | ND |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | ND |
| SPL-13-7 | 12/3/2010 | ND |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | ND |
| SPL-14-4 | 12/3/2010 | ND |
| SPL-14-5 | 12/3/2010 | ND |
| SPL-15-1 | 12/10/2010 | ND |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | ND |
| SPL-16-1 | 12/20/2010 | ND |
| SPL-16-2 | 12/20/2010 | ND |
| SPL-16-3 | 12/20/2010 | ND |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | ND |
| SPL-16-6 | 12/20/2010 | ND |
| SPL-16-7 | 12/20/2010 | ND |
| SPL-17-1 | 1/5/2011 | ND |
| SPL-17-2 | 1/5/2011 | ND |
| SPL-17-3 | 1/5/2011 | ND |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |



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| Table 4-15. Benzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Benzene Conc. (µg/Kg) |
| SPL-18-4 | 1/4/2011 | ND |
| SPL-18-5 | 1/4/2011 | ND |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | ND |
| SPL-19-4 | 1/13/2011 | ND |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | ND |
| SPL-20-2 | 1/19/2011 | ND |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | ND |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | ND |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | ND |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | ND |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | ND |
| SPL-24-1 | 2/7/2011 | ND |
| SPL-24-2 | 2/7/2011 | ND |
| SPL-24-3 | 2/7/2011 | ND |
| SPL-24-4 | 2/7/2011 | ND |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | ND |
| SPL-25-3 | 2/9/2011 | ND |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | ND |



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| Table 4-15. Benzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Benzene Conc. (µg/Kg) |
| SPL-26-1 | 2/9/2011 | ND |
| SPL-26-2 | 2/9/2011 | ND |
| SPL-26-3 | 2/9/2011 | ND |
| SPL-26-4 | 2/9/2011 | ND |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | ND |
| SPL-27-3 | 2/9/2011 | ND |
| SPL-27-4 | 2/9/2011 | ND |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | ND |
| SPL-28-2 | 2/9/2011 | ND |
| SPL-28-3 | 2/9/2011 | ND |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | ND |
| SPL-29-2 | 2/4/2011 | ND |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | ND |
| SPL-30-2 | 2/3/2011 | ND |
| SPL-30-3 | 2/3/2011 | ND |
| SPL-30-4 | 2/3/2011 | ND |
| SPL-30-5 | 2/3/2011 | ND |
| SPL-30-6 | 2/3/2011 | ND |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | ND |
| SPL-31-4 | 2/18/2011 | ND |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | ND |
| SPL-32-2 | 2/18/2011 | ND |



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| Table 4-15. Benzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Benzene Conc. (µg/Kg) |
| SPL-32-3 | 2/18/2011 | ND |
| **Interim Action Cleanup Level** | | **220** |
| **Interim Action Remediation Level** | | **220** |

*IACL/ IARL exceedances in bold.*

*ND – Not detected*

*U – Laboratory detection limit shown. The COPC was not detected at this concentration.*

*Duplicate samples are shown in shaded rows.*



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| Table 4-16. Ethylbenzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Ethylbenzene Conc. (µg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | ND |
| SPL-3-1 | 11/3/2010 | ND |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | ND |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 12/10/2010 | ND |
| SPL-6-2 | 12/10/2010 | ND |
| SPL-6-3 | 12/10/2010 | ND |
| SPL-6-4 | 12/10/2010 | ND |
| SPL-6-5 | 12/10/2010 | ND |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | ND |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 12/10/2010 | ND |
| SPL-8-2 | 12/10/2010 | ND |
| SPL-8-3 | 11/22/2010 | ND |
| SPL-9-1 | 12/10/2010 | ND |
| SPL-9-2 | 12/10/2010 | ND |
| SPL-9-3 | 12/10/2010 | ND |
| SPL-10-1 | 11/16/2010 | ND |
| SPL-10-2 | 11/16/2010 | ND |
| SPL-10-3 | 11/16/2010 | ND |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | ND |



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| Table 4-16. Ethylbenzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Ethylbenzene Conc. (µg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | ND |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | ND |
| SPL-13-7 | 12/3/2010 | ND |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | ND |
| SPL-14-4 | 12/3/2010 | ND |
| SPL-14-5 | 12/3/2010 | ND |
| SPL-15-1 | 12/10/2010 | ND |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | ND |
| SPL-16-1 | 12/20/2010 | ND |
| SPL-16-2 | 12/20/2010 | ND |
| SPL-16-3 | 12/20/2010 | ND |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | ND |
| SPL-16-6 | 12/20/2010 | ND |
| SPL-16-7 | 12/20/2010 | ND |
| SPL-17-1 | 1/5/2011 | ND |
| SPL-17-2 | 1/5/2011 | ND |
| SPL-17-3 | 1/5/2011 | ND |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |



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| Table 4-16. Ethylbenzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Ethylbenzene Conc. (µg/Kg) |
| SPL-18-4 | 1/4/2011 | ND |
| SPL-18-5 | 1/4/2011 | ND |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | ND |
| SPL-19-4 | 1/13/2011 | ND |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | ND |
| SPL-20-2 | 1/19/2011 | ND |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | ND |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | ND |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | ND |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | ND |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | ND |
| SPL-24-1 | 2/7/2011 | ND |
| SPL-24-2 | 2/7/2011 | ND |
| SPL-24-3 | 2/7/2011 | ND |
| SPL-24-4 | 2/7/2011 | ND |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | ND |
| SPL-25-3 | 2/9/2011 | ND |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | ND |



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| Table 4-16. Ethylbenzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Ethylbenzene Conc. (µg/Kg) |
| SPL-26-1 | 2/9/2011 | ND |
| SPL-26-2 | 2/9/2011 | ND |
| SPL-26-3 | 2/9/2011 | ND |
| SPL-26-4 | 2/9/2011 | ND |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | ND |
| SPL-27-3 | 2/9/2011 | ND |
| SPL-27-4 | 2/9/2011 | ND |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | ND |
| SPL-28-2 | 2/9/2011 | ND |
| SPL-28-3 | 2/9/2011 | ND |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | ND |
| SPL-29-2 | 2/4/2011 | ND |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | ND |
| SPL-30-2 | 2/3/2011 | ND |
| SPL-30-3 | 2/3/2011 | ND |
| SPL-30-4 | 2/3/2011 | ND |
| SPL-30-5 | 2/3/2011 | ND |
| SPL-30-6 | 2/3/2011 | ND |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | ND |
| SPL-31-4 | 2/18/2011 | ND |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | ND |
| SPL-32-2 | 2/18/2011 | ND |



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| Table 4-16. Ethylbenzene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Ethylbenzene Conc. (µg/Kg) |
| SPL-32-3 | 2/18/2011 | ND |
| **Interim Action Cleanup Level** | | **43,000** |
| **Interim Action Remediation Level** | | **43,000** |

*IACL/IARL exceedances in bold.*

*ND – Not detected*

*Duplicate samples are shown in shaded rows.*



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| Table 4-17. Toluene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Toluene Concentration (µg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | ND |
| SPL-3-1 | 11/3/2010 | ND |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | ND |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 12/10/2010 | ND |
| SPL-6-2 | 12/10/2010 | ND |
| SPL-6-3 | 12/10/2010 | ND |
| SPL-6-4 | 12/10/2010 | ND |
| SPL-6-5 | 12/10/2010 | ND |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | ND |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 12/10/2010 | ND |
| SPL-8-2 | 12/10/2010 | ND |
| SPL-8-3 | 11/22/2010 | ND |
| SPL-9-1 | 12/10/2010 | ND |
| SPL-9-2 | 12/10/2010 | ND |
| SPL-9-3 | 12/10/2010 | ND |
| SPL-10-1 | 11/16/2010 | ND |
| SPL-10-2 | 11/16/2010 | ND |
| SPL-10-3 | 11/16/2010 | ND |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | ND |



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| Table 4-17. Toluene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Toluene Concentration (µg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | ND |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | ND |
| SPL-13-7 | 12/3/2010 | ND |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | ND |
| SPL-14-4 | 12/3/2010 | ND |
| SPL-14-5 | 12/3/2010 | ND |
| SPL-15-1 | 12/10/2010 | ND |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | ND |
| SPL-16-1 | 12/20/2010 | ND |
| SPL-16-2 | 12/20/2010 | ND |
| SPL-16-3 | 12/20/2010 | ND |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | ND |
| SPL-16-6 | 12/20/2010 | ND |
| SPL-16-7 | 12/20/2010 | ND |
| SPL-17-1 | 1/5/2011 | ND |
| SPL-17-2 | 1/5/2011 | ND |
| SPL-17-3 | 1/5/2011 | ND |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |



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| Table 4-17. Toluene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Toluene Concentration (µg/Kg) |
| SPL-18-4 | 1/4/2011 | ND |
| SPL-18-5 | 1/4/2011 | ND |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | ND |
| SPL-19-4 | 1/13/2011 | ND |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | ND |
| SPL-20-2 | 1/19/2011 | ND |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | ND |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | ND |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | ND |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | ND |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | ND |
| SPL-24-1 | 2/7/2011 | ND |
| SPL-24-2 | 2/7/2011 | ND |
| SPL-24-3 | 2/7/2011 | ND |
| SPL-24-4 | 2/7/2011 | ND |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | ND |
| SPL-25-3 | 2/9/2011 | ND |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | ND |



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| Table 4-17. Toluene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Toluene Concentration (µg/Kg) |
| SPL-26-1 | 2/9/2011 | ND |
| SPL-26-2 | 2/9/2011 | ND |
| SPL-26-3 | 2/9/2011 | ND |
| SPL-26-4 | 2/9/2011 | ND |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | ND |
| SPL-27-3 | 2/9/2011 | ND |
| SPL-27-4 | 2/9/2011 | ND |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | ND |
| SPL-28-2 | 2/9/2011 | ND |
| SPL-28-3 | 2/9/2011 | ND |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | ND |
| SPL-29-2 | 2/4/2011 | ND |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | ND |
| SPL-30-2 | 2/3/2011 | ND |
| SPL-30-3 | 2/3/2011 | ND |
| SPL-30-4 | 2/3/2011 | ND |
| SPL-30-5 | 2/3/2011 | ND |
| SPL-30-6 | 2/3/2011 | ND |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | ND |
| SPL-31-4 | 2/18/2011 | ND |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | ND |
| SPL-32-2 | 2/18/2011 | ND |



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| Table 4-17. Toluene Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Toluene Concentration (µg/Kg) |
| SPL-32-3 | 2/18/2011 | ND |
| **Interim Action Cleanup Level** | | **240,000** |
| **Interim Action Remediation Level** | | **240,000** |

*IACL/IARL exceedances in bold.*

*ND – Not detected*

*Duplicate samples are shown in shaded rows.*



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| Table 4-18. Total Xylenes Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Total Xylenes Conc. (µg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | ND |
| SPL-3-1 | 11/3/2010 | ND |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | ND |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 12/10/2010 | ND |
| SPL-6-2 | 12/10/2010 | ND |
| SPL-6-3 | 12/10/2010 | ND |
| SPL-6-4 | 12/10/2010 | ND |
| SPL-6-5 | 12/10/2010 | ND |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | ND |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 12/10/2010 | ND |
| SPL-8-2 | 12/10/2010 | ND |
| SPL-8-3 | 11/22/2010 | ND |
| SPL-9-1 | 12/10/2010 | ND |
| SPL-9-2 | 12/10/2010 | ND |
| SPL-9-3 | 12/10/2010 | ND |
| SPL-10-1 | 11/16/2010 | ND |
| SPL-10-2 | 11/16/2010 | ND |
| SPL-10-3 | 11/16/2010 | ND |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | ND |



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| Table 4-18. Total Xylenes Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Total Xylenes Conc. (µg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | ND |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | ND |
| SPL-13-7 | 12/3/2010 | ND |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | ND |
| SPL-14-4 | 12/3/2010 | ND |
| SPL-14-5 | 12/3/2010 | ND |
| SPL-15-1 | 12/10/2010 | ND |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | ND |
| SPL-16-1 | 12/20/2010 | ND |
| SPL-16-2 | 12/20/2010 | ND |
| SPL-16-3 | 12/20/2010 | ND |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | ND |
| SPL-16-6 | 12/20/2010 | ND |
| SPL-16-7 | 12/20/2010 | ND |
| SPL-17-1 | 1/5/2011 | ND |
| SPL-17-2 | 1/5/2011 | ND |
| SPL-17-3 | 1/5/2011 | ND |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |



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| Table 4-18. Total Xylenes Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Total Xylenes Conc. (µg/Kg) |
| SPL-18-4 | 1/4/2011 | ND |
| SPL-18-5 | 1/4/2011 | ND |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | ND |
| SPL-19-4 | 1/13/2011 | ND |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | ND |
| SPL-20-2 | 1/19/2011 | ND |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | ND |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | ND |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | ND |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | ND |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | ND |
| SPL-24-1 | 2/7/2011 | ND |
| SPL-24-2 | 2/7/2011 | ND |
| SPL-24-3 | 2/7/2011 | ND |
| SPL-24-4 | 2/7/2011 | ND |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | ND |
| SPL-25-3 | 2/9/2011 | ND |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | ND |



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| Table 4-18. Total Xylenes Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Total Xylenes Conc. (µg/Kg) |
| SPL-26-1 | 2/9/2011 | ND |
| SPL-26-2 | 2/9/2011 | ND |
| SPL-26-3 | 2/9/2011 | ND |
| SPL-26-4 | 2/9/2011 | ND |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | ND |
| SPL-27-3 | 2/9/2011 | ND |
| SPL-27-4 | 2/9/2011 | ND |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | ND |
| SPL-28-2 | 2/9/2011 | ND |
| SPL-28-3 | 2/9/2011 | ND |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | ND |
| SPL-29-2 | 2/4/2011 | ND |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | ND |
| SPL-30-2 | 2/3/2011 | ND |
| SPL-30-3 | 2/3/2011 | ND |
| SPL-30-4 | 2/3/2011 | ND |
| SPL-30-5 | 2/3/2011 | ND |
| SPL-30-6 | 2/3/2011 | ND |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | ND |
| SPL-31-4 | 2/18/2011 | ND |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | ND |
| SPL-32-2 | 2/18/2011 | ND |



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| Table 4-18. Total Xylenes Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample ID | Date | Total Xylenes Conc. (µg/Kg) |
| SPL-32-3 | 2/18/2011 | ND |
| **Interim Action Cleanup Level** | | **23,000** |
| **Interim Action Remediation Level** | | **23,000** |

*IACL/IARL exceedances in bold.*

*ND – Not detected*

*Duplicate samples are shown in shaded rows.*



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| Table 4-19. TPH-D Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-D Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | ND |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | 63.5 |
| SPL-3-1 | 11/3/2010 | 132 |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | 36.4 |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | 33.6 |
| SPL-4-3 | 11/3/2010 | ND |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 11/22/2010 | ND |
| SPL-6-2 | 11/22/2010 | ND |
| SPL-6-3 | 11/22/2010 | ND |
| SPL-6-4 | 11/22/2010 | ND |
| SPL-6-5 | 11/22/2010 | 68.8 |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | 86.1 |
| SPL-7-3 | 11/22/2010 | 66.4 |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 11/22/2010 | 132 |
| SPL-8-2 | 11/22/2010 | ND |
| SPL-8-3 | 11/22/2010 | 538 |
| SPL-9-1 | 11/22/2010 | ND |
| SPL-9-2 | 11/22/2010 | ND |
| SPL-9-3 | 11/22/2010 | 89.0 |
| SPL-10-1 | 11/16/2010 | 63.6 |
| SPL-10-2 | 11/16/2010 | 98.0 |
| SPL-10-3 | 11/16/2010 | 42.3 |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | 31.2 |



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| Table 4-19. TPH-D Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-D Concentration (mg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | ND |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | ND |
| SPL-13-7 | 12/3/2010 | ND |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | ND |
| SPL-14-4 | 12/3/2010 | 52.2 |
| SPL-14-5 | 12/3/2010 | 37.4 |
| SPL-15-1 | 12/10/2010 | 26.0 |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | 29.5 |
| SPL-16-1 | 12/20/2010 | 41.5 J |
| SPL-16-2 | 12/20/2010 | 19.8 |
| SPL-16-3 | 12/20/2010 | 24.4 |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | 48.4 |
| SPL-16-6 | 12/20/2010 | 20.7 |
| SPL-16-7 | 12/20/2010 | 20.1 |
| SPL-17-1 | 1/5/2011 | 20.1 |
| SPL-17-2 | 1/5/2011 | 25.7 |
| SPL-17-3 | 1/5/2011 | ND |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |



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| Table 4-19. TPH-D Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-D Concentration (mg/Kg) |
| SPL-18-4 | 1/4/2011 | 28.1 |
| SPL-18-5 | 1/4/2011 | 56.6 |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | 126 |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | 31.2 |
| SPL-19-4 | 1/13/2011 | 34.3 |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | 24.2 |
| SPL-20-2 | 1/19/2011 | 43.6 |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | 24.4 |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | ND |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | ND |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | 36.7 |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | 32.1 |
| SPL-24-1 | 2/7/2011 | 29.3 |
| SPL-24-2 | 2/7/2011 | 40.5 J |
| SPL-24-3 | 2/7/2011 | 26.6 |
| SPL-24-4 | 2/7/2011 | 25.3 |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | 32.7 |
| SPL-25-3 | 2/9/2011 | ND |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | 40.1 |



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| Table 4-19. TPH-D Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-D Concentration (mg/Kg) |
| SPL-26-1 | 2/9/2011 | 254 |
| SPL-26-2 | 2/9/2011 | 189 |
| SPL-26-3 | 2/9/2011 | 218 |
| SPL-26-4 | 2/9/2011 | 250 |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | 35.0 |
| SPL-27-3 | 2/9/2011 | 23.9 |
| SPL-27-4 | 2/9/2011 | 24.0 |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | ND |
| SPL-28-2 | 2/9/2011 | ND |
| SPL-28-3 | 2/9/2011 | 27.1 |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | 24.6 |
| SPL-29-2 | 2/4/2011 | 28.7 |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | 25.6 |
| SPL-30-2 | 2/3/2011 | 51.2 |
| SPL-30-3 | 2/3/2011 | 51.1 |
| SPL-30-4 | 2/3/2011 | 35.9 |
| SPL-30-5 | 2/3/2011 | 47.5 |
| SPL-30-6 | 2/3/2011 | 21.6 |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | 61.7 |
| SPL-31-4 | 2/18/2011 | 89.9 |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | ND |
| SPL-32-1 | 2/18/2011 | 30.0 |
| SPL-32-2 | 2/18/2011 | 526 |



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| Table 4-19. TPH-D Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-D Concentration (mg/Kg) |
| SPL-32-3 | 2/18/2011 | 35.6 |
| **Interim Action Cleanup Level** | | **2,000** |
| **Interim Action Remediation Level** | | **2,000** |

*IACL/IARL exceedances in bold.*

*J – Estimated concentration based on data validation.*

*ND – Not detected*

*Duplicate samples are shown in shaded rows.*



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| Table 4-20. TPH-HO Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-HO Concentration (mg/Kg) |
| SPL-1-1 | 11/2/2010 | ND |
| SPL-1-2 | 11/2/2010 | 96.2 |
| SPL-1-3 | 11/2/2010 | ND |
| SPL-2-1 | 11/2/2010 | ND |
| SPL-2-2 | 11/2/2010 | ND |
| SPL-2-3 | 11/2/2010 | 151 |
| SPL-3-1 | 11/3/2010 | 358 |
| SPL-3-2 | 11/3/2010 | ND |
| SPL-3-3 | 11/3/2010 | ND |
| SPL-4-1 | 11/3/2010 | ND |
| SPL-4-2 | 11/3/2010 | 253 J |
| SPL-4-3 | 11/3/2010 | 150 |
| SPL-5-1 | 11/3/2010 | ND |
| SPL-5-2 | 11/3/2010 | ND |
| SPL-5-3 | 11/3/2010 | ND |
| SPL-6-1 | 11/22/2010 | ND |
| SPL-6-2 | 11/22/2010 | ND |
| SPL-6-3 | 11/22/2010 | ND |
| SPL-6-4 | 11/22/2010 | ND |
| SPL-6-5 | 11/22/2010 | ND |
| SPL-7-1 | 11/22/2010 | ND |
| SPL-7-2 | 11/22/2010 | ND |
| SPL-7-3 | 11/22/2010 | ND |
| SPL-7-4 | 11/22/2010 | ND |
| SPL-7-5 | 11/22/2010 | ND |
| SPL-8-1 | 11/22/2010 | ND |
| SPL-8-2 | 11/22/2010 | ND |
| SPL-8-3 | 11/22/2010 | ND |
| SPL-9-1 | 11/22/2010 | ND |
| SPL-9-2 | 11/22/2010 | ND |
| SPL-9-3 | 11/22/2010 | 611 |
| SPL-10-1 | 11/16/2010 | 478 |
| SPL-10-2 | 11/16/2010 | 444 |
| SPL-10-3 | 11/16/2010 | 289 |
| SPL-11-1 | 11/16/2010 | ND |
| SPL-11-2 | 11/16/2010 | 428 |



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| Table 4-20. TPH-HO Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-HO Concentration (mg/Kg) |
| SPL-11-3 | 11/16/2010 | ND |
| SPL-12-1 | 11/10/2010 | ND |
| SPL-12-2 | 11/10/2010 | ND |
| SPL-12-3 | 11/10/2010 | ND |
| SPL-12-4 | 11/10/2010 | 205 |
| SPL-12-5 | 11/11/2010 | ND |
| SPL-12-6 | 11/11/2010 | ND |
| SPL-12-7 | 11/11/2010 | ND |
| SPL-13-1 | 12/3/2010 | ND |
| SPL-13-2 | 12/3/2010 | ND |
| SPL-13-3 | 12/3/2010 | ND |
| SPL-13-4 | 12/3/2010 | ND |
| SPL-13-5 | 12/3/2010 | ND |
| SPL-13-6 | 12/3/2010 | 125 |
| SPL-13-7 | 12/3/2010 | 128 |
| SPL-14-1 | 12/3/2010 | ND |
| SPL-14-2 | 12/3/2010 | ND |
| SPL-14-3 | 12/3/2010 | 103 |
| SPL-14-4 | 12/3/2010 | 165 |
| SPL-14-5 | 12/3/2010 | 138 |
| SPL-15-1 | 12/10/2010 | 97.3 |
| SPL-15-2 | 12/10/2010 | ND |
| SPL-15-3 | 12/10/2010 | ND |
| SPL-16-1 | 12/20/2010 | ND |
| SPL-16-2 | 12/20/2010 | ND |
| SPL-16-3 | 12/20/2010 | 98.6 |
| SPL-16-4 | 12/20/2010 | ND |
| SPL-16-5 | 12/20/2010 | 92.0 |
| SPL-16-6 | 12/20/2010 | ND |
| SPL-16-7 | 12/20/2010 | ND |
| SPL-17-1 | 1/5/2011 | 193 |
| SPL-17-2 | 1/5/2011 | 221 |
| SPL-17-3 | 1/5/2011 | 139 |
| SPL-18-1 | 1/4/2011 | ND |
| SPL-18-2 | 1/4/2011 | ND |
| SPL-18-3 | 1/4/2011 | ND |



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| Table 4-20. TPH-HO Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-HO Concentration (mg/Kg) |
| SPL-18-4 | 1/4/2011 | 237 |
| SPL-18-5 | 1/4/2011 | 520 |
| SPL-18-6 | 1/4/2011 | ND |
| SPL-19-1 | 1/13/2011 | ND |
| SPL-19-2 | 1/13/2011 | ND |
| SPL-19-3 | 1/13/2011 | ND |
| SPL-19-4 | 1/13/2011 | ND |
| SPL-19-5 | 1/13/2011 | ND |
| SPL-19-6 | 1/13/2011 | ND |
| SPL-20-1 | 1/19/2011 | 90.0 |
| SPL-20-2 | 1/19/2011 | 191 |
| SPL-20-3 | 1/19/2011 | ND |
| SPL-20-4 | 1/19/2011 | ND |
| SPL-20-5 | 1/19/2011 | ND |
| SPL-20-6 | 1/19/2011 | ND |
| SPL-21-1 | 1/19/2011 | ND |
| SPL-21-2 | 1/19/2011 | 97.1 |
| SPL-21-3 | 1/19/2011 | ND |
| SPL-21-4 | 1/19/2011 | 232 |
| SPL-21-5 | 1/19/2011 | ND |
| SPL-21-6 | 1/19/2011 | ND |
| SPL-22-1 | 2/7/2011 | ND |
| SPL-22-2 | 2/7/2011 | ND |
| SPL-22-3 | 2/7/2011 | ND |
| SPL-23-1 | 2/7/2011 | ND |
| SPL-23-2 | 2/7/2011 | ND |
| SPL-23-3 | 2/7/2011 | 135 |
| SPL-24-1 | 2/7/2011 | 116 |
| SPL-24-2 | 2/7/2011 | 198 J |
| SPL-24-3 | 2/7/2011 | 133 |
| SPL-24-4 | 2/7/2011 | 115 |
| SPL-25-1 | 2/9/2011 | ND |
| SPL-25-2 | 2/9/2011 | 369 |
| SPL-25-3 | 2/9/2011 | 111 |
| SPL-25-4 | 2/9/2011 | ND |
| SPL-25-5 | 2/9/2011 | 430 |



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| Table 4-20. TPH-HO Concentrations in Soil Stockpile Samples | | |
|---|---|---|
| Sample Location | Date | TPH-HO Concentration (mg/Kg) |
| SPL-26-1 | 2/9/2011 | **2860** |
| SPL-26-2 | 2/9/2011 | **2170** |
| SPL-26-3 | 2/9/2011 | **2270** |
| SPL-26-4 | 2/9/2011 | **3050** |
| SPL-27-1 | 2/9/2011 | ND |
| SPL-27-2 | 2/9/2011 | 212 |
| SPL-27-3 | 2/9/2011 | 161 |
| SPL-27-4 | 2/9/2011 | 91.7 |
| SPL-27-5 | 2/9/2011 | ND |
| SPL-28-1 | 2/9/2011 | 136 |
| SPL-28-2 | 2/9/2011 | 119 |
| SPL-28-3 | 2/9/2011 | 149 |
| SPL-28-4 | 2/9/2011 | ND |
| SPL-29-1 | 2/4/2011 | 119 |
| SPL-29-2 | 2/4/2011 | 131 |
| SPL-29-3 | 2/4/2011 | ND |
| SPL-29-4 | 2/4/2011 | ND |
| SPL-29-5 | 2/4/2011 | ND |
| SPL-29-6 | 2/4/2011 | ND |
| SPL-29-7 | 2/4/2011 | ND |
| SPL-29-8 | 2/4/2011 | ND |
| SPL-30-1 | 2/3/2011 | 92.0 |
| SPL-30-2 | 2/3/2011 | 415 |
| SPL-30-3 | 2/3/2011 | 213 |
| SPL-30-4 | 2/3/2011 | 293 |
| SPL-30-5 | 2/3/2011 | 470 |
| SPL-30-6 | 2/3/2011 | 174 |
| SPL-30-7 | 2/3/2011 | ND |
| SPL-31-1 | 2/18/2011 | ND |
| SPL-31-2 | 2/18/2011 | ND |
| SPL-31-3 | 2/18/2011 | 270 |
| SPL-31-4 | 2/18/2011 | 122 |
| SPL-31-5 | 2/18/2011 | ND |
| SPL-31-6 | 2/18/2011 | 418 |
| SPL-32-1 | 2/18/2011 | 196 |
| SPL-32-2 | 2/18/2011 | 2910 |



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**Table 4-20. TPH-HO Concentrations in Soil Stockpile Samples**

| Sample Location | Date | TPH-HO Concentration (mg/Kg) |
|---|---|---|
| SPL-32-3 | 2/18/2011 | 250 |
| **Interim Action Cleanup Level** | | **2,000** |
| **Interim Action Remediation Level** | | **2,000** |

*Screening level exceedances in bold.*

*J – Estimated concentration based on data validation.*

*ND – Not detected*

*Duplicate samples are shown in shaded rows.*



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**Table 4-21. Total Naphthalenes Concentrations in Soil Stockpile Samples**

| Sample ID | Date | Concentration (µg/Kg) | | | |
|---|---|---|---|---|---|
| | | 1-Methyl naphthalene | 2-Methyl naphthalene | Naphthalene | Total Naphthalene[a] |
| SPL-1-1 | 11/2/2010 | 7.5 | 14.8 | 20.5 | 42.8 |
| SPL-1-2 | 11/2/2010 | 10.3 | 13.5 | 22.9 | 46.7 |
| SPL-1-3 | 11/2/2010 | 8.2 | 15.5 | 21.1 | 44.8 |
| SPL-2-1 | 11/2/2010 | 91.7 | 133 | 240 | 464.7 |
| SPL-2-2 | 11/2/2010 | 44.5 | 49.0 | 104 | 197.5 |
| SPL-2-3 | 11/2/2010 | 138 | 179 | 311 | 628 |
| SPL-3-1 | 11/3/2010 | 80.4 | 168 | 512 | 760 |
| SPL-3-2 | 11/3/2010 | 17.1 | 23.7 | 69.0 | 110 |
| SPL-3-3 | 11/3/2010 | 12.6 | 18.1 | 51.9 | 82.6 |
| SPL-4-1 | 11/3/2010 | ND | ND | 14.3 | 14.3 |
| SPL-4-2 | 11/3/2010 | ND | ND | ND | ND |
| SPL-4-3 | 11/3/2010 | ND | ND | ND | ND |
| SPL-5-1 | 11/3/2010 | ND | ND | ND | ND |
| SPL-5-2 | 11/3/2010 | ND | ND | ND | ND |
| SPL-5-3 | 11/3/2010 | ND | ND | ND | ND |
| SPL-6-1 | 11/22/2010 | 51.0 | 73.8 | 328 | 453 |
| SPL-6-2 | 11/22/2010 | ND | 13.0 | 80.4 | 93.4 |
| SPL-6-3 | 11/22/2010 | 18.6 | 43.4 | 50.7 | 113 |
| SPL-6-4 | 11/22/2010 | 18.0 | 32.2 | 95.0 | 145 |
| SPL-6-5 | 11/22/2010 | 55.2 | 115 | 520 | 690 |
| SPL-7-1 | 11/22/2010 | ND | ND | ND | ND |
| SPL-7-2 | 11/22/2010 | 63.9 | 129 | 271 | 464 |
| SPL-7-3 | 11/22/2010 | 71.0 | 138 | 361 | 570 |
| SPL-7-4 | 11/22/2010 | 93.1 | 182 | 764 | 1039 |
| SPL-7-5 | 11/22/2010 | 23.0 | 39.0 | 159 | 221 |
| SPL-8-1 | 11/22/2010 | 21.0 | 37.3 | 41.4 | 99.7 |
| SPL-8-2 | 11/22/2010 | ND | 10.4 | 10.9 | 21.3 |
| SPL-8-3 | 11/22/2010 | 13.9 | 16.9 | 14.6 | 45.4 |
| SPL-9-1 | 11/22/2010 | 7.2 | 9.2 | 13.5 | 29.9 |
| SPL-9-2 | 11/22/2010 | ND | 9.3 | 14.4 | 23.7 |
| SPL-9-3 | 11/22/2010 | ND | ND | 11.0 | 11 |



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**Table 4-21. Total Naphthalenes Concentrations in Soil Stockpile Samples**

| Sample ID | Date | Concentration (µg/Kg) | | | |
|---|---|---|---|---|---|
| | | 1-Methyl naphthalene | 2-Methyl naphthalene | Naphthalene | Total Naphthalene[a] |
| SPL-10-1 | 11/16/2010 | 8.5 | 18.8 | 21.9 | 49.2 |
| SPL-10-2 | 11/16/2010 | 24.9 | 60.4 | 36.0 | 121 |
| SPL-10-3 | 11/16/2010 | 15.2 | 39.6 | 20.7 | 75.5 |
| SPL-11-1 | 11/16/2010 | ND | ND | ND | ND |
| SPL-11-2 | 11/16/2010 | ND | 13.7 | 9.6 | 23.3 |
| SPL-11-3 | 11/16/2010 | ND | 10.8 | ND | 10.8 |
| SPL-12-1 | 11/10/2010 | 76.1 | 222 | 80.2 | 378 |
| SPL-12-2 | 11/10/2010 | ND | 9.1 | 8.5 | 17.6 |
| SPL-12-3 | 11/10/2010 | 102 | 184 | 310 | 596 |
| SPL-12-4 | 11/10/2010 | ND | ND | 7.7 | 7.7 |
| SPL-12-5 | 11/11/2010 | ND | ND | ND | ND |
| SPL-12-6 | 11/11/2010 | ND | ND | ND | ND |
| SPL-12-7 | 11/11/2010 | ND | ND | ND | ND |
| SPL-13-1 | 12/3/2010 | 14.2 | 27.1 | 10.8 | 52.1 |
| SPL-13-2 | 12/3/2010 | 15.6 | 25.9 | 11.8 | 53.3 |
| SPL-13-3 | 12/3/2010 | ND | ND | ND | ND |
| SPL-13-4 | 12/3/2010 | 23.6 | 39.7 | 16.5 | 79.8 |
| SPL-13-5 | 12/3/2010 | ND | ND | 10.4 | 10.4 |
| SPL-13-6 | 12/3/2010 | ND | 8.0 | ND | 8 |
| SPL-13-7 | 12/3/2010 | ND | ND | ND | ND |
| SPL-14-1 | 12/3/2010 | 13.8 | 22.7 | 29.0 | 65.5 |
| SPL-14-2 | 12/3/2010 | 18.2 | 24.8 | 48.0 | 91 |
| SPL-14-3 | 12/3/2010 | 8.6 | 11.8 | 14.1 | 34.5 |
| SPL-14-4 | 12/3/2010 | 13.7 | 23.9 | 24.5 | 62.1 |
| SPL-14-5 | 12/3/2010 | 29.7 | 48.8 | 45.8 | 124 |
| SPL-15-1 | 12/10/2010 | 20.5 | 30.6 | 36.5 | 87.6 |
| SPL-15-2 | 12/10/2010 | 12.4 | 16.3 | 32.0 | 60.7 |
| SPL-15-3 | 12/10/2010 | 15.5 | 18.8 | 31.0 | 65.3 |
| SPL-16-1 | 12/20/2010 | 23.1 | 35.4 | 52.1 | 111 |
| SPL-16-2 | 12/20/2010 | 47.5 | 60.2 | 96.2 J | 204 J |
| SPL-16-3 | 12/20/2010 | 95.6 | 82.8 | 151 | 329 |



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**Table 4-21. Total Naphthalenes Concentrations in Soil Stockpile Samples**

| Sample ID | Date | Concentration (µg/Kg) | | | |
|---|---|---|---|---|---|
| | | 1-Methyl naphthalene | 2-Methyl naphthalene | Naphthalene | Total Naphthalene[a] |
| SPL-16-4 | 12/20/2010 | 21.9 | 29.7 | 40.5 | 92.1 |
| SPL-16-5 | 12/20/2010 | 147 | 211 | 118 | 476 |
| SPL-16-6 | 12/20/2010 | 38.6 | 44.6 | 65.1 | 148 |
| SPL-16-7 | 12/20/2010 | 22.7 | 34.9 | 40.1 | 97.7 |
| SPL-17-1 | 1/5/2011 | 15.9 | 27.8 | 40.9 | 84.6 |
| SPL-17-2 | 1/5/2011 | 27.0 | 33.9 | 62.4 | 123 |
| SPL-17-3 | 1/5/2011 | 8.5 | 15.4 | 24.5 | 48.4 |
| SPL-18-1 | 1/4/2011 | 24.8 | 68.4 | 26.5 | 120 |
| SPL-18-2 | 1/4/2011 | ND | ND | ND | ND |
| SPL-18-3 | 1/4/2011 | 10.2 | 12.6 | 14.5 | 37.3 |
| SPL-18-4 | 1/4/2011 | 11.0 | 19.5 | 25.6 | 56.1 |
| SPL-18-5 | 1/4/2011 | ND | 9.1 | 14.1 | 23.2 |
| SPL-18-6 | 1/4/2011 | ND | ND | ND | ND |
| SPL-19-1 | 1/13/2011 | ND | 36.4 | 314 | 350 |
| SPL-19-2 | 1/13/2011 | ND | ND | ND | ND |
| SPL-19-3 | 1/13/2011 | ND | ND | ND | ND |
| SPL-19-4 | 1/13/2011 | ND | ND | 19.4 | 19.4 |
| SPL-19-5 | 1/13/2011 | ND | ND | 192 | 192 |
| SPL-19-6 | 1/13/2011 | ND | ND | 29.3 | 29.3 |
| SPL-20-1 | 1/19/2011 | 7.6 | 13.1 | 24.2 | 44.9 |
| SPL-20-2 | 1/19/2011 | ND | ND | 9.5 | 9.5 |
| SPL-20-3 | 1/19/2011 | 13.4 | 22.6 | 43.6 | 79.6 |
| SPL-20-4 | 1/19/2011 | 11.6 | 19.3 | 37.4 | 68.3 |
| SPL-20-5 | 1/19/2011 | ND | 10.8 | 13.9 | 24.7 |
| SPL-20-6 | 1/19/2011 | ND | ND | 11.5 | 11.5 |
| SPL-21-1 | 1/19/2011 | ND | 9.1 | 9.7 | 18.8 |
| SPL-21-2 | 1/19/2011 | ND | 9.4 | 12.2 | 21.6 |
| SPL-21-3 | 1/19/2011 | ND | ND | ND | ND |
| SPL-21-4 | 1/19/2011 | ND | ND | ND | ND |
| SPL-21-5 | 1/19/2011 | ND | ND | ND | ND |
| SPL-21-6 | 1/19/2011 | ND | 8.5 | 11.5 | 20 |



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**Table 4-21. Total Naphthalenes Concentrations in Soil Stockpile Samples**

| Sample ID | Date | Concentration (µg/Kg) | | | |
|---|---|---|---|---|---|
| | | 1-Methyl naphthalene | 2-Methyl naphthalene | Naphthalene | Total Naphthalene[a] |
| SPL-22-1 | 2/7/2011 | ND | ND | ND | ND |
| SPL-22-2 | 2/7/2011 | ND | 7.6 | 12.7 | 20.3 |
| SPL-22-3 | 2/7/2011 | ND | ND | 9.4 | 9.4 |
| SPL-23-1 | 2/7/2011 | ND | 9.2 | 11.4 | 20.6 |
| SPL-23-2 | 2/7/2011 | ND | ND | 11.4 | 11.4 |
| SPL-23-3 | 2/7/2011 | 17.3 | 22.9 | 26.9 | 67.1 |
| SPL-24-1 | 2/7/2011 | 36.6 | 36.0 | 52.8 | 125 |
| SPL-24-2 | 2/7/2011 | 20.5 J | 26.9 J | 37.3 | 84.7 J |
| SPL-24-3 | 2/7/2011 | 10.9 | 17.9 | 28.1 | 56.9 |
| SPL-24-4 | 2/7/2011 | 25.8 | 27.5 | 44.3 | 97.6 |
| SPL-25-1 | 2/9/2011 | ND | ND | ND | ND |
| SPL-25-2 | 2/9/2011 | ND | 8.3 | 11.9 | 20.2 |
| SPL-25-3 | 2/9/2011 | ND | ND | 7.1 | 7.1 |
| SPL-25-4 | 2/9/2011 | ND | ND | ND | ND |
| SPL-25-5 | 2/9/2011 | ND | ND | ND | ND |
| SPL-26-1 | 2/9/2011 | ND | 11.8 | 19.8 | 31.6 |
| SPL-26-2 | 2/9/2011 | ND | 9.2 | 15.6 | 24.8 |
| SPL-26-3 | 2/9/2011 | ND | 8.0 | 15.7 | 23.7 |
| SPL-26-4 | 2/9/2011 | ND | 9.5 | 17.2 | 26.7 |
| SPL-27-1 | 2/9/2011 | ND | 9.7 | 16.5 | 26.2 |
| SPL-27-2 | 2/9/2011 | 49.2 | 64.2 | 87.0 | 200 |
| SPL-27-3 | 2/9/2011 | 8.0 | 10.8 | 13.0 | 31.8 |
| SPL-27-4 | 2/9/2011 | 39.8 | 50.7 | 61.2 | 152 |
| SPL-27-5 | 2/9/2011 | 7.9 | 11.1 | 15.9 | 34.9 |
| SPL-28-1 | 2/9/2011 | ND | 7.6 | 13.0 | 20.6 |
| SPL-28-2 | 2/9/2011 | ND | ND | 9.1 | 9.1 |
| SPL-28-3 | 2/9/2011 | 7.3 | 8.5 | 15.6 | 31.4 |
| SPL-28-4 | 2/9/2011 | 7.3 | 8.0 | 15.6 | 30.9 |
| SPL-29-1 | 2/4/2011 | ND | 10.6 | 10.1 | 20.7 |
| SPL-29-2 | 2/4/2011 | 11.9 | 16.5 | 8.8 | 37.2 |
| SPL-29-3 | 2/4/2011 | ND | ND | 9.7 | 9.7 |



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**Table 4-21. Total Naphthalenes Concentrations in Soil Stockpile Samples**

| Sample ID | Date | Concentration (µg/Kg) | | | |
|---|---|---|---|---|---|
| | | 1-Methyl naphthalene | 2-Methyl naphthalene | Naphthalene | Total Naphthalene[(a)] |
| SPL-29-4 | 2/4/2011 | ND | ND | ND | ND |
| SPL-29-5 | 2/4/2011 | ND | ND | ND | ND |
| SPL-29-6 | 2/4/2011 | ND | ND | ND | ND |
| SPL-29-7 | 2/4/2011 | ND | ND | ND | ND |
| SPL-29-8 | 2/4/2011 | ND | ND | ND | ND |
| SPL-30-1 | 2/3/2011 | 10.6 | 18.0 | 16.4 | 45 |
| SPL-30-2 | 2/3/2011 | ND | 14.1 | ND | 14.1 |
| SPL-30-3 | 2/3/2011 | ND | 10.3 | ND | 10.3 |
| SPL-30-4 | 2/3/2011 | ND | 11.1 | 8.2 | 19.3 |
| SPL-30-5 | 2/3/2011 | ND | 11.5 | 10.0 | 21.5 |
| SPL-30-6 | 2/3/2011 | ND | ND | ND | ND |
| SPL-30-7 | 2/3/2011 | ND | ND | ND | ND |
| SPL-31-1 | 2/18/2011 | 54.6 | 104 | 169 | 328 |
| SPL-31-2 | 2/18/2011 | 15.6 | 24.0 | 128 J | 168 J |
| SPL-31-3 | 2/18/2011 | 70.9 | 119 | 132 | 322 |
| SPL-31-4 | 2/18/2011 | 12.4 | 24.6 | 37.9 | 74.9 |
| SPL-31-5 | 2/18/2011 | ND | 39.9 | 305 | 345 |
| SPL-31-6 | 2/18/2011 | ND | 37.4 | 342 | 379 |
| SPL-32-1 | 2/18/2011 | 13.3 | 19.6 | 56.2 | 89.1 |
| SPL-32-2 | 2/18/2011 | 18.0 | 29.5 | 72.0 | 120 |
| SPL-32-3 | 2/18/2011 | 10.2 | 14.2 | 39.4 | 63.8 |
| **Interim Action Cleanup Level** | | | | | **160,000** |
| **Interim Action Remediation Level** | | | | | **160,000** |

*IACL/IARL exceedances in bold.*

*J – Estimated concentration based on data validation.*

*ND – None detected*

*(a) Total naphthalene equals the sum of 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene per WAC 173-340-900, Table 740-1, footnote o. Calculated per Teel, 2010.*

*Duplicate samples are shown in shaded rows.*



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**Table 4-22. Summary of Carcinogenic Polyaromatic Hydrocarbons (cPAH) Toxicity Equivalent Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Concentration (µg/Kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Benzo(a) pyrene | Benzo(a) anthracene | Benzo(b) fluoranthene | Benzo(k) fluoranthene | Chrysene | Dibenz(a,h) anthracene | Indeno(1,2,3-cd)pyrene | cPAH TEQ[a] |
| SPL-1-1 | 11/2/2010 | 40.7 J | 34.7 J | 24.2 J | 26.2 J | 40.4 J | 8.6 J | 18.6 J | 52.3 |
| SPL-1-2 | 11/2/2010 | 87.2 | 69.8 | 58.9 | 45.3 | 79.1 | 17.6 | 38.9 | **111** |
| SPL-1-3 | 11/2/2010 | 34.4 | 29.5 | 21.6 | 22.1 | 34.3 | ND | 16.6 | 43.7 |
| SPL-2-1 | 11/2/2010 | 312 | 237 | 153 | 194 | 255 | 72.5 | 148 | **395** |
| SPL-2-2 | 11/2/2010 | 40.6 | 30.7 | 23.5 | 23.9 | 35.7 | 9.0 | 19.8 | 51.6 |
| SPL-2-3 | 11/2/2010 | 601 | 517 | 319 | 365 | 560 | 131 | 273 | **767** |
| SPL-3-1 | 11/3/2010 | 571 | 528 | 258 | 448 | 561 | 126 | 268 | **739** |
| SPL-3-2 | 11/3/2010 | 240 | 188 | 156 | 135 | 202 | 53.1 | 118 | **307** |
| SPL-3-3 | 11/3/2010 | 34.3 | 29.6 | 22.6 | 19.1 | 32.2 | ND | 16.2 | 43.4 |
| SPL-4-1 | 11/3/2010 | 28.9 | 26.1 | 15.5 | 24.2 | 31.8 | ND | 16.2 | 37.4 |
| SPL-4-2 | 11/3/2010 | 20.7 | 18.4 | 15.9 | 13.8 | 20.0 | ND | 11.5 | 26.9 |
| SPL-4-3 | 11/3/2010 | 8.2 | ND | ND | ND | 9.9 | ND | ND | 8.30 |
| SPL-5-1 | 11/3/2010 | ND | ND | ND | ND | 8.0 | ND | ND | 0.08 |
| SPL-5-2 | 11/3/2010 | 19.3 | 16.9 | 13.8 | 12.5 | 19.5 | ND | 9.9 | 24.8 |
| SPL-5-3 | 11/3/2010 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-6-1 | 11/22/2010 | 120 | 90.5 | 55.9 | 94.2 | 99.5 | 32.3 | 72.9 | **156** |
| SPL-6-2 | 11/22/2010 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-6-3 | 11/22/2010 | 50.9 | 60.5 | 26.2 | 46.8 | 65.0 | ND | 22.4 | 67.1 |
| SPL-6-4 | 11/22/2010 | 138 | 108 | 71.5 | 102 | 124 | 31.0 | 78.5 | 178 |
| SPL-6-5 | 11/22/2010 | 74.0 | 69.2 | 57.4 | 71.1 | 113 | ND | 49.6 | 99.9 |
| SPL-7-1 | 11/22/2010 | ND | ND | ND | ND | ND | 9.9 | 10.6 | 2.05 |
| SPL-7-2 | 11/22/2010 | 42.1 | 54.0 | 32.5 | 37.9 | 70.3 | ND | 22.5 | 57.5 |
| SPL-7-3 | 11/22/2010 | 115 | 101 | 66.0 | 75.1 | 108 | 30.2 | 59.2 | **149** |
| SPL-7-4 | 11/22/2010 | 227 | 208 | 134 | 148 | 231 | 39.1 | 107 | **293** |
| SPL-7-5 | 11/22/2010 | 52.9 | 55.1 | 28.0 | 46.7 | 54.9 | ND | 24.2 | 68.8 |
| SPL-8-1 | 11/22/2010 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-8-2 | 11/22/2010 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-8-3 | 11/22/2010 | ND | 9.0 | ND | ND | 13.6 | ND | ND | 1.04 |
| SPL-9-1 | 11/22/2010 | 179 | 148 | 84.3 | 123 | 164 | 28.7 | 91.6 | **228** |
| SPL-9-2 | 11/22/2010 | 181 | 161 | 91.0 | 120 | 178 | 44.3 | 87.3 | **233** |
| SPL-9-3 | 11/22/2010 | 164 | 101 | 67.3 | 84.3 | 124 | 30.5 | 72.3 | **201** |
| SPL-10-1 | 11/16/2010 | 15.6 | 15.9 | 16.2 | 11.5 | 30.9 | ND | 9.3 | 21.2 |



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**Table 4-22. Summary of Carcinogenic Polyaromatic Hydrocarbons (cPAH) Toxicity Equivalent Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Concentration (µg/Kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Benzo(a) pyrene | Benzo(a) anthracene | Benzo(b) fluoranthene | Benzo(k) fluoranthene | Chrysene | Dibenz(a,h) anthracene | Indeno(1,2,3-cd)pyrene | cPAH TEQ[a] |
| SPL-10-2 | 11/16/2010 | 70.0 | 52.4 | 61.6 | 50.6 | 96.5 | 15.9 | 33.9 | 92.4 |
| SPL-10-3 | 11/16/2010 | 17.0 | 14.8 | 12.6 | 15.8 | 22.5 | ND | 10.0 | 22.5 |
| SPL-11-1 | 11/16/2010 | 11.5 | 10.0 | 13.1 | 8.7 | 24.9 | ND | ND | 14.9 |
| SPL-11-2 | 11/16/2010 | 27.9 | 22.8 | 41.3 | 26.6 | 51.0 | 8.1 | 21.0 | 40.4 |
| SPL-11-3 | 11/16/2010 | ND | ND | ND | ND | 10.9 | ND | ND | 0.11 |
| SPL-12-1 | 11/10/2010 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-12-2 | 11/10/2010 | 18.5 | 16.1 | 13.7 | 11.5 | 18.3 | ND | 9.0 | 23.7 |
| SPL-12-3 | 11/10/2010 | 35.4 | 42.2 | 24.6 | 25.4 | 52.8 | 7.8 | 16.5 | 47.6 |
| SPL-12-4 | 11/10/2010 | 26.3 | 15.4 | 22.8 | 18.0 | 36.8 | 9.1 | 13.5 | 34.5 |
| SPL-12-5 | 11/11/2010 | 8.2 | 7.4 | ND | ND | 8.9 | ND | ND | 9.03 |
| SPL-12-6 | 11/11/2010 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-12-7 | 11/11/2010 | 36.6 | 28.7 | 17.1 | 25.9 | 32.1 | ND | 15.7 | 45.7 |
| SPL-13-1 | 12/3/2010 | 23.4 | 19.4 | 13.9 | 16.7 | 23.8 | ND | 11.0 | 29.7 |
| SPL-13-2 | 12/3/2010 | 12.8 | 8.9 | 11.3 | 7.8 | 12.6 | ND | ND | 15.7 |
| SPL-13-3 | 12/3/2010 | 12.5 | 9.3 | 8.2 | 10.0 | 11.7 | ND | ND | 15.4 |
| SPL-13-4 | 12/3/2010 | 10.0 | 8.9 | 10.3 | ND | 18.6 | ND | ND | 12.1 |
| SPL-13-5 | 12/3/2010 | 11.2 | 9.1 | 9.3 | 7.5 | 11.4 | ND | ND | 13.9 |
| SPL-13-6 | 12/3/2010 | 11.6 | ND | 8.6 | 7.3 | 10.6 | ND | ND | 13.3 |
| SPL-13-7 | 12/3/2010 | 23.6 | 19.0 | 14.9 | 16.9 | 23.7 | ND | 13.2 | 30.2 |
| SPL-14-1 | 12/3/2010 | 102 J | 83.6 J | 53.1 J | 61.3 J | 97.4 J | 18.5 J | 46.4 J | **129** |
| SPL-14-2 | 12/3/2010 | 498 | 502 | 261 | 336 | 562 | 86.9 | 234 | **646** |
| SPL-14-3 | 12/3/2010 | 71.9 | 56.8 | 46.1 | 40.6 | 69.3 | 13.3 | 33.9 | 91.7 |
| SPL-14-4 | 12/3/2010 | 109 | 93.1 | 57.0 | 65.6 | 109 | 19.5 | 49.9 | **139** |
| SPL-14-5 | 12/3/2010 | 182 | 145 | 81.9 | 125 | 168 | 40.3 | 85.5 | **231** |
| SPL-15-1 | 12/10/2010 | 153 | 120 | 79.5 | 104 | 153 | 27.5 | 73.4 | **195** |
| SPL-15-2 | 12/10/2010 | 168 | 133 | 82.4 | 118 | 159 | 32.0 | 85.5 | **215** |
| SPL-15-3 | 12/10/2010 | 274 | 246 | 147 | 183 | 282 | 45.8 | 128 | **352** |
| SPL-16-1 | 12/20/2010 | 93.4 J | 79.4 J | 56.8 J | 59.3 J | 83.5 J | 13.9 J | 38.7 J | **119** |
| SPL-16-2 | 12/20/2010 | 338 | 295 | 152 | 255 J | 303 | 50.7 | 133 | **430** |
| SPL-16-3 | 12/20/2010 | 897 | 811 | 419 | 665 | 822 | 141 | 354 | **1144** |
| SPL-16-4 | 12/20/2010 | 106 | 85.9 | 57.3 | 65.7 | 88.0 | 15.4 | 46.6 | **134** |
| SPL-16-5 | 12/20/2010 | 142 | 129 | 67.2 | 97.9 | 157 | 29.7 | 59.3 | **182** |



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**Table 4-22. Summary of Carcinogenic Polyaromatic Hydrocarbons (cPAH) Toxicity Equivalent Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Concentration (µg/Kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Benzo(a) pyrene | Benzo(a) anthracene | Benzo(b) fluoranthene | Benzo(k) fluoranthene | Chrysene | Dibenz(a,h) anthracene | Indeno(1,2,3-cd)pyrene | cPAH TEQ[a] |
| SPL-16-6 | 12/20/2010 | 269 | 238 | 131 | 186 | 246 | 44.9 | 113 | **343** |
| SPL-16-7 | 12/20/2010 | 52.5 | 45.6 | 26.1 | 42.4 | 48.5 | 9.5 | 22.8 | 67.6 |
| SPL-17-1 | 1/5/2011 | 446 | 441 | 278 | 273 | 440 | 83.4 | 184 | **576** |
| SPL-17-2 | 1/5/2011 | 659 | 571 | 447 | 357 | 548 | 152 | 278 | **845** |
| SPL-17-3 | 1/5/2011 | 135 | 97.0 | 107 | 77.6 | 101 | 25.5 | 69.2 | **174** |
| SPL-18-1 | 1/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-18-2 | 1/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-18-3 | 1/4/2011 | 67.8 | 62.6 | 36.2 | 42.8 | 61.2 | ND | 27.9 | 85.4 |
| SPL-18-4 | 1/4/2011 | 353 | 263 | 201 | 210 | 264 | 71.7 | 164 | **447** |
| SPL-18-5 | 1/4/2011 | 90.3 | 80.3 | 106 | 78.9 | 83.8 | 28.0 | 61.8 | **127** |
| SPL-18-6 | 1/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-19-1 | 1/13/2011 | 41.8 | 37.4 | ND | ND | 39.7 | ND | ND | 45.9 |
| SPL-19-2 | 1/13/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-19-3 | 1/13/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-19-4 | 1/13/2011 | 250 | 257 | 142 | 137 | 249 | 49.8 | 88.1 | **320** |
| SPL-19-5 | 1/13/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-19-6 | 1/13/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-20-1 | 1/19/2011 | 56.4 J | 44.8 J | 43.3 J | 16.1 J | 45.8 J | ND | 21.3 J | 69.4 |
| SPL-20-2 | 1/19/2011 | 44.1 | 30.6 | 37.9 | 13.8 | 42.9 | 16.3 | 32.8 | 57.7 |
| SPL-20-3 | 1/19/2011 | 16.8 | 11.6 | 14.4 | ND | 15.1 | ND | 10.6 | 20.6 |
| SPL-20-4 | 1/19/2011 | 15.3 | 10.1 | 13.8 | ND | 14.5 | ND | 7.9 | 18.6 |
| SPL-20-5 | 1/19/2011 | 46.3 | 36.0 | 38.0 | 15.7 | 43.0 | ND | 19.0 | 57.6 |
| SPL-20-6 | 1/19/2011 | 43.4 | 37.1 | 37.5 | 13.4 | 41.1 | ND | 19.0 | 54.5 |
| SPL-21-1 | 1/19/2011 | 24.7 J | 17.6 J | 22.2 J | 9.6 J | 22.3 J | ND | 14.6 J | 31.3 |
| SPL-21-2 | 1/19/2011 | 48.9 | 39.7 | 42.3 | 21.2 | 43.1 | ND | 22.3 | 61.9 |
| SPL-21-3 | 1/19/2011 | 22.3 | 18.3 | 19.4 | 9.6 | 19.0 | ND | 12.9 | 28.5 |
| SPL-21-4 | 1/19/2011 | 15.9 | 10.2 | 15.5 | ND | 18.9 | ND | 8.9 | 19.5 |
| SPL-21-5 | 1/19/2011 | 42.0 | 39.6 | 39.1 | 19.2 | 40.9 | ND | 18.6 | 54.1 |
| SPL-21-6 | 1/19/2011 | 80.6 | 71.4 | 61.7 | 31.4 | 65.2 | 7.7 | 31.5 | **102** |
| SPL-22-1 | 2/7/2011 | 21.7 | 22.2 | 19.2 | 12.1 | 19.7 | ND | 8.8 | 28.1 |
| SPL-22-2 | 2/7/2011 | 68.6 | 68.3 | 58.6 | 27.4 | 65.4 | 8.9 | 28.0 | 88.4 |
| SPL-22-3 | 2/7/2011 | 61.0 | 61.8 | 54.2 | 26.6 | 58.8 | 8.9 | 26.2 | 79.4 |



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**Table 4-22. Summary of Carcinogenic Polyaromatic Hydrocarbons (cPAH) Toxicity Equivalent Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Concentration (µg/Kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Benzo(a) pyrene | Benzo(a) anthracene | Benzo(b) fluoranthene | Benzo(k) fluoranthene | Chrysene | Dibenz(a,h) anthracene | Indeno(1,2,3-cd)pyrene | cPAH TEQ[a] |
| SPL-23-1 | 2/7/2011 | 77.3 | 68.0 | 71.9 | 41.9 | 70.1 | 10.2 | 31.9 | **100** |
| SPL-23-2 | 2/7/2011 | 39.1 | 32.3 | 29.8 | 21.3 | 34.2 | ND | 18.3 | 49.6 |
| SPL-23-3 | 2/7/2011 | 337 | 330 | 271 | 149 | 295 | 45.3 | 141 | **434** |
| SPL-24-1 | 2/7/2011 | 484 | 447 | 365 | 214 | 402 | 60.9 | 196 | **616** |
| SPL-24-2 | 2/7/2011 | 78.8 J | 65.0 J | 62.5 J | 41.5 J | 67.5 J | 11.9 J | 36.1 J | **101** |
| SPL-24-3 | 2/7/2011 | 135 | 98.2 | 103 | 65.1 | 103 | 19.8 | 60.2 | **171** |
| SPL-24-4 | 2/7/2011 | 255 | 228 | 187 | 133 | 214 | 34.0 | 108 | **326** |
| SPL-25-1 | 2/9/2011 | 22.9 | 23.2 | 21.2 | 9.2 | 22.4 | ND | 14.1 | 29.9 |
| SPL-25-2 | 2/9/2011 | 63.1 | 56.1 | 61.3 | 26.8 | 69.1 | 13.3 | 37.3 | 83.3 |
| SPL-25-3 | 2/9/2011 | 73.2 | 64.9 | 57.2 | 38.8 | 68.6 | 13.7 | 43.5 | 95.7 |
| SPL-25-4 | 2/9/2011 | 72.0 | 70.2 | 69.5 | 43.9 | 76.9 | 17.0 | 45.8 | 97.4 |
| SPL-25-5 | 2/9/2011 | 44.5 | 41.9 | 44.5 | 20.4 | 42.7 | 9.6 | 27.6 | 59.3 |
| SPL-26-1 | 2/9/2011 | 358 | 202 | 531 | 492 | 272 | 120 | 346 | **530** |
| SPL-26-2 | 2/9/2011 | 285 | 162 | 279 | 267 | 149 | 66.7 | 180 | **382** |
| SPL-26-3 | 2/9/2011 | 206 | 124 | 237 | 228 | 130 | 51.6 | 152 | **287** |
| SPL-26-4 | 2/9/2011 | 184 | 102 | 226 | 233 | 113 | 53.8 | 155 | **262** |
| SPL-27-1 | 2/9/2011 | 112 J | 101 J | 104 J | 63.3 J | 123 J | 19.2 | 54.3 J | **147** |
| SPL-27-2 | 2/9/2011 | 468 | 509 | 405 | 139 | 445 | 74.5 | 218 | **607** |
| SPL-27-3 | 2/9/2011 | 202 | 252 | 178 | 126 | 269 | 41.7 | 104 | **275** |
| SPL-27-4 | 2/9/2011 | 197 | 194 | 144 | 93.1 | 194 | 31.5 | 101 | **255** |
| SPL-27-5 | 2/9/2011 | 64.2 | 64.2 | 57.3 | 25.5 | 62.1 | 13.4 | 40.1 | 84.9 |
| SPL-28-1 | 2/9/2011 | 57.7 | 53.8 | 49.5 | 25.1 J | 54.7 | 10.5 | 32.4 | 75.4 |
| SPL-28-2 | 2/9/2011 | 32.7 | 38.7 | 29.9 | 18.2 | 45.1 | ND | 17.4 | 43.6 |
| SPL-28-3 | 2/9/2011 | 107 | 95.8 | 75.5 | 49.0 | 91.1 | 18.6 | 56.1 | **137** |
| SPL-28-4 | 2/9/2011 | 71.3 | 68.3 | 55.1 | 35.0 | 67.9 | 12.8 | 38.9 | 93.0 |
| SPL-29-1 | 2/4/2011 | ND | ND | 10.7 | ND | 10.5 | ND | ND | 1.18 |
| SPL-29-2 | 2/4/2011 | 13.4 | 14.4 | 17.1 | ND | 14.6 | ND | 7.3 | 17.4 |
| SPL-29-3 | 2/4/2011 | 22.5 | 21.6 | 23.6 | 12.0 | 29.5 | ND | 14.8 | 30.0 |
| SPL-29-4 | 2/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-29-5 | 2/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-29-6 | 2/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-29-7 | 2/4/2011 | ND | ND | ND | ND | ND | ND | ND | ND |



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**Table 4-22. Summary of Carcinogenic Polyaromatic Hydrocarbons (cPAH) Toxicity Equivalent Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Concentration (µg/Kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Benzo(a) pyrene | Benzo(a) anthracene | Benzo(b) fluoranthene | Benzo(k) fluoranthene | Chrysene | Dibenz(a,h) anthracene | Indeno(1,2,3-cd)pyrene | cPAH TEQ[a] |
| SPL-29-8 | 2/4/2011 | 18.4 | 16.9 | 18.0 | 7.7 | 15.3 | ND | 8.6 | 23.7 |
| SPL-30-1 | 2/3/2011 | 31.4 | 32.9 | 29.6 | 12.5 | 38.4 | ND | 10.6 | 40.3 |
| SPL-30-2 | 2/3/2011 | 14.6 | 12.3 | 16.5 | ND | 23.1 | ND | ND | 17.7 |
| SPL-30-3 | 2/3/2011 | 19.2 | 19.0 | 20.9 | 8.2 | 24.5 | ND | 8.2 | 25.1 |
| SPL-30-4 | 2/3/2011 | 45.0 | 37.5 | 38.3 | 25.9 | 53.6 | ND | 18.4 | 57.5 |
| SPL-30-5 | 2/3/2011 | 20.1 | 18.8 | 20.3 | 12.7 | 28.4 | ND | 8.6 | 26.4 |
| SPL-30-6 | 2/3/2011 | 23.2 | 22.6 | 24.0 | 11.7 | 27.7 | ND | 8.1 | 30.1 |
| SPL-30-7 | 2/3/2011 | 107 | 99.9 | 93.8 | 45.7 | 96.0 | 14.5 | 45.6 | **138** |
| SPL-31-1 | 2/18/2011 | 48.4 | 39.5 | 31.5 | 29.5 | 44.0 | ND | 21.3 | 61.0 |
| SPL-31-2 | 2/18/2011 | 23.9 J | 22.2 J | 15.0 J | 15.0 J | 25.9 J | ND | 10.6 J | 30.4 |
| SPL-31-3 | 2/18/2011 | 580 | 514 | 341 | 337 | 518 | 79.0 | 257 | **738** |
| SPL-31-4 | 2/18/2011 | 40.4 | 29.4 | 23.2 | 26.5 | 37.3 | 8.0 | 22.6 | 51.7 |
| SPL-31-5 | 2/18/2011 | 45.5 | 48.3 | ND | ND | 51.2 | ND | ND | 50.8 |
| SPL-31-6 | 2/18/2011 | ND | ND | ND | ND | ND | ND | ND | ND |
| SPL-32-1 | 2/18/2011 | 83.1 | 70.6 | 107 | 94.1 | 124 | 12.3 | 50.6 | **118** |
| SPL-32-2 | 2/18/2011 | 68.9 | 59.1 | 42.7 | 55.6 | 67.6 | 15.2 | 35.1 | 90.3 |
| SPL-32-3 | 2/18/2011 | 10.6 | ND | ND | ND | 11.0 | ND | ND | 10.7 |
| **Interim Action Cleanup Level** | | | | | | | | | **100** |
| **Interim Action Remediation Level** | | | | | | | | | **1,400** |

*IACL/IARL exceedances in bold.*

*J – Estimated concentration based on data validation.*

*ND – None detected*

*(a) TEQ per WAC 173-340-708(8). Calculated per Teel, 2010. For constituents detected on site, concentration = ½ reporting limit for results below reporting limit.*

*Duplicate samples are shown in shaded rows.*



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**Table 4-23. Summary of Dioxin/Furan TEC Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Dioxin/Furan TEC Conc[a] (ng/Kg) |
|---|---|---|
| SPL-1-1 | 11/2/2010 | 0.26 J, P, B, I |
| SPL-1-2 | 11/2/2010 | 0.62 J, P, B, I |
| SPL-1-3 | 11/2/2010 | 0.37 J, B, I |
| SPL-2-1 | 11/2/2010 | 0.65 J, P, B, I |
| SPL-2-2 | 11/2/2010 | 0.28 J, B, I |
| SPL-2-3 | 11/2/2010 | **24** J, B, P |
| SPL-3-1 | 11/3/2010 | 1.1 J, B, I |
| SPL-3-2 | 11/3/2010 | 0.29 J, P, B, I |
| SPL-3-3 | 11/3/2010 | 0.33 J, B, P |
| SPL-4-1 | 11/3/2010 | 1.8 J, B, P, I |
| SPL-4-2 | 11/3/2010 | 1.5 J, B, I |
| SPL-4-3 | 11/3/2010 | 1.5 J, P, B, I |
| SPL-5-1 | 11/3/2010 | 0.57 J, P, B, I |
| SPL-5-2 | 11/3/2010 | 0.35 J, P, B, I |
| SPL-5-3 | 11/3/2010 | 0.22 J, B, I |
| SPL-6-1 | 11/22/2010 | 5.0 J, I |
| SPL-6-2 | 11/22/2010 | 0.36 J, B, I, Y |
| SPL-6-3 | 11/22/2010 | 1.5 J, B |
| SPL-6-4 | 11/22/2010 | 8.7 J |
| SPL-6-5 | 11/22/2010 | **47** |
| SPL-7-1 | 11/22/2010 | 0.28 J, B |
| SPL-7-2 | 11/22/2010 | **27** J |
| SPL-7-3 | 11/22/2010 | 6.4 J |
| SPL-7-4 | 11/22/2010 | **11** J, I |
| SPL-7-5 | 11/22/2010 | 3.5 J |
| SPL-8-1 | 11/22/2010 | 3.0 J, B, I, Y |
| SPL-8-2 | 11/22/2010 | **14** J, B, I, Y |
| SPL-8-3 | 11/22/2010 | 5.3 J, B, I, Y |
| SPL-9-1 | 11/22/2010 | 0.79 J, B, I, Y |
| SPL-9-2 | 11/22/2010 | 0.70 J, B, I, Y |
| SPL-9-3 | 11/22/2010 | 0.95 J, B, I, Y |
| SPL-10-1 | 11/16/2010 | **22** J, P |
| SPL-10-2 | 11/16/2010 | 7.3 J, P |
| SPL-10-3 | 11/16/2010 | **20** J |
| SPL-11-1 | 11/16/2010 | **34** P |
| SPL-11-2 | 11/16/2010 | **110** P, E |



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**Table 4-23. Summary of Dioxin/Furan TEC Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Dioxin/Furan TEC Conc[a] (ng/Kg) |
|---|---|---|
| SPL-11-3 | 11/16/2010 | **29** P |
| SPL-12-1 | 11/10/2010 | 1.1 J, B, I |
| SPL-12-2 | 11/10/2010 | **32** J, P, E |
| SPL-12-3 | 11/10/2010 | **28** J, P, E |
| SPL-12-4 | 11/10/2010 | **35** J, P, E |
| SPL-12-5 | 11/11/2010 | 1.2 J, B, P, I |
| SPL-12-6 | 11/11/2010 | 1.8 J, B, I |
| SPL-12-7 | 11/11/2010 | 0.84 J, B, I |
| SPL-13-1 | 12/3/2010 | **31** J, E, Y |
| SPL-13-2 | 12/3/2010 | **29** J, E, Y |
| SPL-13-3 | 12/3/2010 | 9.4 J |
| SPL-13-4 | 12/3/2010 | **16** J, I, Y |
| SPL-13-5 | 12/3/2010 | **10** J, I, Y |
| SPL-13-6 | 12/3/2010 | 5.9 J, I, Y |
| SPL-13-7 | 12/3/2010 | **61** E, I, Y |
| SPL-14-1 | 12/3/2010 | 6.3 J, R, I |
| SPL-14-2 | 12/3/2010 | 4.1 J, I |
| SPL-14-3 | 12/3/2010 | 8.1, J, I |
| SPL-14-4 | 12/3/2010 | 5.9, J, R, I |
| SPL-14-5 | 12/3/2010 | 8.9 J, I |
| SPL-15-1 | 12/10/2010 | **11** J, Y |
| SPL-15-2 | 12/10/2010 | 4.7 J, P, I, Y |
| SPL-15-3 | 12/10/2010 | 4.7 J, I, Y |
| SPL-16-1 | 12/20/2010 | 2.3 J, P, I |
| SPL-16-2 | 12/20/2010 | 1.9 J, P |
| SPL-16-3 | 12/20/2010 | 3.3 J |
| SPL-16-4 | 12/20/2010 | 0.81 J, B, I |
| SPL-16-5 | 12/20/2010 | 1.1 J, I |
| SPL-16-6 | 12/20/2010 | 0.63 J, P, I |
| SPL-16-7 | 12/20/2010 | 1.6 J, B, I |
| SPL-17-1 | 1/5/2011 | **44** R, P |
| SPL-17-2 | 1/5/2011 | **35** R |
| SPL-17-3 | 1/5/2011 | **25** J, Y |
| SPL-18-1 | 1/4/2011 | 0.50 J, P, I |
| SPL-18-2 | 1/4/2011 | 2.0 J, Y |
| SPL-18-3 | 1/4/2011 | 3.0 J, B |



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**Table 4-23. Summary of Dioxin/Furan TEC Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Dioxin/Furan TEC Conc[a] (ng/Kg) |
|---|---|---|
| SPL-18-4 | 1/4/2011 | **68** P |
| SPL-18-5 | 1/4/2011 | **58** R, P |
| SPL-18-6 | 1/4/2011 | 0.29 J, B, I, Y |
| SPL-19-1 | 1/13/2011 | 4.8 J, P, I, R |
| SPL-19-2 | 1/13/2011 | 0.30 J, B, I |
| SPL-19-3 | 1/13/2011 | 1.1 J, B, I |
| SPL-19-4 | 1/13/2011 | 0.40 J, B |
| SPL-19-5 | 1/13/2011 | 3.0 J, I |
| SPL-19-6 | 1/13/2011 | 0.35 J, B, I |
| SPL-20-1 | 1/19/2011 | 4.7 J, B, I |
| SPL-20-2 | 1/19/2011 | 2.5 J, B, I |
| SPL-20-3 | 1/19/2011 | 1.5 J, B, I |
| SPL-20-4 | 1/19/2011 | 2.0 J, B, I |
| SPL-20-5 | 1/19/2011 | 1.7 J, B, I |
| SPL-20-6 | 1/19/2011 | **24** J, B, P |
| SPL-21-1 | 1/19/2011 | 1.9 J, B, P, I |
| SPL-21-2 | 1/19/2011 | 3.3 J, B, I |
| SPL-21-3 | 1/19/2011 | 0.49 J, B, I |
| SPL-21-4 | 1/19/2011 | 1.4 J, B, I |
| SPL-21-5 | 1/19/2011 | 0.31 J, B, I |
| SPL-21-6 | 1/19/2011 | 0.39 J, B, I |
| SPL-22-1 | 2/7/2011 | **15** J, E, I, Y |
| SPL-22-2 | 2/7/2011 | 9.6 J, R, P |
| SPL-22-3 | 2/7/2011 | **25** J, P, E |
| SPL-23-1 | 2/7/2011 | 7.4 J, P |
| SPL-23-2 | 2/7/2011 | 7.5 J, P, I |
| SPL-23-3 | 2/7/2011 | **13** J, I |
| SPL-24-1 | 2/7/2011 | 7.6 J, P |
| SPL-24-2 | 2/7/2011 | 2.8 J, P, I |
| SPL-24-3 | 2/7/2011 | 2.8 J, P, I |
| SPL-24-4 | 2/7/2011 | 8.2 J, I |
| SPL-25-1 | 2/9/2011 | **43** P |
| SPL-25-2 | 2/9/2011 | **170** P, E |
| SPL-25-3 | 2/9/2011 | **13** J, P |
| SPL-25-4 | 2/9/2011 | **15** J, P |
| SPL-25-5 | 2/9/2011 | **120** P |



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**Table 4-23. Summary of Dioxin/Furan TEC Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Dioxin/Furan TEC Conc[a] (ng/Kg) |
|---|---|---|
| SPL-26-1 | 2/9/2011 | **110** P |
| SPL-26-2 | 2/9/2011 | **240** P, E |
| SPL-26-3 | 2/9/2011 | **230** P, E |
| SPL-26-4 | 2/9/2011 | **280** P |
| SPL-27-1 | 2/9/2011 | **11** J, P, I |
| SPL-27-2 | 2/9/2011 | **15** J, P, I |
| SPL-27-3 | 2/9/2011 | **31** J, P, E |
| SPL-27-4 | 2/9/2011 | **13** J |
| SPL-27-5 | 2/9/2011 | **15** J, I |
| SPL-28-1 | 2/9/2011 | 9.3 J |
| SPL-28-2 | 2/9/2011 | **12** J, P |
| SPL-28-3 | 2/9/2011 | 9.5 J |
| SPL-28-4 | 2/9/2011 | 9.3 J |
| SPL-29-1 | 2/4/2011 | 2.7 J, I |
| SPL-29-2 | 2/4/2011 | **11** J |
| SPL-29-3 | 2/4/2011 | **12** J, P |
| SPL-29-4 | 2/4/2011 | 9.8 J, P, I |
| SPL-29-5 | 2/4/2011 | 4.0 J, P, I |
| SPL-29-6 | 2/4/2011 | 0.63 J, I |
| SPL-29-7 | 2/4/2011 | 0.62 J, P, I |
| SPL-29-8 | 2/4/2011 | 1.3 J, I |
| SPL-30-1 | 2/3/2011 | 1.4 J, P, I |
| SPL-30-2 | 2/3/2011 | 7.8 J, R, P, I |
| SPL-30-3 | 2/3/2011 | 1.7 J, I |
| SPL-30-4 | 2/3/2011 | 3.1 J, I |
| SPL-30-5 | 2/3/2011 | 6.0 J, R, P, I |
| SPL-30-6 | 2/3/2011 | 2.1 J, I |
| SPL-30-7 | 2/3/2011 | 2.9 J, I |
| SPL-31-1 | 2/18/2011 | **12** J, P, I |
| SPL-31-2 | 2/18/2011 | 8.0 J, P |
| SPL-31-3 | 2/18/2011 | 7.3 J, I |
| SPL-31-4 | 2/18/2011 | **21** J, E |
| SPL-31-5 | 2/18/2011 | 4.1 J, P, I |
| SPL-31-6 | 2/18/2011 | **23** J, E |
| SPL-32-1 | 2/18/2011 | **20** J, P |
| SPL-32-2 | 2/18/2011 | **37** P, E |



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**Table 4-23. Summary of Dioxin/Furan TEC Concentrations in Soil Stockpile Samples**

| Sample Location | Date | Dioxin/Furan TEC Conc[a] (ng/Kg) |
|---|---|---|
| SPL-32-3 | 2/18/2011 | **26** J, P, E |
| **Interim Action Cleanup Level** | | **9.81** |
| **Interim Action Remediation Level** | | **510** |

*IACL/IARL exceedances in bold.*

*B = Less than 10x higher than method blank level*

*D= Results obtained from analysis of diluted sample*

*E = Exceeds calibration range*

*I = Interference present*

*J = Estimated value*

*P = PCDE Interference*

*R = Recovery outside target range*

*(a) Y = Calculated using average of daily RFsTEQ per WAC 173-340-708(8). Calculated per Teel, 2010. For constituents detected on site, concentration = ½ reporting limit for results below reporting limit.*

*Duplicate samples are shown in shaded rows.*



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**Table 4-24. Parcel 4 Stockpile Summary**

| Stockpile Number | Est. Size (CY) | Source area | Samples (including duplicates) | Sample Date | COPC Concentrations | | Geotechnical Suitability | Designation |
|---|---|---|---|---|---|---|---|---|
| | | | | | Exceeding IACLs | Exceeding IARLs | | |
| SPL-6 | 256 | DP-17[a] | 5 | 11/22/2010 | cPAHs, dioxins/furans | None | Not geotechnically suitable | Disposal only |
| SPL-7 | 191 | DP-18[a] | 5 | 11/22/2010 | cPAHs, lead, dioxins/furans | Lead | Not geotechnically suitable | Disposal only |
| SPL-8 | 50 | TP-02 | 3 | 11/22/2010 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-10 | 75 | DP-17 / DP-18[a] | 3 | 11/16/2010 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-11 | 82 | TP-02 | 3 | 11/16/2010 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-23 | 84 | TP-02 | 3 | 2/7/2011 | cPAHs, dioxins/furans | None | Suitable | Reuse - capped areas only |

*a Locations of DP-17 and DP-18 locations were transposed in the IAWP and SAP, this report has been includes reference to the historically correct locations.*



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| Table 4-25. Soil Quantity Summary – Parcel 4[1] | | |
|---|---|---|
| Disposition/Month | Removal and disposal of soils | |
| | Ton | CY |
| Disposal January 2011 (hot spot areas) | 632 | 451 |
| Disposal August 2011 | 2,718 | 1,941 |
| Disposal September 2011 | 3,596 | 2,569 |
| Disposal October 2011 | 1,294 | 925 |
| Disposal November 2011 | 215 | 153 |
| Disposal December 2011 | 233 | 159 |
| Disposal January 2012 | 14 | 10 |
| **Dig and haul total** | **8,060** | **5,757** |
| **Total for offsite disposal** | **8,692** | **6,209** |
| Parcel 4 Unrestricted Reuse | 0 | 0 |
| Parcel 4 Reuse Under Cap | 291 | 208 |
| **Parcel 4 Total Reuse** | 291 | 208 |

*Assumes 1.4 tons/CY*



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**Table 4-26. Parcel 5 Stockpile Summary**

| Stockpile Number | Est. Size (CY) | Source area | Samples (including duplicates) | Sample Date | COPC Concentrations | | Geotechnical Suitability | Designation |
|---|---|---|---|---|---|---|---|---|
| | | | | | Exceeding IACLs | Exceeding IARLs | | |
| SPL-1 | 59 | DP-11 | 3 | 11/2/2010 | cPAHs | None | Suitable | Reuse - capped areas only |
| SPL-2 | 59 | DP-11 | 3 | 11/2/2010 | cPAHs, dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-3 | 59 | DP-11 | 3 | 11/3/2010 | cPAHs, lead | Lead | Not geotechnically suitable | Disposal only |
| SPL-4 | 147 | Softscaped area | 3 | 11/3/2010 | None | None | Suitable | Reuse - all areas |
| SPL-5 | 147 | Softscaped area | 3 | 11/3/2010 | None | None | Suitable | Reuse - all areas |
| SPL-9 | 43 | Utilities | 3 | 11/22/2010 | cPAHs | None | Suitable | Reuse - capped areas only |
| SPL-12 | 800 | Softscaped area | 7 | 11/11/2010 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-13 | 267 | Softscaped area | 7 | 12/3/2010 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-14 | 200 | Softscaped area | 5 | 12/3/2010 | cPAHs | None | Suitable | Reuse - capped areas only |
| SPL-15 | 50 | Softscaped area | 3 | 12/10/2010 | cPAHs, dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-16 | 500 | Softscaped area | 7 | 12/20/2010 | cPAHs | None | Suitable | Reuse - capped areas only |
| SPL-17 | 50 | Softscaped area | 3 | 1/5/2011 | cPAHs, dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-18 | 175 | DP-21 | 6 | 1/4/2011 | cPAHs, dioxins/furans | None | Not geotechnically suitable | Disposal only |
| SPL-19 | 148 | DP-21 | 6 | 1/13/2011 | cPAHs | None | Not geotechnically suitable | Disposal only |
| SPL-20 | 138 | Retaining wall | 6 | 1/19/2011 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-21 | 172 | NW sidewalk areas | 6 | 1/19/2011 | None | None | Suitable | Reuse - capped areas only |
| SPL-22 | 64 | Utilities | 3 | 2/7/2011 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-24 | 50 | Softscaped area | 4 | 2/7/2011 | cPAHs | None | Suitable | Reuse - capped areas only |
| SPL-25 | 200 | Softscaped area | 5 | 2/9/2011 | Dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-26 | 148 | DP-21 expansion | 4 | 2/9/2011 | TPH-HO, cPAHs, dioxins/furans | TPH-HO | Suitable | Disposal only |
| SPL-27 | 112 | Utilities | 5 | 2/9/2011 | cPAHs, dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-28 | 87 | Retaining wall | 4 | 2/9/2011 | cPAHs, dioxins/furans | None | Suitable | Reuse - capped areas only |
| SPL-29 | 718 | Softscaped area | 8 | 2/4/2011 | Dioxins/furans | None | Suitable | Reuse - capped areas only |



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**Table 4-26. Parcel 5 Stockpile Summary**

| Stockpile Number | Est. Size (CY) | Source area | Samples (including duplicates) | Sample Date | COPC Concentrations | | Geotechnical Suitability | Designation |
|---|---|---|---|---|---|---|---|---|
| | | | | | Exceeding IACLs | Exceeding IARLs | | |
| SPL-30 | 718 | Softscaped area | 7 | 2/3/2011 | cPAHs | None | Suitable | Reuse - capped areas only |
| SPL-31 | 248 | Softscaped area | 6 | 2/18/2011 | cPAHs, dioxins/furans | None | Not geotechnically suitable | Disposal only |
| SPL-32 | 133 | Softscaped area | 3 | 2/18/2011 | TPH-HO, dioxins/furans | TPH-HO | Not geotechnically suitable | Disposal only |



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| Table 4-27. Soil Quantity Summary – Parcel 5 | | |
|---|---|---|
| | Removal and disposal of contaminated soils | |
| Disposition/Month | Ton | CY |
| Disposal January 2011 | 279 | 199 |
| Disposal March 2011 | 988 | 706 |
| Disposal June 2011 | 229 | 164 |
| Disposal March 2012 | 383 | 274 |
| **Total for Offsite Disposal** | **1,879** | **1,342** |
| Unrestricted Reuse | 412 | 294 |
| Reuse Under Cap[a] | 6,002 (5,660) | 4,287 (4,043) |
| **Total Parcel 5 Reuse[a]** | 6,414 **(6,072)** | 4,581 **(4,337)** |

a. *Not all soil was reused under cap, and was disposed of with other disposal-only soil. Approximately 244 CY (342 tons) of available reuse under cap soil was sent off site for disposal. The total for offsite disposal includes this quantity. Total reuse under cap quantities are shown, with the total amount adjusted for off-site disposal quantity shown in parenthases.*

*Assumes 1.4 tons/CY*



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# **Appendix A:** Monitoring Well Decommissioning Logs



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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**CURRENT Notice of Intent No. RE03445**

**Construction/Decommission** *("x" in box)*

☒ Construction
☐ Decommission

347797

*ORIGINAL INSTALLATION Notice of Intent Number:*

Consulting Firm Pioneer Technologies Corp

Unique Ecology Well IDTag No. BAF 400

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Knopf, Noel

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2872

**If trainee, licensed driller's Signature and License Number:**

**Type of Well** *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson Street

City Olympia County Thurston

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18 R 02

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

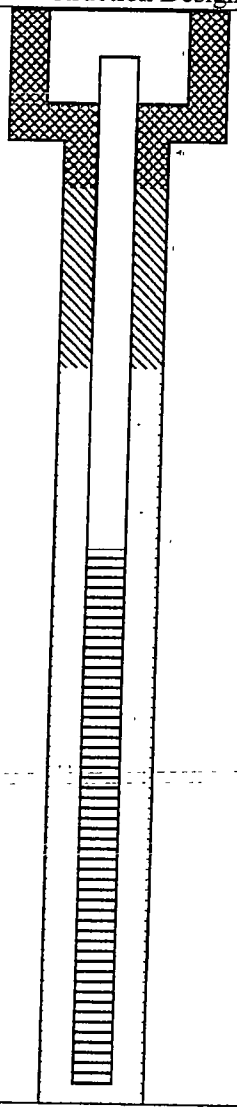
Long Deg ____ Min ____ Sec ____

Tax Parcel No. 66130000100

Cased or Uncased Diameter 9" Static Level 2'

Work/Decommission Start Date 6-12-09

Work/Decommission Completed Date 6-12-09

| Construction Design | Well Data | Formation Description |
|---|---|---|
|  | MONUMENT TYPE: 8" flush mount<br>CONCRETE SURFACE SEAL: 0'-1'<br>ANNULAR SPACE:<br>BACKFILL: 1'-3'<br>TYPE: 3/8" bentonite chips<br>PVC BLANK: 0'-4'<br>SCREEN: 4'-9'<br>SLOT SIZE: 0.010"<br>TYPE: 2" sch 40 PVC<br>SAND PACK: 3'-9'<br>MATERIAL: 10/20 silica<br>DRILLING METHOD: H.S.A.<br>WELL DEPTH: 9'<br>BORING DIAMETER: 9" | 0'-9' dark coarse sand |

SCALE: 1"= ____ PAGE 2 OF 5

CY 050-12 (Rev. 7/06)

Ecology is an Equal Opportunity Employer

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# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No. AE 14028**

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☐ Construction 420505

☒ Decommission

*ORIGINAL INSTALLATION Notice of Intent Number*: RE03445

Consulting Firm

Unique Ecology Well IDTag No. BAF400

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Phythian, Rogeray

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2053

**If trainee, licensed driller's Signature and License Number:**

**Type of Well** *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address Jefferson streeet

City Olympia County Thurston

Location NW1/4-1/4 SE1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

Tax Parcel No. 66130000100

Cased or Uncased Diameter 2" Static Level 5.8

Work/Decommission Start Date 07/19/2011

Work/Decommission Completed Date 07/19/2011

| Construction Design | Well Data | Formation Description |
|---|---|---|
| | Decommissioned in accordance with WAC 173-160-460 (2)(a) | |

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AUG 05 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= ____ PAGE 1 OF 1



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Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No. R65228**

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☒ Construction

☐ Decommission

272186

*ORIGINAL INSTALLATION Notice of Intent Number*:

Consulting Firm GeoEngineers

Unique Ecology Well IDTag No. APF-874

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Knopf, Noel

Driller/Engineer /Trainee Signature

Driller or Trainee License No. T2872

**If trainee, licensed driller's Signature and License Number:** Amos Harnden 2508

**Type of Well** *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port Of Olympia

Site Address State & Jefferson

City Olympia County Thurston

Location NE1/4-1/4 SW1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

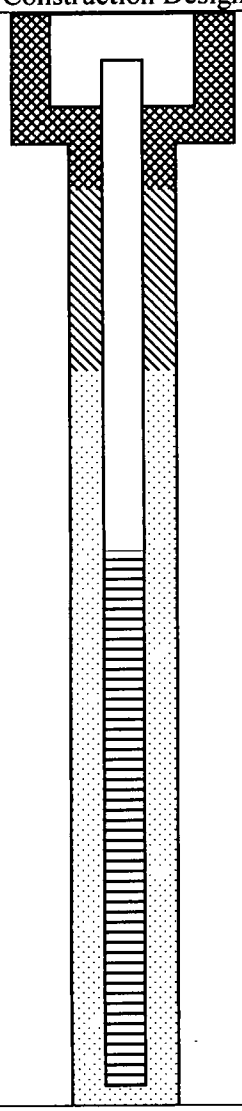
Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 9" Static Level 7'

Work/Decommission Start Date 07/31/07

Work/Decommission Completed Date 07/31/07

| Construction Design | Well Data | Formation Description |
|---|---|---|
|  | MONUMENT TYPE: 8" flush<br>CONCRETE SURFACE SEAL: 0'-2'<br>ANNULAR SPACE:<br>BACKFILL: 2'-4'<br>TYPE: medi. bentonite chips<br>PVC BLANK: 0'-6' / 11'-16'<br>SCREEN: 6'-11'<br>SLOT SIZE: @ .010"<br>TYPE: 2" sch 40 PVC<br>SAND PACK: 4'-16'<br>MATERIAL: 10/20 silica<br>DRILLING METHOD: H.S.A.<br>WELL DEPTH: 16'<br>BORING DIAMETER: 9" | 0'-2' gravels<br>2'-11' sand w/gravel<br>11'-14' organics/wood<br>14'-16' sand |

DEPT. OF ECOLOGY FISCAL & BUDGET '07 SEP 10 AM 8:15

RECEIVED

SEP 12 2007

DEPARTMENT OF ECOLOGY WELL DRILLING UNIT

SCALE: 1"= ____ PAGE 1 OF 4



Ecology is an Equal Opportunity Employer

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No. AE 14028**

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☐ Construction
☒ Decommission 420506

*ORIGINAL INSTALLATION Notice of Intent Number*:
R65228

Consulting Firm

Unique Ecology Well IDTag No. APF 874

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee
Name (Print Last, First Name) Phythian, Rogeray
Driller/Engineer /Trainee Signature
Driller or Trainee License No. 2053

**If trainee, licensed driller's Signature and License Number:**

**Type of Well** *("x in box)*
☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State and Jefferson street

City Olympia County Thurston

Location NE1/4-1/4 SW1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____
Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter 2" Static Level 5.7

Work/Decommission Start Date 07/19/2011

Work/Decommission Completed Date 07/19/2011

| Construction Design | Well Data | Formation Description |
|---|---|---|
| | Decommissioned in accordance with WAC 173-160-460 (2)(a) | |

RECEIVED
AUG 05 2011
WA State Department of Ecology (SWRO)

SCALE: 1"= ____ PAGE 1 OF 1

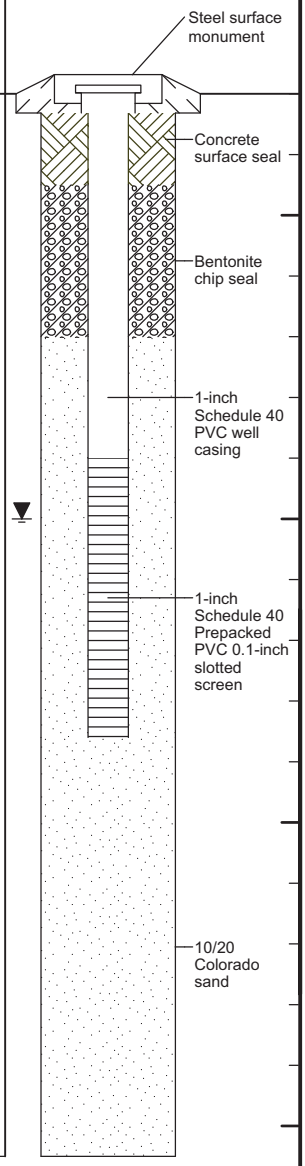


Ecology is an Equal Opportunity Employer

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

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

WELL CONSTRUCTION




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

# LOG OF MONITORING WELL MW-16

GEOENGINEERS

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

Figure A-16
Sheet 1 of 1

V6_ENVWELL P:\0\0615034\02\FINALS\061603402_03.GPJ GEIV6_1.GDT 11/5/07

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No.** R65628

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☒ Construction

☐ Decommission

215447

*ORIGINAL INSTALLATION Notice of Intent Number*:

Consulting Firm GeoEngineers

Unique Ecology Well IDTag No. AKA 424

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Haun, Marty

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. T2827

**If trainee, licensed driller's Signature and License Number:** Amie Harndon 2508

**Type of Well** *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State & Jefferson

City Olympia County Thurston

Location NE 1/4-1/4 SW 1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

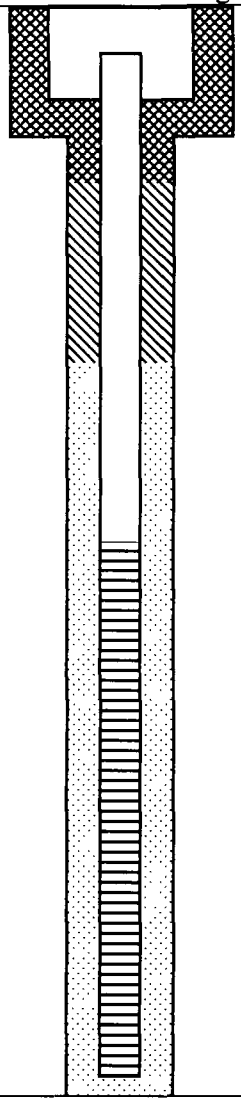
Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/2/07

Work/Decommission Completed Date 1/02/07

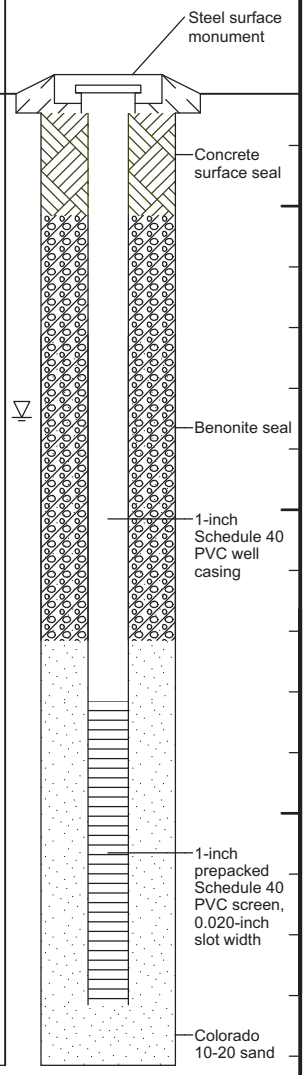
| Construction Design | Well Data | Formation Description |
|---|---|---|
|  | MONUMENT TYPE: 8" FLUSH MOUNT<br>CONCRETE SURFACE SEAL: Ø - 1'<br>ANNULAR SPACE: 4'<br>BACKFILL: 1' - 9'<br>TYPE: BENTONITE #8<br>PVC BLANK: Ø - 10'<br>SCREEN: 10' - 15'<br>SLOT SIZE: .010<br>TYPE: 3/4" PVC SCH 40 PRE-PACK<br>SAND PACK: 9' - 15'<br>MATERIAL: 10/20 SILICA SAND<br>DRILLING METHOD: DIRECT PUSH<br>WELL DEPTH: 15'<br>BORING DIAMETER: _____ | Ø - 16'<br>SAND W/GRAVEL |

SCALE: 1"= ____ PAGE 2 OF 4

| | | | | | |
|---|---|---|---|---|---|
| Date(s) Drilled | 01/02/07 | Logged By | TSG | Checked By | KMB |
| Drilling Contractor | ESN-NW | Drilling Method | Direct Push | Sampling Methods | Grab; 5035A for VOCs |
| Auger Data | NA | Hammer Data | Pneumatic | Drilling Equipment | Stratoprobe |
| Total Exploration Depth (ft) | 16 | Ground Surface Elevation (ft) | 101.85 | Groundwater Elevation (ft) | 96.52 |
| Vertical Datum | Assumed (100') | Datum/ System | GCS - North American - 1983 | Easting(x): Northing(y): | 47.048155726 -122.896040672 |

| Elevation feet | Depth feet | SAMPLES Interval | Recovered (in) | Blows/foot | Sub-Sample Sample Number | Testing | Graphic Log | Group Symbol | MATERIAL DESCRIPTION | Sheen | Headspace Vapor TLV (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | 40 | | 000 | | | GP | Medium brown gravel with sand (medium dense, moist to dry) | NS | 0.0 |
| | | | | | 020 | CA | | SP | Dark brown sand with gravel and brick (fill) | NS | 0.0 |
| | | | 24 | | | | | OL | Brown organic silt | | |
| | 5 | | | | 040 | | | ML/SP | Gray silt with layers of fine to coarse graded sand with shells (dense/loose, wet) | NS | 0.0 |
| | | | | | | | | | | NS | 0.0 |
| | | | 40 | | | | | | | | |
| | | | | | 080 | | | | | NS | 0.0 |
| | 10 | | | | | | | | | | |
| | | | | | 100 | | | SP | Black sand with decomposing wood material (moist) | NS | 0.0 |
| | | | 48 | | | | | | Dark brown coarse sand with occasional gravel (loose, wet) Preservative odor | | |
| | | | | | 120 | | | | Sewage odor | NS | 0.0 |
| | 15 | | | | 140 | CA | | | Dark brown/black coarse sand with gravel and wood debris (loose, wet) Intense preservative odor | NS | 0.0 |
| | 20 | | | | | | | | | | |

WELL CONSTRUCTION




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

# LOG OF MONITORING WELL MW04 (AKA 424)

GEOENGINEERS

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-7
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No.** R65628

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☒ Construction
☐ Decommission

215446

*ORIGINAL INSTALLATION Notice of Intent Number*:

Consulting Firm GeoEngineers

Unique Ecology Well IDTag No. AKA 427

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Haun, Marty

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. T2827

**If trainee, licensed driller's Signature and License Number:** Amos Harndin 2508

**Type of Well** *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State & Jefferson

City Olympia County Thurston

Location NE 1/4-1/4 SW 1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

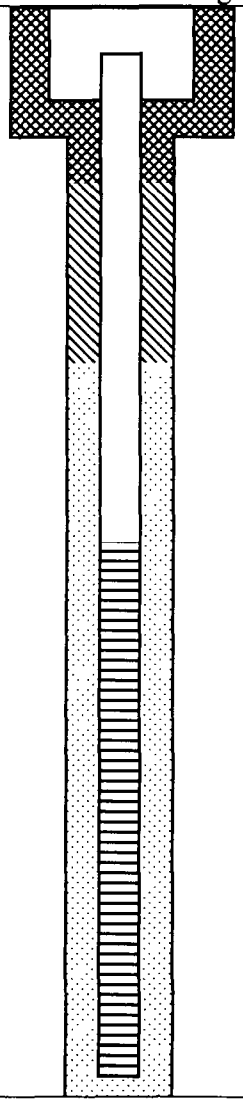
Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

Tax Parcel No. ____

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/2/07

Work/Decommission Completed Date 1/02/07

| Construction Design | Well Data | Formation Description |
|---|---|---|
|  | MONUMENT TYPE: 8" FLUSH MOUNT<br>CONCRETE SURFACE SEAL: Ø - 1'<br>ANNULAR SPACE: 4'<br>BACKFILL: 1' - 6'<br>TYPE: BENTONITE #8<br>PVC BLANK: Ø - 7'<br>SCREEN: 7' - 12'<br>SLOT SIZE: .010<br>TYPE: 3/4" PVC SCH 40 PREPACK<br>SAND PACK: 6' - 12'<br>MATERIAL: 10/20 SILICA SAND<br>DRILLING METHOD: DIRECT PUSH<br>WELL DEPTH: 12'<br>BORING DIAMETER: ____ | Ø - 12'<br>SAND W/GRAVEL<br>RECEIVED<br>JAN 16 2007<br>DEPARTMENT OF ECOLOGY<br>WELL DRILLING UNIT<br>'07 JAN 16 A 9:56<br>DEPT OF ECOLOGY<br>FISCAL & BUDGET |

SCALE: 1"= ____ PAGE 4 OF 4



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The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No. AE11197**

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☐ Construction 394359

☒ Decommission

*ORIGINAL INSTALLATION Notice of Intent Number*:

R656280

Consulting Firm

Unique Ecology Well IDTag No. AKA 427

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Wiese, Mark

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2432

**If trainee, licensed driller's Signature and License Number:**

**Type of Well** *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State and Jefferson

City Olympia County Thurston

Location NE1/4-1/4 SW1/4 Sec 14 Twn 18 R 2

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter ____ Static Level ____

Work/Decommission Start Date 11/05/2010

Work/Decommission Completed Date 11/05/2010

| Construction Design | Well Data | Formation Description |
|---|---|---|
| | Decommissioned as per WAC 173.160.460 1B<br>Original well log attached<br><br>Job #10-1624-10 | RECEIVED<br>NOV 19 2010<br>WA State Department of Ecology (SWRO) |

SCALE: 1"= ____ PAGE ____ OF ____

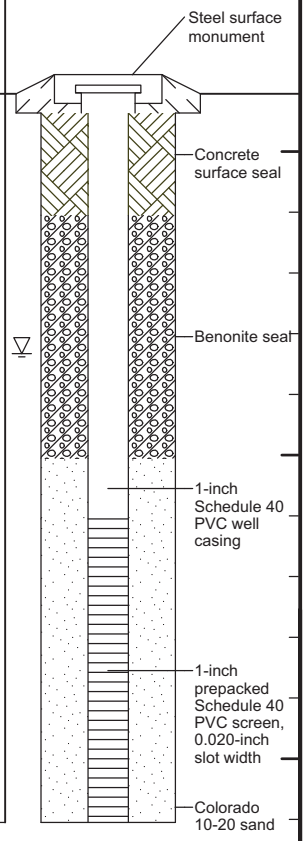
ECY 050-12 (Rev. 7/06)

Ecology is an Equal Opportunity Employer

| | | | | | |
|---|---|---|---|---|---|
| Date(s) Drilled | 01/02/07 | Logged By | TSG | Checked By | KMB |
| Drilling Contractor | ESN-NW | Drilling Method | Direct Push | Sampling Methods | Grab; 5035A for VOCs |
| Auger Data | NA | Hammer Data | Pneumatic | Drilling Equipment | Stratoprobe |
| Total Exploration Depth (ft) | 12 | Ground Surface Elevation (ft) | 100.95 | Groundwater Elevation (ft) | 96.67 |
| Vertical Datum | Assumed (100') | Datum/ System | GCS - North American - 1983 | Easting(x): Northing(y): | 47.04784838 -122.896712081 |

| Elevation feet | Depth feet | SAMPLES Interval | Recovered (in) | Blows/foot | Sub-Sample Sample Number | Testing | Graphic Log | Group Symbol | MATERIAL DESCRIPTION | Sheen | Headspace Vapor TLV (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | 12 | | | | | CC | Concrete slab | | |
| | | | | | 000 | | | SP | Brown fine to coarse sand with gravel (medium dense, moist) | NS | 0.0 |
| | | | | | 020 | | | | | NS | 0.0 |
| | | | 48 | | | | | | | | |
| | 5 | | | | 040 | CA | | | | NS | 0.0 |
| | | | | | | | | | | NS | 0.0 |
| | | | 24 | | | | | GP | Gray/brown gravel with sand (medium dense, wet) | | |
| | | | | | 080 | CA | | | | NS | 0.0 |
| | 10 | | | | | | | | | | |
| | 15 | | | | | | | | | | |
| | 20 | | | | | | | | | | |

WELL CONSTRUCTION




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

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

# LOG OF MONITORING WELL MW03 (AKA 427)

GEOENGINEERS

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-6
Sheet 1 of 1

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No.** R65628

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☒ Construction

☐ Decommission

215448

*ORIGINAL INSTALLATION Notice of Intent Number:*

Consulting Firm GeoEngineers

Unique Ecology Well IDTag No. AKA 425

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Haun, Marty

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. T2827

**If trainee, licensed driller's Signature and License Number:** Anna Harnden 2508

**Type of Well** *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State & Jefferson

City Olympia County Thurston

Location NE 1/4-1/4 SW 1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

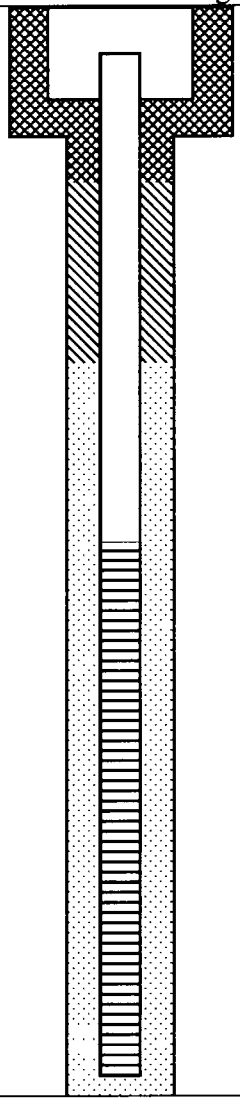
Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/2/07

Work/Decommission Completed Date 1/02/07

| Construction Design | Well Data | Formation Description |
|---|---|---|
|  | MONUMENT TYPE: 8" FLUSH MOUNT<br>CONCRETE SURFACE SEAL: Ø - 1'<br>ANNULAR SPACE: 4'<br>BACKFILL: 1' - 4'<br>TYPE: BENTONITE #8<br>PVC BLANK: Ø - 5'<br>SCREEN: 5' - 10'<br>SLOT SIZE: .010<br>TYPE: 3/4" PVC SCH 40 PRE-PACK<br>SAND PACK: 4' - 10'<br>MATERIAL: 10/20 SILICA SAND<br>DRILLING METHOD: DIRECT PUSH<br>WELL DEPTH: 10'<br>BORING DIAMETER: _____ | Ø - 12'<br>SAND W/ GRAVEL |

SCALE: 1"= ____ PAGE 3 OF 4

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No. AE11197**

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☐ Construction
☒ Decommission 394357

*ORIGINAL INSTALLATION Notice of Intent Number:* R656280

Consulting Firm

Unique Ecology Well IDTag No. AKA 425

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Wiese, Mark

Driller/Engineer /Trainee Signature

Driller or Trainee License No. 2432

**If trainee, licensed driller's Signature and License Number:**

**Type of Well** *("x in box)*

☒ Resource Protection
☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State and Jefferson

City Olympia County Thurston

Location NE1/4-1/4 SW1/4 Sec 14 Twn 18 R 2

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____ Long Deg ____ Min ____ Sec ____

Tax Parcel No.

Cased or Uncased Diameter ____ Static Level ____

Work/Decommission Start Date 11/05/2010

Work/Decommission Completed Date 11/05/2010

| Construction Design | Well Data | Formation Description |
|---|---|---|
| | Decommissioned as per WAC 173.160.460 1B<br>Original well log attached<br><br>Job #10-1624-10 | RECEIVED<br>NOV 19 2010<br>WA State Department of Ecology (SWRO) |

SCALE: 1"= ____ PAGE ____ OF ____

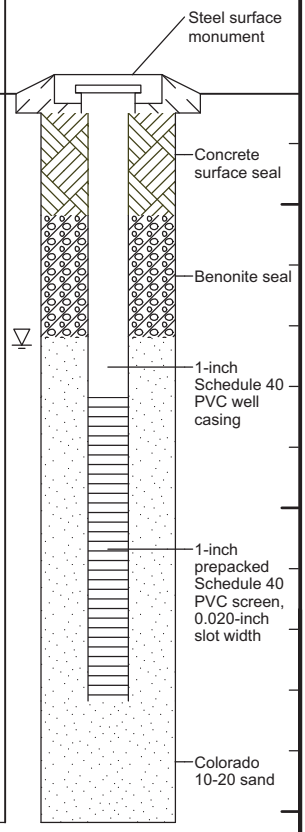


Ecology is an Equal Opportunity Employer

| | | | | | |
|---|---|---|---|---|---|
| Date(s) Drilled | 01/02/07 | Logged By | TSG | Checked By | KMB |
| Drilling Contractor | ESN-NW | Drilling Method | Direct Push | Sampling Methods | Grab; 5035A for VOCs |
| Auger Data | NA | Hammer Data | Pneumatic | Drilling Equipment | Stratoprobe |
| Total Exploration Depth (ft) | 12 | Ground Surface Elevation (ft) | 101.82 | Groundwater Elevation (ft) | 97.68 |
| Vertical Datum | Assumed (100') | Datum/ System | GCS - North American - 1983 | Easting(x): Northing(y): | 47.0483000631 -122.896724939 |

| Elevation feet | Depth feet | SAMPLES Interval | Recovered (in) | Blows/foot | Sub-Sample Sample Number | Testing | Graphic Log | Group Symbol | MATERIAL DESCRIPTION | Sheen | Headspace Vapor TLV (ppm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | 12 | | | | | CC | Concrete slab | | |
| | | | | | | | | SP | Brown fine to coarse sand with gravel (loose to medium dense, moist) | NS | |
| | | | | | 020 | CA | | | | NS | |
| | | | 12 | | | | | | Grades to loose, moist | | |
| | 5 | | | | 040 | | | | | NS | |
| | | | | | | | | | | NS | |
| | | | 36 | | | | | GP | Brown gravel with sand (loose, wet) | | |
| | | | | | 080 | | | | | NS | |
| | 10 | | | | | | | | | | |
| | | | | | 100 | CA | | | | | |
| | 15 | | | | | | | | | | |
| | 20 | | | | | | | | | | |

WELL CONSTRUCTION




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

# LOG OF MONITORING WELL MW01 (AKA 425)

GEOENGINEERS

Project: Phase II ESA/Hands on Children's Museum
Project Location: Olympia, Washington
Project Number: 0615-033-00

Figure B-4
Sheet 1 of 1

V6_ENVWELL P:\0\0615033\00\FINALS\061503300.GPJ GEIV6_1.GDT 2/6/07

## Turk, Jon

**From:** Rick Craddock <rickc@bp-construction.com>
**Sent:** Wednesday, June 20, 2012 12:32 PM
**To:** Turk, Jon
**Cc:** Clint McDaniels
**Subject:** FW: Arcadia Decommission Well Reports
**Attachments:** 2842447181.pdf

As requested

Rick Craddock | **Berschauer Phillips** | 360.507.1100

---

**From:** John Newby [mailto:johnn@dlbgeneral.com]
**Sent:** Wednesday, June 20, 2012 12:13 PM
**To:** Rick Craddock
**Subject:** FW: Arcadia Decommission Well Reports

Rick,

Here is the decommission reports for the wells at East Bay.

Thanks,

**John Newby, Office Manager**
**DLB Earthwork Company**
**P.O. Box 12599**
**Olympia, WA 98508**
**Ph: 360-943-6278**
**Fax: 360-943-8659**
**email: johnn@dlbgeneral.com**
www.dlbgeneral.com

---

**From:** Jason Zack [mailto:jasonzack@comcast.net]
**Sent:** Wednesday, June 20, 2012 12:05 PM
**To:** johnn@dlbgeneral.com
**Subject:** Arcadia Decommission Well Reports

This should be easier.

Thanks,

***Jason Zack***
***General Manager***
***Arcadia Drilling Inc.***
***360-426-3395***
***360-490-6711***
***jasonzack@comcast.net***

DEPARTMENT OF ECOLOGY State of Washington

Z hoo#Orjv

Krp h Pds#Vhdufk Wh{w#Vhdufk Irup v Vlwh#Lqir Frqwdfw#Xv Z dwhu#Sruwd

WH[W VHDUFK#UHVXOWV

**Back** **New Search**

¿ **Search Criteria Used:**#Z hoo#Wdj#LG = dnd757

¿ Wkhuh#duh#2#z hoo#orjv#wkdw#p dwfk#|rxu#vhdufk#fulwhuld1#

¿ Wkh#uhvxow#duh#vruwhg#e| Z hoo#Wdj#LG

Grzqordg#dog#5#p djhv###;## Grzqordg#dog#5#gdwd#uhfruvv###;## Sulqw#wkly#sdjh###;## Khos

#Glvsod|lqj 4#0#5#ri#2##z hoo#orj#uhvxow#######Vruw#uhvxow#e|# Well Tag ID

#41# **CITATION MGMT** 0#~#Vlhz#SGI#:

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Frxqw|=#Slhufh/#Z hoo#Dgguhvv=#VRYIWD#EOYG#DQG#PHUIGIDQ/#PLOWRQ
Z hoo#Orj#LG=#6<<37;/#Z hoo#Wdj#LG=DND757/#Qrwlfh#ri#Lqwhqw#Qxp ehu=#J3984;7
Z hoo#Gldp hwhu=#31:8#lq1#/#Z hoo#Ghswk=#1;#iwl#
Z hoo#W|sh=#Uhvrxufh#Surwhfwlrq
Z hoo#Frp sdnwlrq#Gdwh=#43246253 37/#Z hoo#Orj#Uhfhlyhg#Gdwh=3424<25338

#51# **PORT OF OLYMPIA | GEOENGINEERS** 0~#Vlhz#SGI#:

Sxedf#Odqg#Vxuyh|=#QH/VZ /#V047/#W04;0Q/#U0350Z /#Wd{#Sdufhd#Qxp ehu=#+eodqn,
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Z hoo#Orj#LG=#79:46<#/#Z hoo#Wdj#LG=DND757/#Qrwlfh#ri#Lqwhqw#Qxp ehu=#J39895;
Z hoo#Gldp hwhu=#5#lq1/#Z hoo#Ghswk=#48#iwl#
Z hoo#W|sh=Uhvrxufh#Surwhfwlrq
Z hoo#Frp sdnwlrq#Gdwh=3423525 33:/#Z hoo#Orj#Uhfhlyhg#Gdwh=#3424925 33:

**Total Result Pages: 1**

Hfrrj|#Krp h#;#Uhsruwkl#Suredmp #;#Gdwd#Glvfodlp hu#;#Sulydf|#Srdf|
Frs|uljkwL #Z dvklqjwrq#Vwdwh#Ghsduwp hqw#ri#Hfrrj|#5348 1#Doo#Uljkw#Uhvhuyhg1

# RESOURCE PROTECTION WELL REPORT

*(SUBMIT ONE WELL REPORT PER WELL INSTALLED)*

CURRENT Notice of Intent No. R 65184

Construction/Decommission (*"x" in circle*)

⊗ Construction

○ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* 163787

Type of Well (*"x" in circle*)

⊗ Resource Protection

○ Geotech Soil Boring

Consulting Firm: Insight Geologic

Unique Ecology Well ID Tag No: AKA 424

Property Owner: Citation Management

Site Address: Jovita Blvd + Meridian

City: Milton County: Pierce

Location: SW 1/4 NW 1/4 Sec. 3 Twn. 20N R. 4 EWM or WWM (circle one)

Lat/Long (s, t, r still REQUIRED): Lat Deg ____ Lat Min/Sec ____ Long Deg ____ Long Min/Sec ____

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print): Anisa Newman

Driller/Engineer/Trainee Signature: Anisa Newman

Driller or Trainee License No.: 2508

If trainee, licensed driller's Signature and License no.: ____

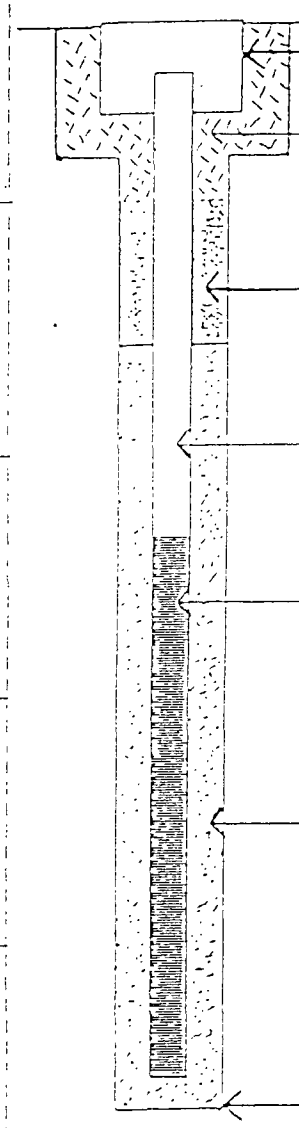
Tax Parcel No.: ____

Cased or Uncased Diameter: 3/4" Static Level: ____

Work/Decommission Start Date: 10/13/04

Work/Decommission Completed Date: 10/13/04

Construction/Design | Well Data | Formation Description



MONUMENT TYPE: flush mount

CONCRETE SURFACE SEAL: 0-2'

BACKFILL: 2'-7'

TYPE: wyeben #8 bentonite

PVC BLANK: 0.5'-8'

PVC SCREEN: 8'-18'

SLOT SIZE: .010

TYPE: 3/4" prepack screen

SAND PACK: 7'-18'

MATERIAL: 10/20 silica sand

WELL DEPTH: 18'

no soil observed

RECEIVED

JAN 19 2005

DEPARTMENT OF ECOLOGY WELL DRILLING UNIT

Scale 1" = ____



ECY 050-12 (Rev 2/01)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

Please print, sign and return to the Department of Ecology

# RESOURCE PROTECTION WELL REPORT

**CURRENT Notice of Intent No.** R65628

**(SUBMIT ONE WELL REPORT PER WELL INSTALLED)**

**Construction/Decommission** *("x" in box)*

☒ Construction

☐ Decommission

215447

*ORIGINAL INSTALLATION Notice of Intent Number*:

Consulting Firm GeoEngineers

Unique Ecology Well IDTag No. AKA 424

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☐ Engineer ☒ Trainee

Name (Print Last, First Name) Haun, Marty

Driller/Engineer /Trainee Signature [signature]

Driller or Trainee License No. T2827

**If trainee, licensed driller's Signature and License Number:** Amie Harndon 2508

**Type of Well** *("x in box)*

☒ Resource Protection

☐ Geotech Soil Boring

Property Owner Port of Olympia

Site Address State & Jefferson

City Olympia County Thurston

Location NE 1/4-1/4 SW 1/4 Sec 14 Twn 18N R 2W

EWM ☐ or WWM ☒

Lat/Long (s, t, r still REQUIRED) Lat Deg _____ Min _____ Sec _____

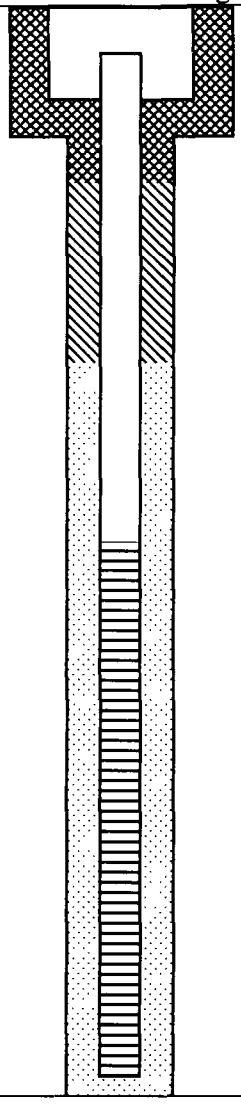
Long Deg _____ Min _____ Sec _____

Tax Parcel No. _____

Cased or Uncased Diameter 2" Static Level 5'

Work/Decommission Start Date 1/2/07

Work/Decommission Completed Date 1/02/07

| Construction Design | Well Data | Formation Description |
|---|---|---|
|  | MONUMENT TYPE: 8" FLUSH MOUNT<br>CONCRETE SURFACE SEAL: Ø - 1'<br>ANNULAR SPACE: 4'<br>BACKFILL: 1' - 9'<br>TYPE: BENTONITE #8<br>PVC BLANK: Ø - 10'<br>SCREEN: 10' - 15'<br>SLOT SIZE: .010<br>TYPE: 3/4" PVC SCH 40 PRE-PACK<br>SAND PACK: 9' - 15'<br>MATERIAL: 10/20 SILICA SAND<br>DRILLING METHOD: DIRECT PUSH<br>WELL DEPTH: 15'<br>BORING DIAMETER: _____ | Ø - 16'<br>SAND W/GRAVEL |

SCALE: 1"= ____ PAGE 2 OF 4

# **Appendix B:** Sampling and Analysis Plan



Use of contents on this sheet is subject to the limitations specified at the beginning of this document.

# PARCEL 4 AND 5 IA

# SAMPLING AND ANALYSIS PLAN

Prepared for
The City of Olympia and the LOTT Alliance
Olympia, WA
6/23/2010

# THE CITY OF OLYMPIA / THE LOTT ALLIANCE
# PARCEL 4 AND 5 INTERIM ACTION
# SAMPLING AND ANALYSIS

Prepared for

The City of Olympia and the LOTT Alliance

Olympia, WA

6/23/2010

Brown and Caldwell

724 Columbia Street NW, Suite 420

Olympia, WA 98501

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# LIST OF ACRONYMS

| | |
|---|---|
| BC | Brown and Caldwell |
| ˚C | degrees Celsius |
| CCL | contaminant candidate list |
| COPC | constituent of potential concern |
| CRM | certified reference materials |
| DI | Deionized water |
| DO | dissolved oxygen |
| DOC | dissolved organic carbon |
| DRL | detection limits for purposes of reporting (Title 22) |
| DQO | data quality objective |
| EC | electrical conductivity |
| Ecology | Washington State Department of Ecology |
| EDD | electronic database deliverable |
| EDMS | environmental database management system |
| EPA | United States Environmental Protection Agency |
| GC/MS | gas chromatography/mass spectrometry |
| HPLC | high performance liquid chromatography |
| ICP/MS | inductively coupled plasma mass spectrometry |
| IS | internal standard |
| LCM | laboratory control material |
| LCS | laboratory control spike |
| LCSD | laboratory control spike duplicate |
| MCL | maximum contaminant levels |
| MDL | method detection limit |
| µg/L | micrograms per liter |
| µS/cm | microsiemens per centimeter |
| mg/L | milligrams per liter |
| MP | Monitoring Plan |
| MPN | most probable number |
| MS | matrix spike |
| MSD | matrix spike duplicate |
| N | nitrogen |
| NIST | National Institute of Standards and Technology |
| P | phosphorus |
| QA | quality assurance |
| QAPP | Quality Assurance Project Plan |
| QC | quality control |
| RPD | relative percent difference |
| SM | Standard Methods for the Examination of Water and Wastewaterr |
| SOP | standard operating procedure |
| SWAMP | Surface Water Ambient Monitoring Program |
| TOC | total organic cargon |
| TRL | target reporting limit |
| USEPA | United States Environmental Protection Agency |
| USGS | United States Geological Survey |
| WQ | water quality |



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# 1. PROJECT MANAGEMENT

## 1.1 Monitoring Program Task Organization

Organization of the Project team for the Parcel 4 and 5 Interim Action and associated tasks are described in the following sections.

### 1.1.1 Involved Parties and Roles.

This Sampling and Analysis Plan (SAP) has been prepared for the Parcel 4 and 5 Interim Action. Within this SAP are descriptions of methods and functional activities employed to collect monitoring data collected for Parcel 4 and 5 Interim Action. Specific details regarding the quality assurance for data collected are not included herein, but are discussed separately in the Quality Assurance Project Plan. Together, these two documents serve to completely describe the data collection and quality assurance / quality control (QA/QC) program that will be implemented as part of the Interim Action.



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| Table 1-1 Staff | | | |
|---|---|---|---|
| Name | Affiliation | Title | Contact Information |
| Steve Teel | Washington State Department of Ecology | Site Manager | ph:(360) 407-6247<br>stee461@ecy.wa.gov |
| Rick Dougherty | City of Olympia | Project Manager | ph:(360) 753-8485<br>rdougher@ci.olympia.wa.us |
| Eric Hielema | LOTT Alliance | Project Manager | ph:(360) 528-5705<br>erichielema@lottonline.org |
| TBD | Brown and Caldwell | Project Manager | ph:(360) 943-7525 |
| TBD | Brown and Caldwell | QA Officer | ph:(360) 943-7525 |
| TBD | Brown and Caldwell | Data Management Coordinator | TBD |
| TBD | Contact Analytical Lab (TBD) | Laboratory Director | TBD |
| Kate Green | Brown and Caldwell | Sampling Support | ph:(360) 943-7525<br>kgreen@brwncald.com |
| John Turk | Brown and Caldwell | Technical Advisor | ph:(360) 943-7525<br>jturk@brwncald.com |

Notes:
QA = Quality Assurance
BC = Brown and Caldwell

### 1.1.2 Project Manager Role

The project manager is assigned primary oversight for data collection.

The QA Officer is responsible for performing samplle collection activities, coordinaing sample analysis and data validation, performing sample data verification / validation, perparing draft, final draft, and final reports, ensuring that project work performed meets the requirements of the SAP, responding to requested deviations from the SAP, reporting on QA matters to the Client Project Manger and Ecology, obtaining approvals, as needed, for all phases of work, and communicating with the Client Project Manager on matters relating to the project. Key personnel assigned to the project will have reviewed the QAPP and SAP, and will be instructed by the Project Manager regarding the requirements of the data collection program. The Project Manager will work with the Client Project Manager and Department of Ecology to ensure that SAP objectives are being met and the team will continually assess the effectiveness of the data collection program and recommend modifications, as needed.

### 1.1.3 Persons Responsible for SAP Update and Maintenance

If necessary, the Project Manager, with concurrence from the Client Project Manager, may revise and update the SAP after presenting the evidence for such changes and obtaining the approval from



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Department of Ecology. Revisions that occur after the original SAP is approved will be indicated on the SAP title page and will be distributed to all parties listed in Table 1-1.

## 1.2 Problem Definition

Samples will be collected to confirm the extent of contaminated areas and to classify stockpiled soils as suitable for general reuse, suitable for reuse in capped areas, or to designate soil from disposal. Sample results for soils designated for disposal will be communicated to the disposal facility.

## 1.3 Regulatory Agencies and Applicable Regulatory Limits

The project is under the oversight of the Washington State Department of Ecology. Cleanup Levels and Remediation Levels for the project are established under the Model Toxics Cleanup Act (MTCA) and defined in the Interim Action Work Plan.

## 1.4 Project Description

The project was designed to remove contaminated soil from the site and to classify soils remaining on the site as suitable for general reuse or suitable for reuse in capped areas. A detailed description of the constituents to be monitored and the information used to develop the list of constituents is discussed in the Interim Action Work Plan and the SAP.

## 1.5 Project Schedule

The anticipated schedule for tasks associated with Parcel 4 and 5 Interim Action is shown in Table 1-2 below. Specific project schedules will be described in the SAPs.

Table 1-2. Program Timeline

| Task | Anticipated Date of Initiation | Anticipated Date of Completion | Deliverable |
|---|---|---|---|
| Draft IA Work Plan, SAP, and QAPP | | 6/9/2010 | Draft SAP and QAPP |
| Final IA Work Plan, SAP and QAPP | 7/6/2010 | 8/6/2010 | Final SAP and QAPP |
| Implement Parcels 4 and 5 Interim Action | September 9, 2010 | November 30, 2010 | |
| Draft Parcels 4 and 5 Interim Action Report | September 9, 2010 | Within 60 days after field work is completed | Draft Parcels 4 and 5 Interim Action Report |
| Incorporate Ecology's written comments on the Draft IA Report | Upon receipt of Ecology's written comments. | Within 30 days after receipt of Ecology's written comments on the draft report | Final IA Report |

## 1.6 Sampling Constraints

Sampling constraints typically encountered during sampling include safety of sampling personnel and cost considerations.



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Sampling results must be complete before major earth-moving activities (stockpile disposal, excavation backfill, etc.). Timing constraints or missed events are therefore not anticipated.

## 1.7 Sampling Objectives

Sampling activities at the site will consist of confirmation soil sampling and stockpile soil sampling. The objective of confirmation soil sampling will be to deliniate the extent of contamination in areas suspected to exceed Interim Action Remediation Levels (IARLs). The objective of stockpile soil sampling will be to classifiy stockpiled material as suitable for general reuse, suitable for reuse in capped areas, or designated for disposal. Descriptions of sampling procedures are provided in Section 2. Constituents of Potential Concern (COPCs) and proposed sampling methods are summarized in Table 1-3.

Table 1-3. Parcel 4 and 5 COPCs

| Group | COPC | Proposed Methods | Reporting Limits |
|---|---|---|---|
| Metals | Arsenic | EPA 6020A | 0.2 mg/Kg |
| | Cadmium | EPA 6020A | 0.2 mg/Kg |
| | Lead | EPA 6020A | 1 mg/Kg |
| | Copper | EPA 6020A | 0.2 mg/Kg |
| | Nickel | EPA 6020A | 0.5 mg/Kg |
| PAHs | cPAHs | EPA 8270C / EPA 8270C-SIM | 0.01 mg/Kg |
| Dioxins / Furans | Dioxins / Furans | EPA 1613 / EPA 8290 | 3 pg/g |
| Petroleum Hydrocarbons | TPH-D | NWTPH-Dx | 25 mg/Kg |
| | TPH-HO | NWTPH-Dx | 25 mg/Kg |
| | TPH-G | NWTPH-Gx | 10 mg/Kg |
| VOCs | Benzene | EPA 8260B | 0.01 mg/Kg |
| | Toluene | EPA 8260B | 0.01 mg/Kg |
| | Ethylbenzene | EPA 8260B | 0.01 mg/Kg |
| | Total Xylenes | EPA 8260B | 0.03 mg/Kg |
| SVOCs | Total Naphthalenes | EPA 8270C / EPA 8270C-SIM | 0.3 mg/Kg |

## 1.8 Quality Control Limits

Data Quality Objectives, project quality, objectives, and the measurement performance criteria for sampling are provided in the QAPP.



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## 1.9 Training and Certification

Field personnel that participate in sampling will have reviewed the QAPP and SAP for the specific Site project, and will be instructed by the Project Manger. Training will occur prior to the beginning of the program and semi-annually thereafter through QC sessions, where field procedures will be reviewed; new personnel will be trained prior to performing any work in the program. Field personnel will have been trained prior to the first sampling event in sample collection procedures (including QA/QC, grab sampling techniques, completing laboratory chain-of-custody forms, and proper handling of water samples), and field analysis (including instrument calibration, data recording procedures, and interpretation of collected data).

All laboratories utilized to perform analytical services will be certified by the NELAC. Laboratory personnel will be certified and trained as required by the laboratory's quality assurance manuals. The laboratory director of the primary analytical lab will be provided a copy of the QAPP.

Documentation of training for field staff will be maintained by Brown and Caldwell. Documentation will include a record of the training topic, training date, name and title of instructor, whether the class was an initial training or a refresher course, and whether the course was completed satisfactorily.

## 1.10 Documents and Records

### 1.10.1 Project Documents, Records, and Electronic Files

The documents and records that will be generated during this project include the following:

*Quality Assurance Project Plan:* The QAPP (this document) contains details on the QA and QC procedures that will be implemented throughout the project.

*Sampling and Analysis Plans:* The SAPs contain information regarding sampling locations, frequencies, and sample collection methods.

*Field Records.* The Brown and Caldwell Project Manager or other designee will maintain all field records, including field data sheets documenting results of field analyses and QC samples, a logbook documenting equipment maintenance and calibration, and sample collection and handling documentation (copies of chain-of-custody forms, shipping receipts, etc.).

*Laboratory Records.* Analytical labs will maintain sample receipt and storage documentation, instrument calibration logs, raw data and QC sample records.

*Data validation records.* Field data sheets, field QC results, chain-of-custody forms, and lab reports from each sampling event will be reviewed by the QA Officer and a data validation record will be generated which summarizes the quality of the collected data.

*Project database:* The Brown and Caldwell Olympia, WA office will be used to store all laboratory and field data gathered during this project. The database will be continually updated and managed as described in Section 2.9. At the completion of the project, data may be electronically submitted to the City of Olympia and the LOTT Alliance upon request.



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### 1.10.2 Retention of Project Documentation

The original data sheets, equipment maintenance/calibration logs, chain-of-custody forms, lab reports, field records, training documents and data validation records will be stored by Brown and Caldwell until the end of the project. All records will be maintained by Brown and Caldwell and analytical labs for five years after project completion.

### 1.10.3 Distribution of SAP Revisions

Revisions that occur after the original SAP is approved will be indicated on the SAP title page and will be distributed by the Project Manager to all parties listed in Table 1-1.



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# 2. DATA GENERATION AND ACQUISITION

## 2.1 Sampling Process Design

The individual Site SAPs will provide a detailed description of the sampling approach and rationale that was used to select sampling locations, sampling frequencies, and constituents that will be analyzed.

## 2.2 Sampling Methods

Proper sample collection procedures are essential to ensure that representative and reliable data are being collected. Sample collection will be performed according to the SOP for Sample Collection, Documentation, and Delivery, included as Appendix I to the IA Work Plan. In general, the QA procedures that will be followed during sample collection include the following:

- Samples from depths less than 4 feet will be collected by hand directly from the sidewall of the excavation. Samples from depths greater than 4 feet will be collected by using the excavator bucket. .
- Sample collection will be performed in such a manner as to minimize disturbance of surrounding soils.
- Soil grab samples will be transferred to sample jars carefully to minimize exposure to external influences such as wind, dust, or rain.
- Sample jars will be labeled (e.g., date, time, location, method) immediately after collection.
- Sampling date and time and sampler's initials will be added to the chain of custody form immediately after sampling.
- If problems occur during sampling, the QA Officer will be notified. The source of the problem will be identified and the appropriate corrective action taken. These incidents will be documented in the project folder and filed with the appropriate data package. If the problem compromised the quality of collected data, the data will be flagged within the database.

## 2.3 Confirmation Sampling

Samples will be collected during excavation both to delineate excavated areas and to characterize excavated material stockpiled on-site. A total of five locations exceed IARLs and will be excavated: TP-02, DP-11, -17, -18, and -21. Table 2-1 shows planned sample depths and analytical constituents. Hotspots will be initially excavated in 20-foot by 20-foot excavation cells. The excavation cells may be made smaller with permission from Ecology, but not larger. The first



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excavation cells will be centered at the coordinates of the samples with concentrations exceeding IARLS (DP-17 and DP-21 for arsenic, DP-11 for lead, DP-18 for TPH-HO, and TP-02 for dioxins/furans. After the first cell is excavated, adjacent 20-foot by 20-foot cells may be excavated based on field screening results. These excavations will constitute the first excavation round.

Confirmation samples will be collected during the first excavation round. Vertical sets of confirmation samples will be collected in each sidewall of each excavation cell at the depths shown in Table 2-1. A vertical set will include one sample from each lithologic layer. Samples from depths less than 4 feet will be collected by hand directly from the sidewall of the excavation. Samples from depths greater than 4 feet will be collected by using the excavator bucket. A floor sample in the center of each cell will also be collected by using the excavator bucket. Sample collection is shown schematically in Figure 2-1.



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Table 2-1. Sample Locations and Analytical Constituents

| Location | Sample Type | Depth of Contamination (feet) | Hotspot Constituent | Initial Excavation Depth (feet) | Initial Sidewall Sample Depths (feet) | Analytical Constituents |
|---|---|---|---|---|---|---|
| TP-02 | Sidewall and Bottom Confirmation Samples | 2 | Dioxins/Furans | 10 | 0-2, 2-3, 3-4, 7-8* | Dioxins/Furans |
| DP-11 | Sidewall and Bottom Confirmation Samples | 8-10 | Lead | 12 | 8-10* | Arsenic, Lead, Copper, and Nickel |
| DP-17 | Sidewall and Bottom Confirmation Samples | 10-12 | Arsenic | 15 | 10-12* | Arsenic, Lead, Copper, and Nickel |
| DP-18 | Sidewall and Bottom Confirmation Samples | 10-12 | TPH-HO | 15 | 10-12* | TPH-D, TPH-HO, BTEX, and lead |
| DP-21 | Sidewall and Bottom Confirmation Samples | 6-8 | Arsenic | 10 | 6-8* | Arsenic, Lead, Copper, and Nickel |
| Stockpiles | Stockpile samples | NA | NA | NA | NA | All Constituents of Concern (See Table 3-2). |

Notes:

* Samples will be collected from the depth interval shown and including each lithologic unit.

NA - Not Applicable

See Sampling and Analysis Plan Table 2-1 for quantity of stockpile samples.
Soil from the excavations of locations TP-02, DP-11, DP-17, and DP-21 will be field screened for the presence of TPH. Analyses for TPH (all ranges) and BTEX will be added if field screening indicates potential TPH presence.

Adjacent cells may be excavated in a second excavation round following the first set of sample collection. An adjacent cell will be excavated of any sample from the adjoining wall exceeds IARLs.

If necessary, the City and LOTT will continue the excavation of areas known to exceed IARLS (as identified in Figures 3-4 and 3-7) beyond the property boundaries of Parcel 4 and 5. These areas will be excavated until COPC concentrations in confirmation samples collected per Table 2-1 are below the IARLs.



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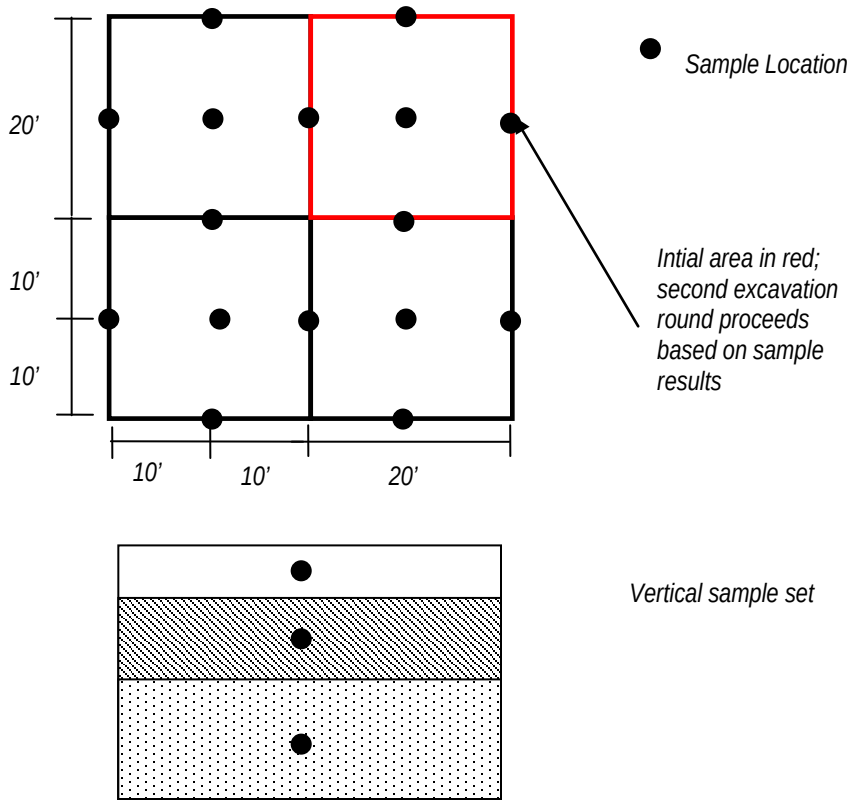


**Figure 2-1: Compliance Sampling Plan**

## 2.4 Stockpile Sampling

Separation of material into stockpiles will be directed by the BC PM or their designee. Stockpiles comprised of material from Parcel 4 will be kept distinct from stockpiles comprised of material from Parcel 5. The BC PM or their designee will segregate material into stockpiles based on field screening analysis methods, including PID headspace analysis, sheen testing, visual and olofactory observations, or other appropriate criteria. In addition, the BC PM or their designee will attempt, to the extent practicable, to segrate material so that distict lithologic units are kept separate. Time constraints or site constraints may not always allow for separation by lithology.

Samples will be colleted from stockpiles based on stockpile size. Stockpile dimensions will be measured and stockpile size estimated to facilitate both sample collection and measurement and payment during project implementation. The estimator will be a BC or contracted professional and will estimate stockpile size using current local, state, or national standard methods. The estimator will also conduct Proctor testing to estimate the dry density, optimum moisture, and maximum acheivable compaction. The stockpile sampling schedule is summarized in Table 2-2. Stockpile samples will be analyzed for all of the constituents of concern (see Interim Action Work Plan Table 3-2).



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Table 2-2. Stockpile Sample Quantity Guide

| Stockpile Size (Cubic Yards) | Sample Quantity |
|---|---|
| 0 – 100 | 3 |
| 101 – 500 | 5 |
| 501 – 1000 | 7 |
| 1001 – 2000 | 10 |
| > 2000 | 10 + 1 for each additional 500 CY soil |

Samples will be collected such that they are spatially distributed around the stockpile. Samples will be collected from the dominant lithology in the stockpile. The BC PM or their designee may collect additional stockpile samples if, in the opinion of the BC PM or the Client, additional samples are warranted based on field conditions.

Stockpiles will be marked with a placard system to designate their usage. A separate placard color will denote unsampled stockpiles, stockpiles sampled and awaiting analytical results, stockpiles with no sample results exceeding IACLs (soils suitable for general reuse), stockpiles with sample results exceeding IACLs but no sample results exceeding IARLs (soils suitable for reuse in capped areas), and stockpiles with sample results exceeding IARLs (soils for off-site disposal). Newly excavated material may only be added to stockpiles that have not been sampled. Stockpile information will be recorded on the placards, including the stockpile number, the date(s) of excavation, stockpile size, the stockpile sample number(s), the date of sampling, the concentrations of any COPCs exceeding IACLs, the concentrations of any COPCs exceeding IARLs, the stockpile status, and the date that the stockpile is authorized for reuse or disposal.

## 2.5 Sample Designation and Labeling

Each sample collected will be identified by confirmation excavation or stockpile number, location number, and by depth in feet if appropriate. Confirmation sample numbers will begin with the "CNF" designation, while stockpile samples will begin with the "SPL" designation. Location numbers for each sample will be clearly recorded on sketches in the logbooks and sample data sheets.

For instance, a soil sample collected from Confirmation Excavation 1, location 1 at a depth of 7 feet would be identfied as "CNF-1-1-7". The fifth sample from stockpile one would be identified as "SPL-1-5".

Each sample container will be individually labeled with the label affixed directly to the sample container. Information that will be included on the label in the field includes preservation, analysis



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required, date and time of collection, location, and the sampler's initials. All of these data will be written with indelible waterproof ink. Any additional information regarding the sample collection will be noted in the field logbook; this additional information can include notations if the samples are composite samples or if preservatives were added in the field, for example.



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# 3. SAMPLE HANDLING AND CUSTODY

## 3.1 Sample Handling

Once sample containers have been filled they will be labeled, placed in re-sealable plastic bags (e.g. *Ziploc* ®), and stored in a cooler on ice to maintain a temperature of approximately 4º C. Identification information for each sample will be recorded in the field logbook when the sample is collected.

## 3.2 Sample Collection Documentation

The field logbooks used during sampling procedures will include the following information:

- initials of person making entry
- date and time of sample collection
- sampling location
- analyses to be performed
- preservation method
- field meter or screening information, if applicable
- general remarks (weather conditions, etc.)

All entries will be made in indelible ink with a ballpoint pen and will be written legibly. Entry errors will be crossed out with a single line, dated, and initialed by the person making the correction. Field logbooks will be reviewed periodically by the BC Project QA Officer, as appropriate. Additionally, a field sampling data sheet will be completed for each sample.

## 3.3 Custody

A chain-of-custody form will be completed at the time of sample collection and prior to sample shipment or release. The samples will be transported or shipped to the analytical lab in insulated containers within the appropriate holding time and will be accompanied by a chain-of-custody form that identifies the sample bottles, date and time of sample collection, and analyses requested. If shipment is needed, the samples will be packaged and shipped in accordance with U.S. Department of Transportation standards. The original chain-of-custody will be given to the lab with the samples and Brown and Caldwell will retain a copy for their records. Once received by the laboratory, a sample receipt and storage record will be generated. The recommended sample container type and volume, initial preservative and holding time for analytes that may be tested is shown in Table 3-1.



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The turn around time for the analytical laboratory will typically be within ten days from the sampling date. After analyses, all samples will be disposed of in accordance with federal, state, and local requirements.



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Table 3-1. Sample Handling and Custody

| Group | Parameter | Container[a] | Initial Preservative[a] | Max Allowable Holding Time | |
|---|---|---|---|---|---|
| | | | | Extraction[b] | Analysis[c] |
| Metals | Arsenic | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Lead | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Cadmium | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Copper | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Nickel | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| Semi-Volatiles | cPAHs | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | 14 days | 40 days |
| | Total Naphthalenes | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | 14 days | 40 days |
| Dioxins / Furans | Dioxins / Furans | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | 28 days | 40 days |
| TPH | TPH-G | EnCore Sampler | Ice to 4° C, preserve w/ methanol w/ in 48 hours | --- | 14 days |
| | TPH-D | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 28 days |
| | TPH-HO | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 28 days |
| Volatiles | Benzene | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |
| | Toluene | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |
| | Ethylbenzene | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |
| | Total Xylenes | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |

[a] Sample containers, volumes, and preservatives will be reevaluated once contract laboratories are chosen and may be changed based on recommendations from the lab(s).
[b] Starting from the date of collection
[c] Starting from the date of extraction; if no extraction, starting from the date of collection



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## 3.4 Laboratory Chain-of-Custody Procedures

Laboratory COC procedures for sample receiving and log-in, sample storage, tracking during sample preparation and analysis, and storage of data will be described in the laboratory SOPs and laboratory Quality Manuals of the selcted laboratory. Minimum requirements are described below.

On arrival at the laboratory, all samples will be inspected thoroughly to confirm that the integrity of the samples and containers has not been compromised. The cooler custody seals will be inspected to verify that they are still intact and were properly signed and dated by the field sampling team. The temperature of the cooler temperature blank will be determined and recorded. If the temperature of the cooler blank does not fall into the range of 4 ± 2 °C the Project Manager will be notified immediately. The exception to this will be if samples are delivered from the Site same-day to the laboratory. In this circumstance, the cooler temperature blank and samples may not have cooled during transport and elevated temperatures will be considered acceptable as long as ice is present in the cooler. The individual sample containers will be inspected to verify that each has a sample label. The condition of the samples will be noted on the COC form.

The sample containers will be checked against the accompanying COC to verify that the cooler contents are identical to the samples described on the COC documents. If discrepancies exist, they will be reported to the Laboratory QA Officer, who will immediately notify the BC PM. The problem will be resolved, in writing, before analytical work begins. After the Laboratory Sample Custodian has determined that the samples are in satisfactory condition and the documents are in order, a sample log-in sheet will be initiated and will serve as documentation of the condition of the samples upon receipt and their assigned laboratory numbers.

The sample log-in sheet will include information from field notes from the COC forms that reflect any special care or concerns that should be taken with the sample (e.g., the sampler suspects high concentration of an analyte due to field observations or historical concentration).

After the samples have been entered into the laboratory tracking system, copies of the log-in forms and COC records will be sent to the BC Project QA Officer, who will verify that the specified samples and parameters correspond to the samples and parameters identified in the SAP. The samples will be placed in a secured storage area, under the conditions called for by the analytical method, until removed for analysis.

Samples delivered on Saturday will be received by the Laboratory Sample Custodian and placed in a secure location until they can be logged in on the next business day.

## 3.5 Analytical Methods

Field measurements will be conducted by Brown and Caldwell staff using portable meters and field test kits that employ EPA-approved methods. Field measurements will be taken using the procedures recommended by the manufacturer of the meter or test kit and procedures discussed in the SOP for Field Data Collection, where applicable. Results of all field measurements will be recorded in field logbooks and on field data sheets.

Laboratory analyses will be conducted by NELAC-certified analytical laboratories using methods approved by the EPA and Washington State. Proposed analytical methods are provided in Table 1-



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3. Alternative methods may be requested by the laboratories performing analyses. These alternative methods may be used only upon written approval from the QA Officer. Major laboratory equipment or instruments that will be utilized include a gas chromatography/mass spectrometer (GC/MS), inductively coupled plasma mass spectrometer (ICP-MS), high performance liquid chromatography (HPLC), automated colorimeter, ion chromatograph, and a carbon detector. If any instrument failures occur, the laboratory will take immediate corrective action and notify the QA Officer if the quality of sample results was compromised.

## 3.6 Sample Archival

Samples and sample extracts for all analyses will be held under custody at 4 ± 2 °C by the laboratory for a minimum of 60 days after the laboratory's final report is issued.



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# 4. DOCUMENTATION, RECORDS, AND DATA PACKAGES

This section presents the procedures for documentation, records, and data management for the IA sampling.

## 4.1 Project Documentation and Records

Project documents will be controlled through an organized project filing system. Project and task numbers will be printed on each document. Analytical/technical files will include work products generated during the project. Field books, field observations, photographs, and other field related documents will be prepared and will also be placed in the project files. Laboratory sample results will be controlled, reviewed, and validated as required by the SAP. Original incoming documents will be date-stamped upon arrival and will be placed in the files.

The project manager will contact the analytical laboratories, subcontractor, or private sources prior to receiving the data report to review the report status. This will provide an opportunity to identify potential QA issues or potential delivery delays. This will also provide an opportunity to implement corrective actions when most appropriate.

Data received from the field, analytical laboratories, subcontractors, or private sources will be tabulated on a spreadsheet or database and will be subjected to QC procedures, including comparing raw data to the original source, verifying calculations, and confirming data summaries. Data distribution will not occur until data review has been completed.

Work products will be checked before final use. This includes checking calculations, reports, plans, etc. with various levels of review. The BC PM will be responsible for the review of work as an element of his project responsibilities and for the overall quality of the work. One or more discipline-specific Technical Director(s) may be assigned by the PM. Further, assignments may be made outside the project team, as needed, for QC purposes.

## 4.2 Laboratory Data Package Deliverables

The laboratory will provide one paper-copy original and one electronic copy (pdf format) of each laboratory data report to the BC PM. EDDs will also be required for the project database. Laboratory deliverables are required within 15 calendar days of receiving samples.

### 4.2.1 Paper Copy Data Package

The data package shall consist of the following, at a minimum:

Detailed Case Narrative:

- Date of issuance.



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- Laboratory analyses performed, modifications to the methods, and impact on the data.
- Any deviations from intended analytical strategy.
- Laboratory batch number.
- Numbers of samples and respective matrices.
- QC procedures utilized and also references to the acceptance criteria.
- Laboratory report contents.
- Project name and number.
- Condition of samples 'as-received'.
- Discussion of whether or not sample holding times were met, and if holding times were not met, a demonstration of the validity of the data.
- Discussion of technical problems or other observations which may have created analytical difficulties.
- Discussion of any laboratory QC checks which failed to meet project criteria and the effect on the data.
- Signature of the Laboratory QA Officer and/or Laboratory Director or designee.
- Description of laboratory data qualifiers used.
- Definitions of acronyms and qualifiers.

Chemistry Data Package:

- Report of analysis with units clearly labeled with supporting raw data and expressed to the appropriate number of significant figures.
- Results of method blanks with supporting raw data.
- Summary table showing relationship of field samples to QC samples.
- Surrogate recovery summaries.
- Laboratory control sample summary with supporting raw data.
- Matrix spike summary with supporting raw data.
- Laboratory duplicate summary with supporting raw data (where applicable).
- Matrix spike duplicate summary with supporting raw data (where applicable).
- Tune summary for gas chromatography/mass spectrometry.
- Initial calibration summary and supporting raw data.
- Continuing calibration summary and supporting raw data.
- Internal standard summary.
- Instrument sensitivity check (CRI or equivalent).
- Interference check sample summary.
- Run logs.
- Sample preparation logs.
- Laboratory method detection limits.
- ICP linear ranges.
- Laboratory acceptance limits for QC samples.
- Internal and external chains of custody.
- Sample raw data.



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### 4.2.2 Electronic Data Deliverable (EDD)

The laboratory shall furnish an EDD for all analyses. The electronic deliverable shall be provided in a flat-file database table populated, but not limited to the following fields:

- FACILITY_ID
- LABNAME
- LAB_SAMP
- FIELD_SAMP
- MEDIUM
- SAMP_DATE
- SAMP_TIME
- PARAM
- CAS_NO
- DL_FLAG
- CONC
- UNITS
- QUAL
- DILUTION
- METH_ID
- MDL
- PQL
- PROJ_QL
- REC_DATE
- EXTR_DATE
- ANALY_DATE

The EDD should include both the results of samples collected in the field and the results of those performed as part of laboratory QA/QC including internal duplicates, check standards, internal spikes, and MS/MSD samples. Results in the EDD shall include surrogate recoveries for each sample expressed as percent (%) recovered. In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated shall be submitted to Ecology in both a written and electronic format. All data collected for the Interim Action will be entered into Ecology's Environmental Information Management (EIM) database.

## 4.3 Data Tracking, Storage, and Control

The final project files will be maintained by the BC PM. The content of the project file will include, at a minimum, all relevant records, reports, correspondence, logs, field logbooks, laboratory sample preparation and analysis raw data, original laboratory data packages, pictures, subcontractor's reports including data validation reports, assessment reports, progress reports, and chain-of-custody (COC) records/forms. Specific data storage and control requirements are described in the QAPP.



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PARCEL 4 AND 5 INTERIM ACTION
SAMPLING AND ANALYSIS PLAN

# 5. LIMITATIONS

## Report Limitations

This document was prepared solely for the City of Olympia and the LOTT Alliance in accordance with professional standards at the time the services were performed and in accordance with the contract between Brown and Caldwell and the City of Olympia dated September 4, 2009, and the contract between Brown and Caldwell and the LOTT Alliance dated June 18, 2008. This document is governed by the specific scope of work authorized by the City of Olympia and the LOTT Alliance; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the the City of Olympia, the LOTT Alliance and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.



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# **Attachment C:** Quality Assurance Project Plan



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# PARCEL 4 AND 5 IA

# QUALITY ASSURANCE PROJECT PLAN

Prepared for

The City of Olympia and the LOTT Alliance

Olympia, WA

6/23/2010

# THE CITY OF OLYMPIA / THE LOTT ALLIANCE
# PARCEL 4 AND 5 INTERIM ACTION
# QUALITY ASSURANCE PROJECT PLAN

Prepared for

The City of Olympia and the LOTT Alliance

Olympia, WA

6/23/2010

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# LIST OF ACRONYMS

| | |
|---|---|
| BC | Brown and Caldwell |
| ˚C | degrees Celsius |
| CCL | contaminant candidate list |
| COPC | constituent of potential concern |
| CRM | certified reference materials |
| DI | Deionized water |
| DO | dissolved oxygen |
| DOC | dissolved organic carbon |
| DRL | detection limits for purposes of reporting (Title 22) |
| DQO | data quality objective |
| EC | electrical conductivity |
| Ecology | Washington State Department of Ecology |
| EDD | electronic database deliverable |
| EDMS | environmental database management system |
| EPA | United States Environmental Protection Agency |
| GC/MS | gas chromatography/mass spectrometry |
| HPLC | high performance liquid chromatography |
| ICP/MS | inductively coupled plasma mass spectrometry |
| IS | internal standard |
| LCM | laboratory control material |
| LCS | laboratory control spike |
| LCSD | laboratory control spike duplicate |
| MCL | maximum contaminant levels |
| MDL | method detection limit |
| µg/L | micrograms per liter |
| µS/cm | microsiemens per centimeter |
| mg/L | milligrams per liter |
| MP | Monitoring Plan |
| MPN | most probable number |
| MS | matrix spike |
| MSD | matrix spike duplicate |
| N | nitrogen |
| NIST | National Institute of Standards and Technology |
| P | phosphorus |
| QA | quality assurance |
| QAPP | Quality Assurance Project Plan |
| QC | quality control |
| RPD | relative percent difference |
| SM | Standard Methods for the Examination of Water and Wastewaterr |
| SOP | standard operating procedure |
| SWAMP | Surface Water Ambient Monitoring Program |
| TOC | total organic cargon |
| TRL | target reporting limit |
| USEPA | United States Environmental Protection Agency |
| USGS | United States Geological Survey |
| WQ | water quality |



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# 1. PROJECT MANAGEMENT

## 1.1 Monitoring Program Task Organization

Organization of the Project team for the Parcel 4 and 5 Interim Action and associated tasks are described in the following sections.

### 1.1.1 Involved Parties and Roles.

This Quality Assurance Project Plan (QAPP) has been prepared for the Parcel 4 and 5 Interim Action. Within this QAPP are descriptions of methods that will be used to assure and control the quality of monitoring data collected for Parcel 4 and 5 Interim Action. Specific details regarding the sampling and analyses for specific Sites are not included in the QAPP, but are discussed separately in the Site specific Sampling and Analysis Plan (SAP). Together, these two documents serve to completely describe the quality assurance / quality control (QA/QC) program that will be implemented as part of the Interim Action.



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| Table 1-1 Staff | | | |
|---|---|---|---|
| Name | Affiliation | Title | Contact Information |
| Steve Teel | Washington State Department of Ecology | Site Manager | ph:(360) 407-6247<br>stee461@ecy.wa.gov |
| Rick Dougherty | City of Olympia | Project Manager | ph:(360) 753-8485<br>rdougher@ci.olympia.wa.us |
| Eric Hielema | LOTT Alliance | Project Manager | ph:(360) 528-5705<br>erichielema@lottonline.org |
| TBD | Brown and Caldwell | Project Manager | ph:(360) 943-7525 |
| TBD | Brown and Caldwell | QA Officer | ph:(360) 943-7525 |
| TBD | Brown and Caldwell | Data Management Coordinator | TBD |
| TBD | Contact Analytical Lab (TBD) | Laboratory Director | TBD |
| Kate Green | Brown and Caldwell | Sampling Support | ph:(360) 943-7525<br>kgreen@brwncald.com |
| John Turk | Brown and Caldwell | Technical Advisor | ph:(360) 943-7525<br>jturk@brwncald.com |

Notes:
QA = Quality Assurance
BC = Brown and Caldwell

### 1.1.2 Quality Assurance Officer Role

The QA Officer is responsible for monitoring and verifying implementation of the quality assurance and quality control (QA/QC) procedures found in this QAPP and its referenced Standard Operating Procedures (SOPs). The QA Officer is independent of the personnel that will generate data for this project. Key personnel assigned to the project will have reviewed the QAPP and SAP, and will be instructed by the QA Officer regarding the requirements of the QA/QC program. The QA Officer will work with the Client Project Manager and Department of Ecology to ensure that QAPP objectives are being met and the team will continually assess the effectiveness of the QA/QC program and recommend modifications, as needed.

### 1.1.3 Persons Responsible for QAPP Update and Maintenance

If necessary, the QA Officer, with concurrence from the Client Project Manager, may revise and update the QAPP after presenting the evidence for such changes and obtaining the approval from Department of Ecology. Revisions that occur after the original QAPP is approved will be indicated on the QAPP title page and will be distributed to all parties listed in Table 1-1.



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## 1.2 Problem Definition

Samples will be collected to confirm the extent of contaminated areas and to classify stockpiled soils as suitable for general reuse, suitable for reuse in capped areas, or to designate soil from disposal. Sample results for soils designated for disposal will be communicated to the disposal facility.

## 1.3 Regulatory Agencies and Applicable Regulatory Limits

The project is under the oversight of the Washington State Department of Ecology. Cleanup Levels and Remediation Levels for the project are established under the Model Toxics Cleanup Act (MTCA) and defined in the Interim Action Work Plan.

## 1.4 Project Description

The project was designed to remove contaminated soil from the site and to classify soils remaining on the site as suitable for general reuse or suitable for reuse in capped areas. A detailed description of the constituents to be monitored and the information used to develop the list of constituents is discussed in the Interim Action Work Plan and the SAP.

## 1.5 Project Schedule

The anticipated schedule for tasks associated with Parcel 4 and 5 Interim Action is shown in Table 1-2 below. Specific project schedules will be described in the SAPs.

Table 1-2. Program Timeline

| Task | Anticipated Date of Initiation | Anticipated Date of Completion | Deliverable |
|---|---|---|---|
| Draft IA Work Plan, SAP, and QAPP | | 6/9/2010 | Draft SAP and QAPP |
| Final IA Work Plan, SAP and QAPP | 7/6/2010 | 8/6/2010 | Final SAP and QAPP |
| Iterim IA Soil Sampling Report | TBD | TBD | Summary report, chain-of-custody forms, lab reports |
| Interim IA Soil Sampling Report | TBD | TBD | Summary report, chain-of-custody forms, lab reports |
| IA Report | TBD | TBD, within 60 days of completion of field work | Chapter in the report |

## 1.6 Sampling Constraints

Sampling constraints typically encountered during sampling include safety of sampling personnel and cost considerations.

Sampling results must be complete before major earth-moving activities (stockpile disposal, excavation backfill, etc.). Timing constraints or missed events are therefore not anticipated.



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## 1.7 Data Quality Objectives

DQOs have been selected for this project based on the expected data usage and are designed to ensure that accurate, precise, representative, and complete data are collected throughout the monitoring program. The DQOs are summarized in Table 1-3. Descriptions of how the DQOs will be assessed are provided in Section 1.7.



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Table 1-3. Parcel 4 and 5 IA Quality Control Limits

| Constituents | Proposed Methods | Reporting Limits | Accuracy Limits | Precision Limits (RPD) |
|---|---|---|---|---|
| Soil COPCs | | | | |
| Arsenic | EPA 6020A | 0.2 mg/Kg | ± 30% | 30% |
| Cadmium | EPA 6020A | 0.2 mg/Kg | ± 30% | 30% |
| Lead | EPA 6020A | 1 mg/Kg | ± 30% | 30% |
| Copper | EPA 6020A | 0.2 mg/Kg | ± 30% | 30% |
| Nickel | EPA 6020A | 0.5 mg/Kg | ± 30% | 30% |
| cPAHs | EPA 8270C / EPA 8270C-SIM | 0.01 mg/Kg | ± 30% | 30% |
| Dioxins / Furans | EPA 1613 / EPA 8290 | 3 pg/g | ± 30% | 30% |
| TPH-D | NWTPH-Dx | 25 mg/Kg | ± 30% | 30% |
| TPH-HO | NWTPH-Dx | 25 mg/Kg | ± 30% | 30% |
| TPH-G | NWTPH-Gx | 10 mg/Kg | ± 30% | 30% |
| Benzene | EPA 8260B | 0.01 mg/Kg | ± 30% | 30% |
| Toluene | EPA 8260B | 0.01 mg/Kg | ± 30% | 30% |
| Ethylbenzene | EPA 8260B | 0.01 mg/Kg | ± 30% | 30% |
| Total Xylenes | EPA 8260B | 0.03 mg/Kg | ± 30% | 30% |
| Total Naphthalenes | EPA 8270C / EPA 8270C-SIM | 0.3 mg/Kg | ± 30% | 30% |

### 1.7.1 Accuracy

Accuracy describes how close an analytical measurement is to its true value. Accuracy is typically measured by analyzing a sample of known concentration (prepared using analytical-grade standards) and comparing the analytical result with the known concentration. Accuracy objectives for all constituents are summarized in Table 1-3.

### 1.7.2 Precision

Precision describes how well repeated measurements agree. Precision is typically evaluated by comparing analytical results from duplicate (also called replicate) samples and calculating the relative percent difference (RPD), where RPD is defined as:

$$RPD = \left( \frac{|C_1 - C_2|}{\left( \frac{C_1 + C_2}{2} \right)} \right) \times 100$$, where $C_1$ and $C_2$ are the analytical results for both duplicates

Precision will be measured using both field and laboratory duplicates in addition to duplicate laboratory control spikes.



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### 1.7.3 Representativeness

The representativeness of the data is mainly dependent on the sampling locations (spatial), sampling frequency (temporal), sample collection procedures, and analytical constituents and methods. The sampling approach (described in detail within the individual Site SAPs) has been developed to ensure that all data collected during this project are representative to the extent possible.

### 1.7.4 Completeness

Completeness, which is expressed as a percentage, is calculated by subtracting the number of rejected and unreported results from the total planned results and dividing by the total number of planned results. Estimated results do not count against completeness because they are considered usable as long as any limitations are identified. Results rejected because of out-of-control analytical conditions, severe matrix effects, broken or spilled samples, or samples that could not be analyzed for any other reason are subtracted from the total planned number of results to calculate completeness. Though regulations currently do not require a specific percentage of data completeness, it is expected that the measurement techniques selected for use in this project are capable of generating data that is of 90 percent completeness for field and laboratory analyses.

### 1.7.5 Comparability

Comparability evaluates whether the reported data are comparable with similar data reported by other organizations. The use of approved analytical methods and certified laboratories will provide some level of comparability. Evaluation of performance evaluation samples is another measure of comparability. Certified laboratories are required to analyze performance evaluation samples on a regular basis to evaluate the comparability of their reported results.

## 1.8 Quality Control Limits

The quality control (QC) limits for precision and accuracy are provided in Table 1-3. These limits will be used to qualify data and alert the data users of any identified bias or uncertainty in results. Laboratories will follow method criteria and the laboratory's QA/QC manual and procedures for corrective action during sample analysis. Laboratories shall report detection limits based on current statistical detection limit studies and reporting limits based on the low standards in their calibration curves. Laboratory reporting limits should not exceed the maximum allowable reporting limits provided in Table 1-3. Proposed analytical methods shall be used unless written approval for alternative methods is given.

## 1.9 Training and Certification

Field personnel that participate in sampling will have reviewed the QAPP and SAP for the specific Site project, and will be instructed by the QA Officer. Training will occur prior to the beginning of the program and semi-annually thereafter through QC sessions, where QC procedures will be reviewed. Field personnel will have been trained prior to the first sampling event in sample collection procedures (including QA/QC, grab sampling techniques, completing laboratory chain-of-custody forms, and proper handling of water samples), and field analysis (including instrument calibration, data recording procedures, and interpretation of collected data).



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All laboratories utilized to perform analytical services will be certified by NELAC. Laboratory personnel will be certified and trained as required by the laboratory's quality assurance manuals. The laboratory director of the primary analytical lab will be provided a copy of this QAPP.

Documentation of training for field staff will be maintained by Brown and Caldwell. Documentation will include a record of the training topic, training date, name and title of instructor, whether the class was an initial training or a refresher course, and whether the course was completed satisfactorily.

## 1.10 Documents and Records

### 1.10.1 Project Documents, Records, and Electronic Files

The documents and records that will be generated during this project include the following:

*Quality Assurance Project Plan:* The QAPP (this document) contains details on the QA and QC procedures that will be implemented throughout the project.

*Sampling and Analysis Plans:* The SAPs contain information regarding sampling locations, frequencies, and sample collection methods.

*Field Records.* The Brown and Caldwell Project Manager or other designee will maintain all field records, including field data sheets documenting results of field analyses and QC samples, a logbook documenting equipment maintenance and calibration, and sample collection and handling documentation (copies of chain-of-custody forms, shipping receipts, etc.).

*Laboratory Records.* Analytical labs will maintain sample receipt and storage documentation, instrument calibration logs, raw data and QC sample records.

*Data validation records.* Field data sheets, field QC results, chain-of-custody forms, and lab reports from each sampling event will be reviewed by the QA Officer and a data validation record will be generated which summarizes the quality of the collected data.

*Project database:* The Brown and Caldwell Olympia, WA office will be used to store all laboratory and field data gathered during this project. The database will be continually updated and managed as described in Section 2.9. At the completion of the project, data may be electronically submitted to the City of Olympia and the LOTT Alliance upon request.

### 1.10.2 Retention of Project Documentation

The original data sheets, equipment maintenance/calibration logs, chain-of-custody forms, lab reports, field records, training documents and data validation records will be stored by Brown and Caldwell until the end of the project. All records will be maintained by Brown and Caldwell and analytical labs for five years after project completion.

### 1.10.3 Distribution of QAPP Revisions

Revisions that occur after the original QAPP is approved will be indicated on the QAPP title page and will be distributed by the QA Officer to all parties listed in Table 1-1.



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# 2. DATA GENERATION AND ACQUISITION

## 2.1 Sampling Process Design

The individual Site SAPs will provide a detailed description of the sampling approach and rationale that was used to select sampling locations, sampling frequencies, and constituents that will be analyzed.

## 2.2 Sampling Methods

Proper sample collection procedures are essential to ensure that representative and reliable data are being collected. Sample collection will be performed according to the SOP for Sample Collection, Documentation, and Delivery, included as Appendix I to the IA Work Plan. In general, the QA procedures that will be followed during sample collection include the following:

- Soil grab samples will be collected by hand or from the excavator bucket.
- Sample collection will be performed in such a manner as to minimize disturbance of surrounding soils.
- Soil grab samples will be transferred to sample jars carefully to minimize exposure to external influences such as wind, dust, or rain.
- Sample jars will be labeled (e.g., date, time, location, method) immediately after collection.
- Sampling date and time and sampler's initials will be added to the chain of custody form immediately after sampling.
- If problems occur during sampling, the QA Officer will be notified. The source of the problem will be identified and the appropriate corrective action taken. These incidents will be documented in the project folder and filed with the appropriate data package. If the problem compromised the quality of collected data, the data will be flagged within the database.

## 2.3 Sample Handling and Custody

Once sample containers have been filled they will be labeled, placed in re-sealable plastic bags (e.g. *Ziploc* ®), and stored in a cooler on ice to maintain a temperature of approximately 4º C. Identification information for each sample will be recorded in the field logbook when the sample is collected. A chain-of-custody form will be completed at the time of sample collection and prior to sample shipment or release. The samples will be transported or shipped to the analytical lab in insulated containers within the appropriate holding time and will be accompanied by a chain-of-custody form that identifies the sample bottles, date and time of sample collection, and analyses requested. If shipment is needed, the samples will be packaged and shipped in accordance with U.S. Department of Transportation standards. The original chain-of-custody will be given to the lab with



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the samples and Brown and Caldwell will retain a copy for their records. Once received by the laboratory, a sample receipt and storage record will be generated. The recommended sample container type and volume, initial preservative and holding time for analytes that may be tested is shown in Table 2-1. The turn around time for the analytical laboratory will typically be within ten days from the sampling date. After analyses, all samples will be disposed of in accordance with federal, state, and local requirements.

Table 2-1. Sample Handling and Custody

| Group | Parameter | Container[a] | Initial Preservative[a] | Max Allowable Holding Time | |
|---|---|---|---|---|---|
| | | | | Extraction[b] | Analysis[c] |
| Metals | Arsenic | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Lead | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Cadmium | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Copper | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| | Nickel | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 6 months |
| Semi-Volatiles | cPAHs | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | 14 days | 40 days |
| | Total Naphthalenes | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | 14 days | 40 days |
| Dioxins / Furans | Dioxins / Furans | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | 28 days | 40 days |
| TPH | TPH-G | EnCore Sampler | Ice to 4° C, preserve w/ methanol w/ in 48 hours | --- | 14 days |
| | TPH-D | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 28 days |
| | TPH-HO | 4-oz glass jar w/ Teflon lined lid | Ice to 4° C | --- | 28 days |
| Volatiles | Benzene | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |
| | Toluene | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |
| | Ethylbenzene | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |



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Table 2-1. Sample Handling and Custody

| Group | Parameter | Container[a] | Initial Preservative[a] | Max Allowable Holding Time | |
|---|---|---|---|---|---|
| | | | | Extraction[b] | Analysis[c] |
| | Total Xylenes | EnCore Sampler x 3, o-ring cap | Ice to 4° C, preserve w/ methanol or sodium bisulfate w/ in 48 hours | --- | 14 days |

[a] Sample containers, volumes, and preservatives will be reevaluated once contract laboratories are chosen and may be changed based on recommendations from the lab(s).
[b] Starting from the date of collection
[c] Starting from the date of extraction; if no extraction, starting from the date of collection

## 2.4 Analytical Methods

Field measurements will be conducted by Brown and Caldwell staff using portable meters and field test kits that employ EPA-approved methods. Field measurements will be taken using the procedures recommended by the manufacturer of the meter or test kit and procedures discussed in the SOP for Field Data Collection, where applicable. Results of all field measurements will be recorded in field logbooks and on field data sheets.

Laboratory analyses will be conducted by NELAC-certified analytical laboratories using methods approved by the EPA and Washington State. Proposed analytical methods are provided in Table 1-3. Alternative methods may be requested by the laboratories performing analyses. These alternative methods may be used only upon written approval from the QA Officer. Major laboratory equipment or instruments that will be utilized include a gas chromatography/mass spectrometer (GC/MS), inductively coupled plasma mass spectrometer (ICP-MS), high performance liquid chromatography (HPLC), automated colorimeter, ion chromatograph, and a carbon detector. If any instrument failures occur, the laboratory will take immediate corrective action and notify the QA Officer if the quality of sample results was compromised.

## 2.5 Quality Control

QC samples will be collected and analyzed to ensure the accuracy and precision of both field and laboratory data. The following sections summarize the QC samples that will be collected for field and laboratory analysis.

### 2.5.1 Quality Control for Field Measurements

QC for field measurements will be assessed using the following methods:

- All field instruments will be inspected, maintained, and calibrated prior to each sampling event.
- Calibration-checks will be performed to verify accuracy within 24 hours before and 24 hours after each sampling day by analyzing a calibration standard.



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- Triplicate measurements will be conducted on one sample per sampling event to evaluate precision.

Results of the QC tests will be recorded on a field data sheet.

In addition, QC sessions (a.k.a. inter-calibration exercises) will be held twice a year to verify the proper working order of equipment, refresh personnel in monitoring techniques and determine whether the data DQOs are being met. QC sessions will consist of a meeting with the QA Officer (or other qualified designee) and sampling personnel to review appropriate sample collection and field analysis SOPs, equipment maintenance/calibrations manuals, and the QAPP and SAP and discuss any questions or problems that may be occurring.

### 2.5.2 Quality Control for Laboratory Analyses

QC for laboratory analyses will be assessed using the results of both field-collected QC samples and laboratory-prepared QC samples, each of which is discussed below.

#### 2.5.2.1 Field-collected QC samples

Field-collected QC samples will primarily consist of field duplicates and equipment blanks, which are described below.

*Field Duplicates.* Field duplicates will be collected at the same time and in the same manner as the primary soil samples and will be used to assess the precision of all steps after sample acquisition. Field duplicates will be collected and analyzed at a rate of at least five percent (5%).

*Trip Blanks.* Trip blanks will be used to determine whether sample cross-contamination has occurred during sample transportation, delivery, and storage when collecting samples that contain volatile organic compounds. Trip blanks consist of pre-filled bottles of laboratory certified water that are transported along with the collected samples in each cooler containing samples for volatiles analysis.

*Equipment Blanks.* Equipment blanks will be collected in the field once per sampling day to assess contamination from reusable sampling equipment and other external influences. A sample bottle will be filled with certified clean water from the laboratory, and passed through the pre-cleaned (triple-rinsed with distilled water) sample collection equipment, mimicking actual sampling, and captured again for laboratory analysis. If equipment blanks consistently indicate that contamination is not a concern for particular constituents and equipment cleaning procedures are adequate, the frequency of collection for these analytes may be reduced.

Other field-collected QC samples may be utilized as-needed throughout the program if analytical results indicate presence of QC error, such as unexplained contamination of equipment blanks, high RPDs between field duplicates, or low precision of analytical results. These additional QC samples that may be used include the following:

*Field Split.* Field splits may be used occasionally to assess the precision of the selected laboratory's analytical procedures and/or methods. A field split consists of a sample that is



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collected and split into two different samples, one of which is shipped to the normal lab for analysis, while the other is shipped to a different lab for similar analysis using either the same or different methods, depending on what information is desired If split samples are analyzed using the same method, then results from both labs can be compared to assess the precision of the method, whereas if they are analyzed using different methods, results can be compared to assess the accuracy of the methods.

*Ambient Blank*. Ambient blanks may be used to assess the potential sample contamination that could occur during field sampling and sample processing. Ambient blanks consist of a pre-filled bottle deionized (DI) or distilled water that is taken to the field, opened and exposed to the atmosphere and environment, preserved (if appropriate), and analyzed the same as the corresponding samples.

#### 2.5.2.2 Laboratory-prepared QC Samples

Several additional samples will be prepared and analyzed in the laboratories to evaluate precision, accuracy, and the potential for laboratory contamination. Each laboratory will set its own warning limit criteria for QC samples based on the method requirements and the laboratories QA Manual. The QA Manuals for selected laboratories will be included in the project file once lab(s) are selected, and will be reviewed by the project QA Officer for compliance with the project requirements. Descriptions of some of the laboratory-prepared QC samples that will be analyzed are included below. At a minimum, the frequency for analysis of matrix spikes (MS), duplicates, and blanks will meet method requirements.

*Method Blanks*. Method blanks (also called extraction blanks, procedural blanks, or preparation blanks) are used to assess laboratory contamination during all stages of sample preparation and analysis. Method blanks are prepared by the laboratory from reagent grade water and are processed through the entire analytical procedure in a manner identical to that of the samples. At a minimum, the laboratory should report method blanks at a frequency of one method blank for each batch of up to 20 samples. If the laboratory method blank indicates presence of contamination, all impacted samples in the analytical batch should be flagged. Subtracting method blank results from sample results is not permitted.

*Matrix Spike (MS)*. MS and will be used to evaluate the effect of the sample matrix on the recovery of the compound(s) of interest. To prepare a MS, a field sample is first homogenized and then split into two subsamples. One of the subsamples is fortified with the MS solution and one subsample is analyzed to provide a background concentration for each analyte of interest. Recovery is the accuracy of an analytical test measured against a known analyte addition to a sample, and is calculated as follows:

$$Recovery = \left( \frac{C_{matrix+spike} - C_{matrix}}{C_{spike(Exptected)}} \right) * 100 \qquad \textit{Where C is the measured concentration}$$

Recovery data for the fortified compound ultimately will provide a basis for determining the accuracy of the measurement and the prevalence of matrix effects in the samples analyzed during the project. Analysis of MS duplicates (MSD) is also useful for assessing laboratory precision.



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*Laboratory Control Spike (LCS).* Laboratory control spikes are prepared by adding a known amount of target analyte(s) to reagent-grade water. When compared to the method blank, LCSs can be used to evaluate the accuracy (recovery) of the target analytes excluding any matrix effects.

*Replicate Samples.* Replicate (also called duplicates) samples are prepared by splitting a sample into two or more aliquots after delivery to the lab, but prior to sample preparation. Analysis of replicates is used to assess precision of an analytical method. Replicates that are typically utilized include:

- Laboratory replicates: These are replicates of the raw material that is extracted and analyzed in the same manner as the original sample to measure laboratory precision.
- MSD: These are used to assess both laboratory precision and accuracy within the sample matrix.
- Laboratory Control Spike Duplicate (LCSD): These are useful for assessing the accuracy and precision of the method, excluding matrix effects.

*Internal Standards.* Internal standards (IS) are used for organic analyses by GC/MS, some GC analyses, and some metals analyses using ICP/MS. An IS is an analyte included in each standard and added to each sample or extracted just before analysis. ISs should mimic the analytes of interest but not interfere with the analysis. ISs are used to monitor retention time, calculate relative response, and quantify the analytes of interest in each sample or extract.

*Surrogates.* Surrogates are compounds chosen to simulate the analytes of interest in organic analyses. Surrogates are used to estimate analyte losses during the extraction and cleanup process and must be added to each sample, including QA/QC samples, before extraction. The surrogate recovery data will be carefully monitored; each laboratory must report the percent recovery of the surrogate(s) along with the target analyte data for each sample. If possible, isotopically-labeled analogs of the analytes will be used as surrogates.

### 2.5.3 Additional Laboratory Quality Control Requirements

All laboratories providing analytical support for this project will have the appropriate facilities to store, prepare, and process samples and appropriate instrumentation and staff to provide data of the required quality within the time period dictated by the project. Laboratories shall be able to provide information documenting their ability to conduct the analyses with the required level of data quality. Such information may include results from inter-laboratory performance evaluation studies, control charts, and summary data from internal QA/QC checks, and results from analyses of Certified Reference Materials (CRM).

### 2.5.4 Assessing Data Quality Objectives using QC Samples

The QC samples described above will be used to evaluate the DQOs specified in Section 1.6. The following sections describe how the DQOs may be evaluated.



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#### 2.5.4.1 Accuracy

The accuracy of field chemical measurements will be checked daily by using standard solutions purchased from chemical or scientific supply companies. Accuracy measurements will be recorded on a field data sheet.

Accuracy of laboratory measurements will be determined by recoveries of spiked samples (matrix and LCS and/or through analysis of CRM, continuing calibration checks, or analysis of other similar standard solutions, the results of which will be summarized as part of each data package.

#### 2.5.4.2 Precision

Precision will be evaluated in the field by conducting triplicate field measurements of all instrument parameters at least once during each sampling event. Precision measurements will be recorded on a field data sheet. If the measurements do not fall within the precision ranges described in Tables 3-1, the instrument will be recalibrated in the field if possible. After the sampling event, the instrument will again be recalibrated, tested, and examined to determine whether replacement is necessary.

Precision of laboratory measurements will be evaluated by comparing results from various duplicate samples listed below, where available:

- Field sample and field duplicate
- Field sample and laboratory replicate
- LCS and LCSD
- MS and MSD

#### 2.5.4.3 Representativeness

Representativeness will be reviewed throughout the program by the Project Manager and QA Officer. If the team determines that representativeness should and can be improved, additional samples, or constituents may be considered, or sampling and analytical methods may be altered.

#### 2.5.4.4 Completeness

Percent completeness will be checked by comparing the number of collected samples with the number of samples from which useable data were generated, as described in Section 1.6.4.

#### 2.5.4.5 Comparability

Comparability will be addressed by the use of approved drinking water methods and certified laboratories. If the comparability of laboratory results is questioned, split samples and/or performance evaluation samples may be analyzed.

## 2.6 Instrument and Equipment Testing, Inspection, and Maintenance



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### 2.6.1 Field Equipment

Inspection and preventive maintenance will be performed for all field equipment in accordance with the manufacturer's specifications prior to each sampling event. This includes battery checks, routine replacement of membranes, and cleaning of conductivity electrodes, among other tasks. Equipment will be re-inspected between each sampling site and after each sampling event. If problems occur and/or repair is needed during the sampling event, the field data sheet will be used to document the corrective action taken. If significant damage or equipment malfunctions are noted, the instrument(s) will be sent to the manufacturer for immediate repair. A maintenance/calibration log will be kept by the Monitoring Coordinator or other designee, which details the dates of instrument and sampling gear inspection, calibrations performed in the lab or field, battery replacement, dates reagents and standards are replaced, and any problems noted with instruments, samplers, or reagents. The logbook will also be used to document corrective action that was taken if equipment deficiencies were noted during an inspection. A small inventory of critical spare parts for field equipment will be kept at the Brown and Caldwell main office and also brought in the field if needed; however, perishable supplies or expensive parts may not be kept on hand, and will need to be ordered when needed. All spare parts and supplies will be obtained through the equipment manufacturer or other reputable sources.

### 2.6.2 Laboratory Equipment

All laboratories providing support for this project will maintain analytical equipment in accordance with relevant SOPs, which include those specified by the manufacturer and those specified by the method. The laboratories will maintain a log book documenting equipment inspections, and preventive and corrective maintenance.

## 2.7 Instrument/Equipment Calibration and Frequency

### 2.7.1 Field Instruments

Field instruments will be calibrated according to the schedule presented in Table 2-2. Standards will be purchased from a chemical supply company or prepared by (or with the assistance of) a professional laboratory. Calibration records will be kept in the maintenance/calibration log at the Brown and Caldwell main office where it can be easily accessed before and after equipment use. Calibrations that are performed by personnel in the field may also be recorded on the field data sheets to indicate which samples were analyzed pre- and post-calibration for the specific sampling event. If calibration is not successful or other issues pertaining to calibration arise, the equipment manufacturer will be contacted to determine the appropriate corrective action; the problem and corrective action will be documented in the maintenance/calibration logbook.



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Table 2-2. Field Instrument Calibration and Frequency

| Instrument | Parameter | Calibration Frequency | Standard or Calibration Instrument Used |
|---|---|---|---|
| PID | Gas concentration | Every sampling day | 100 ppm isobutylene calibration gas |

### 2.7.2 Laboratory Instruments

The contract laboratory maintains calibration practices and calibration-checks as part of the method SOPs. The QA Officer will review these practices and confirm that they are in compliance with project requirements.

## 2.8 Inspection/Acceptance of Supplies and Consumables

The Project Manager will ensure that the inspection/testing specifications and acceptance criteria are met. Upon receipt supplies will be inspected by the Project Manger or other designee for broken, leaking, or missing parts glasswear, seals, labels, preseravatives, or other supplies. Sealed supplies, such as EnCore samplers, will be visually inspected to ensure seals are intact.

## 2.9 Non-Direct Measurements (Existing Data)

A review of existing data for each individual Site will be included as part of the Site specific SAPs.

## 2.10 Data Management

The Data Management Coordinator will be primarily responsible for maintaining a project database.

### 2.10.1 Field Data

Field data will be documented in logbooks or on field data sheets. One sheet will be used at each monitoring site, and field staff will complete all necessary sections of the data sheet during the sampling event. Field data will be collected and entered into the project database.

### 2.10.2 Analytical Data

Analytical laboratories will provide reports in both hard copy and electronic formats. Requirements for electronic database deliverables (EDD) will be provided to selected analytical laboratories.

### 2.10.3 Database Maintenance

The Data Management Coordinator will be responsible for overseeing management of the project database. Additional responsibilities of the Data Management Coordinator include QA of data collected prior to input to the project database.

### 2.10.4 Data Submittal

Lab reports summarizing analytical results and QC results will be provided to the Brown and Caldwell Data Management Coordinator as a hard copy and electronically in the agreed upon format. The information contained within and the format of the hard-copy data report package will be determined during the initial



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negotiations with the lab and will include at a minimum the sample ID, sampling date/time, test method, extraction date/time, analysis date/time, analytical results, QA sample results, instrument and equipment calibration summary information, and a description of any corrective action taken to resolve data quality issues.

In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated shall be submitted to Ecology in both a written and electronic format. All data collected for the Interim Action will be entered into Ecology's Environmental Information Management (EIM) database.



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# 3. ASSESSMENT AND OVERSIGHT

## 3.1 Assessments and Response Actions

Periodic assessments will be conducted to ensure that data collection is conducted according to requirements presented in this QAPP. The QA Officer, whose responsibilities are described in Section 1.1, will have the primary responsibility for assessing compliance with the QAPP and SAP requirements pertaining to sample collection and handling procedures, field analytical procedures, and laboratory analytical procedures (DQOs), as detailed in the SAP. In addition, the QA Officer is also responsible for assessing compliance with Standard Operations Procedures outlined in IA Work Plan Appendix I. The QA Officer will review field sampling and analysis procedures at the beginning of the project. Laboratory analyses will be continually assessed through evaluating results of QC samples and compliance with DQOs.

If an audit discovers any discrepancy, the QA Officer will discuss the observed discrepancy with the appropriate person responsible for the activity to determine whether the information collected can still be considered accurate, what the cause(s) were leading to the deviation, how the deviation might impact data quality, and what corrective actions might be considered. The QA Officer will then follow up to ensure that corrective actions have been implemented.

The QA Officer has the power to halt all sampling and analytical work by both sampling personnel and contract laboratories if the discrepancies noted are considered detrimental to data quality.

## 3.2 Deliverables and Reporting

Interim and final reports will be issued by Brown and Caldwell to the City of Olympia, the LOTT Alliance, and the Department of Ecology according to Table 3-1.

Table 3-1. QA Management Reports

| Type of Report | Frequency | Projected Delivery Dates(s) | Report Recipients |
|---|---|---|---|
| Draft QAPP and SAP | One time | June 2010 | City, LOTT, Ecology |
| Final QAPP and SAP | One time | August 2010 | City, LOTT, Ecology |
| Interim Soil Sampling Report, Parcel 5 | One time | TBD | City, LOTT, Ecology |
| Interim Soil Sampling Report, Parcel 4 | One Time | TBD | City, LOTT, Ecology |
| Interim Action Report | One time | TBD | City, LOTT, Ecology |



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# 4. DATA VALIDATION AND USABILITY

## 4.1 Data Review, Verification, and Validation Requirements

Data verification and validation are integral steps in the transition between data collection (via sampling and analysis) and data use and interpretation. The EPA has developed a comprehensive guidance document entitled Guidance on Environmental Data Verification and Data Validation (EPA QA/G-8) (USEPA 2002). The purpose of this guidance is to explain how to implement data verification and data validation, to offer practical advice, and to provide references.

Although data verification and data validation are commonly used terms, they are defined and applied differently in various organizations and quality systems. For the purposes of this project, the terms will be generally defined as follows:

- **Data Verification** is confirmation by examination and provision of objective evidence that specified requirements have been fulfilled. Data verification is the process of evaluating the completeness, correctness, and conformance/compliance of a specific data set against the method, procedural, or contractual requirements. This is done to determine if everything that was agreed upon was actually done.
- **Data Validation** is confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled. Data validation is an analyte- and sample-specific process that extends the evaluation of data beyond method, procedural, or contractual compliance (i.e., data verification) to determine the analytical quality of a specific data set. In other words, what is the quality of this specific data set?

Data generated by project activities will be reviewed against the DQOs cited in Section 1.6 and flagged if the objectives are unmet. Data will also be assessed to determine whether the QC practices were in place during data collection. If data were collected without the stated QC practices in place, the data will be set aside until the impact of the QC failure on data quality can be determined. If the impact of the QC failure on data quality is minimal, the data will be flagged and included within the database. Data that does not meet the DQOs listed in Section 1.6 will be evaluated to determine the cause of the problem, and whether corrective actions can be implemented so that DQOs are met in the future.

## 4.2 Verification and Validation Methods

Laboratory data will be validated in accordance with the EPA's National Functional Guidelines for Organic and Inorganic Data Review (EPA 1999, 2004). These documents will serve as the equivalent of an SOP for data review and validation.

Data verification/validation will be performed by the QA Officer and designated reviewers/validators. Data reviewers will be responsible for reviewing field data sheets, chain-of-



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custody forms, and analytical lab reports from each sampling event to determine whether collected data meets the contractual requirements. The data validators will add to the data review, by also checking field equipment calibration records, QC results, assessing whether DQOs have been achieved, and flagging data that did not meet specific requirements. Data qualifiers will be added to the database to alert data users of data limitations and uncertainties. A Data Quality Assessment will be completed to summarize the results of the review and validation.

If corrective action is necessary based on the data verification/validation process, the QA Officer will be responsible for communicating the nonconformance and the corresponding corrective actions to the laboratory, the Project Manager, or other designee. A Data Quality Assessment section summarizing all qualified results and including any corrective actions will be reported in the final report.

## 4.3 Reconciliation with User Requirements

To fulfill the identified data needs, it is important that the data collected during this project meet the data quality objectives. If data do not meet the project's specifications, the results will be flagged in the database to alert the data user of the data limitations and the following actions will be taken. First, the QA Officer and Project Manager or other designee will review the errors and determine if the problem is equipment failure, calibration/maintenance techniques, or monitoring/sampling techniques. They will suggest corrective action. If the problem cannot be corrected by training, revision of techniques, or replacement of supplies/equipment, then the technical advisor will review the DQOs and determine if the DQOs are feasible. If the specific DQOs are not achievable, they will determine whether the specific DQO can be relaxed, or if the parameter should be eliminated from the monitoring program. Any revisions to DQOs will be reviewed by the project team prior to approval and QAPP revision.

At the completion of the sampling program, Brown and Caldwell will continue to maintain the database.



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PARCEL 4 AND 5 INTERIM ACTION
QUALITY ASSURANCE PROJECT PLAN

# 5. LIMITATIONS

## Report Limitations

This document was prepared solely for the City of Olympia and the LOTT Alliance in accordance with professional standards at the time the services were performed and in accordance with the contract between Brown and Caldwell and the City of Olympia dated September 4, 2009, and the contract between Brown and Caldwell and the LOTT Alliance dated June 18, 2008. This document is governed by the specific scope of work authorized by the City of Olympia and the LOTT Alliance; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the the City of Olympia, the LOTT Alliance and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.



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# REFERENCES



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# REFERENCES

EPA 1999. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA 540/R-99/008. United States Environmental Protection Agency Office of Emergency and Remedial Response. October.

EPA 2000. U.S. Environmental Protection Agency.

EPA 2002. United States Environmental Protection Agency. 2002. *Guidance on Environmental Data Verification and Data Validation* (EPA QA/G-8), November.

EPA 2004. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. EPA 540-R-04-004. Office of Superfund Remediation and Technology Innovation (OSRTI), United States Environmental Protection Agency. October.

SM 1998. Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998. American Public Health Association, American Water Works Association, and Water Environment Federation.



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# **Appendix D:** Health and Safety Plan



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Health and Safety Plan for Soil Remediation

305 Jefferson Street NW

Olympia, WA

5/22/2010

BC Project Number: 135894 / 138130

Prepared by:

BROWN AND CALDWELL

724 Columbia Street NW, Suite 420

Olympia, WA 98501

Prepared for:

The City of Olympia

PO Box 1967

Olympia, WA 98507-1967

The LOTT Alliance

111 Market Street NE, Suite 250

Olympia, WA 98501

# Approval Page

This Health and Safety Plan (HASP) has been prepared and reviewed by the following Brown and Caldwell (BC) personnel for use at: Parcel 4 and 5 (135894 / 138130).

| | Name | Signature | Title | Date |
|---|---|---|---|---|
| *Prepared By:* | Joshua Johnson | | Engineer III | |
| *Reviewed By:* | Jon Turk | | Site Safety Officer | |
| *Reviewed By:* | Joshua Johnson | | Project Manager | |
| *Reviewed By:* | Jim Bucha | | Regional Safety Unit Manager | |
| *Effective Dates:* | 9/28/2010 | through | 9/28/2011 | |

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## CRITICAL PROJECT INFORMATION

Primary Known Compound of Concern: Arsenic, Lead, Cadmium, Copper, Nickel, cPAHs, PCBs, Dioxins / Furans, TPH-D, TPH-G, TPH-HO, Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalenes

Minimum Level of Respiratory Protection: ☒ Level D ☐ Level C

PPE: steel-toed work boots, hard had, eye protection, hearing protection, traffic safety vest, long-sleeved shirt and pants, nitrile gloves

SEE SECTION 10 FOR SITE EMERGENCY CONTINGENCY PROCEDURES

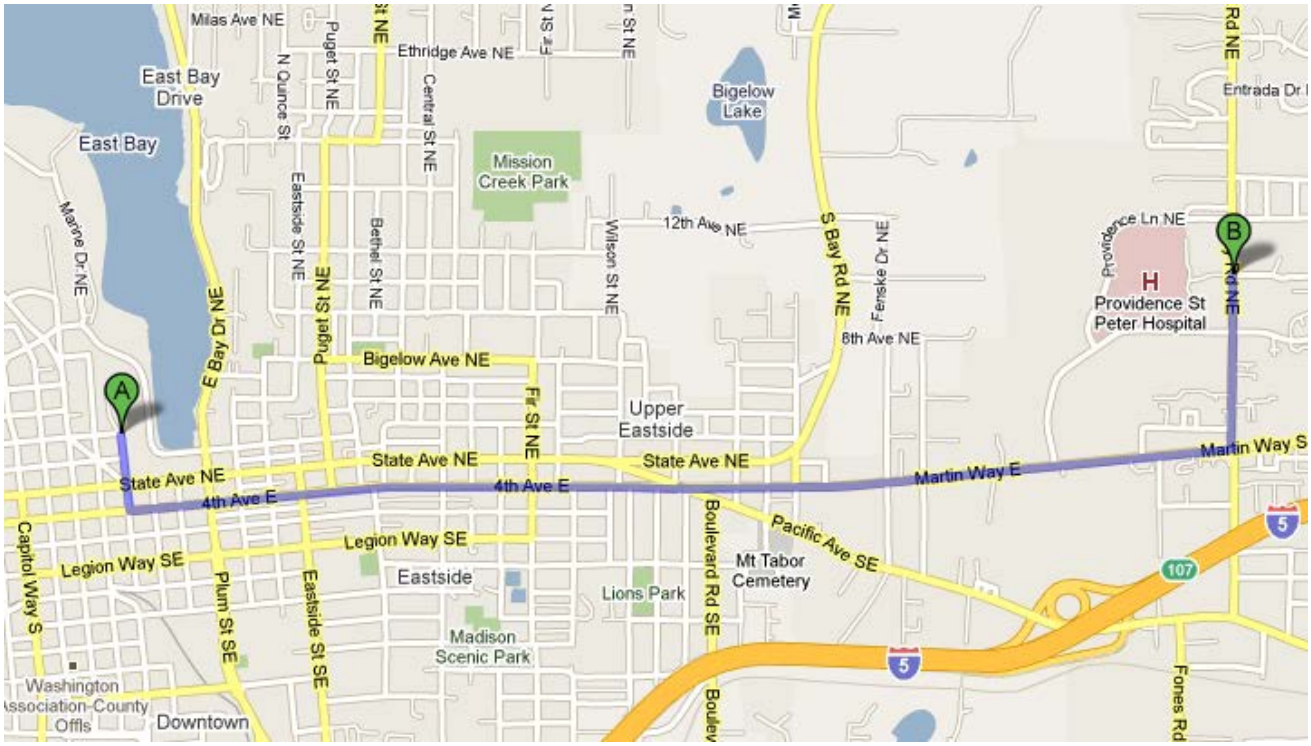
***Do not endanger your own life. Survey the situation before taking any action.***

| | |
|---|---|
| **BC Office Telephone** | **360-943-7525** |
| **Site Location Address** | **305 Jefferson Street NW, Olympia, WA** |

**EMERGENCY PHONE NUMBERS**: In the event of emergency, contact the Project Manager and/or Regional Safety Unit Manager.

| | |
|---|---|
| **Emergency Services (Ambulance, Fire, Police)** | **911** |
| **Poison Control** | **(800) 876-4766 or (800) 222-1222** |
| **Hospital Name** | **Providence St. Peter Hospital** |
| **Hospital Phone Number** | **360-491-9480** |
| **BC Project Manager (PM; Josh Johnson)** | **Office: 360-943-7525**<br>**Cell: 805-637-8258** |
| **BC Site Safety Officer (SSO; Jon Turk)** | **Office: 360-943-7525**<br>**Cell: 813-957-2350** |
| **BC Regional Safety Unit Manager (Jim Bucha)** | **Office: 916-853-5308**<br>**Cell: 916-216-6374** |
| **Corporate Risk Management** | **Property Loss**<br>**Blythe Buetzow: (925) 210-2470**<br>**Injury**<br>**Angela Hernandez: (925) 210-2218** |
| **Contractor Contact ( )** | **Office:**<br>**Cell:** |
| **Client Contact (Eric Hielema, LOTT Alliance)** | **Office: 360-528-5705**<br>**Cell:** |
| **Client Contact (Rick Dougherty, City of Olympia)** | **Office: 360-753-8485**<br>**Cell:** |
| **OTHER CONTACT(s) (OTHER CONTACT NAME)** | **OTHER tel#** |

# HOSPITAL LOCATION MAP




| HOSPITAL DIRECTIONS: | HOSPITAL INFORMATION: |
|---|---|
| **Thurston Ave NE & Jefferson St NEOlympia, WA 98501**<br><br>1. **Head south on Jefferson St NE toward Olympia Ave NE 0.2 mi**<br>2. **Turn left at 4th Ave E 1.5 mi**<br>3. **Continue onto Martin Way E 1.0 mi**<br>4. **Turn left at Lilly Rd NE**<br>5. **Destination will be on the left 0.4 mi**<br><br>**413 Lilly Rd NEOlympia, WA 9850** | **Providence St. Peter Hospital**<br>**413 Lilly Road Northeast**<br>**Olympia, WA 98506**<br><br>**Phone: 360-491-9480** |

# EMERGENCY FIRST AID PROCEDURES

**THE RESPONDER SHOULD HAVE APPROPRIATE TRAINING TO ADMINISTER FIRST AID OR CPR**

1. Survey the situation. Do not endanger your own life. DO NOT ENTER A CONFINED SPACE TO RESCUE SOMEONE WHO HAS BEEN OVERCOME. ENSURE ALL PROTOCOLS ARE FOLLOWED INCLUDING THAT A STANDBY PERSON IS PRESENT. IF APPLICABLE, REVIEW MSDSs TO EVALUATE RESPONSE ACTIONS FOR CHEMICAL EXPOSURES.
2. Call 911 (if available) or the fire department **IMMEDIATELY**. Explain the physical injury, chemical exposure, fire, or release.
3. Decontaminate the victim if it can be done without delaying life-saving procedures or causing further injury to the victim.
4. If the victim's condition appears to be non-critical, but seems to be more severe than minor cuts, he/she should be transported to the nearest hospital by the SSO or designated personnel: let the doctor assume the responsibility for determining the severity and extent of the injury. If the condition is obviously serious, contact emergency medical services (EMS) for transport or appropriate actions.

Notify the PM and Regional Safety Unit Manager immediately and complete the appropriate incident investigation reports as soon as possible.

| STOP BLEEDING AND CPR GUIDELINES | |
|---|---|
| **To Stop Bleeding** | **CPR** |
| 1. Give medical statement by indicating you are trained in 1st Aid.<br>2. Assure: airway, breathing and circulation.<br>3. Use **DIRECT PRESSURE** over the wound with clean dressing or your hand (use non-permeable gloves). Direct pressure will control most bleeding.<br>4. Bleeding from an artery or several injury sites may require **DIRECT PRESSURE** on a **PRESSURE POINT**. Use pressure points for 30 -60 seconds to help control severe bleeding.<br>5. Continue primary care and seek medical aid as needed. | 1. Give medical statement by indicating you are trained in CPR.<br>2. Arousal: Check for consciousness.<br>3. Call out for help, either call 911 yourself or instruct someone else to do so. It is very important to call for emergency assistance prior to initiating CPR.<br>4. Open airway with chin-lift.<br>5. Look, listen and feel for breathing.<br>6. If breathing is absent, give 2 slow, full rescue breaths.<br>7. Look, listen and feel for breathing.<br>8. If breathing is absent, initiate CPR; 30 compressions for each two breaths.<br>9. If an automated external defibrillator (AED) is available, use it in accordance with the AED instructions. |

# 1. INTRODUCTION

Brown and Caldwell (BC) has prepared this Health and Safety Plan (HASP) for use during the soil remediation activities to be conducted at Parcel 4 and 5 located at 305 Jefferson Street NE, Olympia, WA ("the Site"). Activities conducted under BC's direction at the Site will be in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations, particularly those in Title 29 of the Code of Federal Regulations, Part 1910.120 (29 CFR 1910.120), and other applicable federal, state, and local laws, regulations, and statutes. A copy of this HASP will be kept on site during scheduled field activities.

This HASP addresses the identified hazards associated with planned field activities at the Site. It presents the minimum health and safety requirements for establishing and maintaining a safe working environment during the course of work. In the event of conflicting requirements, the procedures or practices that provide the highest degree of personnel protection will be implemented. If scheduled activities change or if site conditions encountered during the course of the work are found to differ substantially from those anticipated, the Regional Safety Unit Manager and Project Manager will be informed immediately upon discovery, and appropriate changes will be made to this HASP.

BC's health and safety programs and procedures, including medical monitoring, respiratory protection, injury and illness prevention, hazard communication, and personal protective equipment (PPE), are documented in the BC Health & Safety Manual. The Health & Safety Manual is readily accessible to BC employees via the BC Pipeline. These health and safety procedures are incorporated herein by reference, and BC employees will adhere to the procedures specified in the manual.

BC's HASP has been prepared specifically for this project and is intended to address health and safety issues solely with respect to the activities of BC's own employees at the site. A copy of BC's HASP may be provided to subcontractors in an effort to help them identify expected conditions at the site and general site hazards. The subcontractor shall remain responsible for identifying and evaluating hazards at the site as they pertain to their activities and for taking appropriate precautions. For example, BC's HASP does not address specific hazards associated with tasks and equipment that are particular to the subcontractor's scope of work and site activities (e.g., operation of a drill rig, excavator, crane or other equipment). Subcontractors are not to rely on BC's HASP to identify all hazards that may be present at the Site.

Subcontractors are responsible for developing, maintaining, and implementing their own health and safety programs, policies, procedures and equipment as necessary to protect their workers, and others, from their activities. Subcontractors shall operate equipment in accordance with their standard operating procedures as well as manufacturer's specifications. Any project monitoring activities conducted by BC at the Site shall not in any way relieve subcontractors of their critical obligation to monitor their operations and employees for the determination of exposure to hazards that may be present at the Site and to provide required guidance and protection. If requested,

subcontractors will provide BC with a copy of their own HASP for this project or other health and safety program documents for review.

## 1.1 Site History

The areas within the Parcel 4 and 5 boundaries lie within the original tideflat of Budd Inlet, and are situated on fill material. Fill operations on the Site began as early as the late 1800s and continued until as late as the 1970s. Much of the fill on the site appears to be marine dredge spoils from dredging operations in the East and West Bays of Budd Inlet. In addition, fill has been found to contain wood debris, construction debris, and roadway fill.

Lumber milling operations were located on the Site as early as 1888 and operated until 1968. Various support facilities and services accompanied the lumber milling operations. Log booming operations also took place in the adjacent East Bay of Budd Inlet. Following cessation of lumber milling activities in 1968, the area was used for commercial and light industrial activities and warehousing. Warehousing and light industry ceased in 2008 as the Site was cleared of tenants and operators in preparation for redevelopment.

## 1.2 Site Description

The site is presently undeveloped.

## 1.3 Scope of Work

Work includes the excavation, stockpiling, testing, and disposal of potentially contaminated soil. Work will also include confirmational sampling of soil excavations.

# 2. KEY BC PROJECT PERSONNEL AND RESPONSIBILITES

Josh Johnson is the Project Manager (PM). Jim Bucha is the Regional Safety Unit Manager (RSUM). Jon Turk has been designated as the BC Site Safety Officer (SSO) for this project. The BC project field staff have completed 40 hours of comprehensive health and safety training, which meets the requirements of 29 CFR 1910.120.

The responsibilities of key BC project personnel are presented below.

## 2.1 Project Manager

The PM is responsible for evaluating hazards anticipated at the Site and working with designated field staff and the RSUM to prepare this HASP to address the identified hazards. The PM is also responsible for the following.

- Informing project participants of safety and health hazards identified at the Site.
- Providing a copy of this HASP to BC project participants and a copy to each BC subcontractor prior to the start of field activities.
- Ensuring that the BC project team is adequately trained and perform safety briefings in accordance with this HASP.
- Providing the resources necessary for maintaining a safe and healthy work environment for BC personnel.
- Communicating project safety concerns to the RSUM for determining corrective actions.

## 2.2 Site Safety Officer

The SSO has on-Site responsibility for verifying that BC team members, including subcontractors, comply with the provisions of this HASP. The SSO has the authority to monitor and correct health and safety issues as noted on-Site. The SSO is responsible for the following.

- Reporting unforeseen or unsafe conditions or work practices at the Site to the PM or RSUM.
- Stopping operations that threaten the health and safety of BC field team or members of the surrounding community.
- Monitoring the safety performance of Site personnel to evaluate the effectiveness of health and safety procedures.
- Performing air monitoring, as necessary, as prescribed in this HASP.
- Documenting field team compliance with this HASP by completing the appropriate BC forms contained in the Appendices of this document.
- Conducting daily tailgate safety meetings and assuring that project personnel understand the requirements of this HASP (as documented by each BC field team member's signature on the Signature Page).

- Limiting access to BC work areas on the Site to BC field team members and authorized personnel.
- Enforcing the "buddy system" as appropriate for Site activities.
- Performing periodic inspections to evaluate safety practices at the Site.
- Identifying the location and route to nearby medical facility and emergency contact information and coordinating appropriate responses in the event of emergency.

## 2.3 Regional Safety Unit Manager

The RSUM is responsible for final review and modification of this HASP. Modifications to this HASP that result in less protective measures than those specified may not be employed by the PM or SSO without the approval of the RSUM. In addition, the RSUM has the following responsibilities.

- Developing and coordinating the overall BC health and safety program.
- Advising the PM and SSO on matters relating to health and safety on this project.
- Recommending appropriate safeguards and procedures.
- Modifying this HASP, if necessary, and approving changes in health and safety procedures at the Site.

## 2.4 BC Team Members

BC employees and subcontractors are responsible for familiarizing themselves with health and safety aspects of the project and for conducting their activities in a safe manner. This includes attending site briefings, communicating health and safety observations and concerns to the SSO, maintaining current medical and training status and maintaining and using proper tools, equipment and PPE. Proper work practices are part of ensuring a safe and healthful working environment. Safe work practices are essential and it is the responsibility of BC employees and team members to follow safe work practices when conducting scheduled activities. Safe work practices to be employed during the entire duration of fieldwork include, but are not limited to, the following.

- Following the provisions of this HASP, company health and safety procedures and regulatory requirements.
- Reviewing safety-related information from other parties (i.e., client or contractors) as it relates to BC's activities.
- Inspecting personal protective equipment (PPE) before on-site use, using only intact protective clothing and related gear, and changing suits, gloves, etc. if they are damaged or beyond their useful service life.
- Set up, assemble, and check out all equipment and tools for integrity and proper function before starting work activities.
- Assisting in and evaluating the effectiveness of Site procedures (including decontamination) for personnel, protective equipment, sampling equipment and containers, and heavy equipment and vehicles.
- Practice the "buddy system" as appropriate for site activities.

- Do not use faulty or suspect equipment.
- Do not use hands to wipe sweat away from face. Use a clean towel or paper towels.
- Practice contamination avoidance whenever possible.
- Do not smoke, eat, drink, or apply cosmetics while in chemically-affected areas of the site or before proper decontamination.
- Wash hands, face and arms before taking rest and lunch breaks and before leaving the site and the end of the workday.
- Check in and out with the SSO upon arrival and departure from the site.
- Perform decontamination procedures as specified in this HASP.
- Notify the SSO immediately if there is an incident that causes an injury, illness or property loss. Incidents that could have resulted in injury, illness or property loss (close call) will also be reported to the SSO.
- Do no approach or enter an area where a hazardous environment (i.e., oxygen deficiency, toxic or explosive) may exist without employing necessary engineering controls, proper PPE and appropriate support personnel.
- Use respirators correctly and as required for the Site; check the fit of the respirator with a negative or positive pressure test; do not wear respirator with facial hair or other conditions that prevent a face-to-facepiece seal.
- Confined spaces will not be entered without appropriate evaluation, equipment, training and support personnel.

## 2.5 Subcontractors

Subcontractor personnel are expected to comply fully with subcontractor's HASP and to observe the minimum safety guidelines applicable to their activities which may be identified in the BC HASP. Failure to do so may result in the removal of the subcontractor or any of the subcontractor's workers from the job site.

# 3. HAZARD ANALYSIS

Hazards at the Site may include physical hazards, chemical hazards or biological hazards. Each type of identified hazard is addressed in the following sections. Hazards that are the specialty of a subcontractor (i.e., operation of a drill rig or excavator) are not addressed in this HASP. Subcontractors are responsible for identifying potential hazards associated with their activities and implementing proper controls.

## 3.1 Chemical Hazards

Exposure pathways of concern for chemical compounds that may be present at the Site are inhalation of airborne contaminants, direct skin contact with contaminated materials, and incidental ingestion of affected media. Wearing protective equipment and following decontamination procedures listed in Section 7 can minimize dermal contact and incidental ingestion. To minimize inhalation hazards, dust or vapor control measures will be implemented, where necessary, and action levels will be observed during scheduled activities. Site-specific action levels and air monitoring requirements are presented in Section 5.

| Known or Suspected Compounds | Source (soil/water/sludge, etc.) | Known Concentration Range (ppm, mg/kg, mg/l) | |
|---|---|---|---|
| | | Lowest | Highest |
| Arsenic | Soil / Groundwater | ND | 84 mg/Kg (soil), 10.3 ug/L (groundwater) |
| Lead | Soil / Groundwater | ND | 2.4 mg/Kg (soil), 9.3 ug/L (groundater) |
| Cadmium | Soil / Groundwater | ND | 2500 mg/Kg (soil), 2 ug/L (groundwater) |
| Copper | Soil / Groundwater | ND | NA (soil), 8.4 ug/L (groundwater) |
| Nickel | Soil / Groundwater | ND | NA (soil), 5.6 ug/L (groundwater) |
| cPAHs | Soil / Groundwater | ND | 624 ug/Kg (soil), 0.36 ug/L (groundwater) |
| Dioxins / Furans | Soil / Groundwater | ND | 646 pg/g (soil), NA (groundwater) |
| PCBs | Soil / Groundwater | ND | 3.29 mg/Kg (soil), 3.6 ug/L (groundwater) |
| TPH-G | Soil / Groundwater | ND | 100 mg/Kg (soil), 500 ug/L (groundwater) |
| TPH-HO | Soil / Groundwater | ND | 4600 mg/Kg (soil), 500 ug/L (groundwater) |
| TPH-D | Soil / Groundwater | ND | 1160 mg/Kg (soil), 250 ug/L (groundwater) |
| Benzene | Soil / Groundwater | ND | 140 ug/Kg (soil), 1 ug/L (groundwater) |
| Toluene | Soil / Groundwater | ND | 720 ug/Kg (soil), 1 ug/L (groundwater) |
| Ethylbenzene | Soil / Groundwater | ND | 720 ug/Kg (soil), 1 ug/L (groundwater) |
| Xylenes | Soil / Groundwater | ND | 1440 ug/Kg (soil), 3 ug/L (groundwater) |
| Naphthalenes | Soil / Groundwater | ND | 1600 ug/Kg (soil), 1.1 ug/L (groundwater) |

Chemical descriptions of chemicals of concern, including health effects and exposure limits, are presented in the following paragraphs. Each chemical description includes physical and odor recognition characteristics, the health effects associated with exposure, and exposure limits expressed as an 8-hour time-weighted average (TWA). Provided are federal OSHA (OSHA)

permissible exposure limits (PELs; located in 29 CFR 1910.1000); California OSHA (Cal/OSHA) PELs (located in 8 CCR 5155); and the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs). For sites outside California, Cal/OSHA PELs are included as an additional reference.

## ARSENIC

Metallic arsenic is most commonly a gray, brittle, crystalline solid. It can also be in a black or yellow amorphous form. Arsenic is also commonly found in its volatile white trioxide form. Arsenic is used in several insecticides, herbicides, defoliants, desiccants, and rodenticides and appears in a variety of forms. It is also used in tanning, pigment production, glass manufacturing, wood preservation, and anti-fouling coatings. Arsenic is classified as a known carcinogen.

Short-term exposure to arsenic can cause marked irritation of the stomach and intestines with nausea, vomiting, and diarrhea. In severe cases the vomiting and stools are bloody and the exposed individual goes into collapse and shock with weak, rapid pulse, cold sweats, coma, and death. Inorganic arsenicals are more toxic than organic arsenicals, and the trivalent form is more toxic than the pentavalent form. Acute arsenic poisoning usually results from ingestion exposures. Blood cell changes, blood vessel damage, and impaired nerve function can also result from chronic arsenic ingestion. Other effects include skin changes, irritation of the throat, increased risk of cancer of the liver, bladder, kidney, and lung.

- The OSHA PEL is listed as 0.01 mg/m3 for inorganic forms of arsenic and 0.5 mg/m3 for organic forms.
- The Cal/OSHA PEL is listed as 0.01 mg/m3 for inorganic forms of arsenic and 0.2 mg/m3 for organic forms.
- The TLV is listed as 0.01 mg/m3 for arsenic and inorganic arsenic compounds.

**WARNING: This chemical is known to the State of California to cause cancer.**

**WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.**

## LEAD

Lead (inorganic) is a bluish-white, silver or gray odorless solid. Short-term exposure to lead can cause decreased appetite, insomnia, headache, muscle and joint pain, colic, and constipation. Considerable data exist on the effects of lead exposure in humans. It is a poison by ingestion and a suspected human carcinogen of the lungs and kidneys. There are data to suggest that lead is a mutagen and can cause reproductive effects. Human systemic effects by ingestion and inhalation (the two routes of absorption) include loss of appetite, anemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, flaccid

paralysis without anesthesia, hallucinations and distorted perceptions, muscle weakness, gastritis, and liver changes. Recent experimental evidence suggests that blood levels of lead below 10 μg/dl (micrograms per deciliter) can have the effect of diminishing the IQ scores of children.

- The OSHA PEL is listed as 0.05 mg/m3 and the OSHA PEL for tetraethyl lead and tetramethyl lead is listed as 0.075 mg/m3.
- The Cal/OSHA PEL for elemental lead is listed as 0.05 mg/m3 and the Cal/OSHA PEL for tetraethyl lead and tetramethyl lead is listed as 0.075 mg/m3.
- The TLV for elemental lead is listed as 0.05 mg/m3, the TLV for tetraethyl lead is 0.1 mg/m3 and the TLV for tetramethyl lead is 0.15 mg/m3.

Note: Published exposure limits designate a skin notation indicating that dermal contact (to organic forms) can contribute to the overall exposure.

**WARNING: This chemical is known to the State of California to cause cancer.**

**WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.**

## CADMIUM

Cadmium dust is an odorless gray powder. Short-term exposure to cadmium dust can cause irritation of the nose and throat, cough, chest pain, sweating, chills, shortness of breath, and weakness. Inhalation of cadmium compounds has been shown to cause lung cancer in humans. Fatal concentrations may be breathed without sufficient discomfort to warn a worker to leave the area. Ingestion of cadmium dust may cause nausea, vomiting, diarrhea, and abdominal cramps.

- The OSHA PEL is listed as 0.005 mg/m3.
- The Cal/OSHA PEL is listed as 0.005 mg/m3.
- The TLV is listed as 0.01 mg/m3 for dust (total) and 0.002 mg/m3 for the respirable dust fraction.

**WARNING: This chemical is known to the State of California to cause cancer.**

**WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.**

## COPPER

In its elemental form, copper is a common metal with a distinct reddish color. Human systemic effects by ingestion include nausea and vomiting. In animals, inhalation of copper dust has caused hemolysis of the red blood cells, deposition of hemofuscin in the liver and pancreas, and injury to the lung cells. Short-term exposure to copper dust can cause a feeling

of illness similar to the common cold with sensations of chills and stuffiness of the head. Small copper particles may enter the eye and cause irritation, discoloration, and damage.

- The OSHA PEL is listed as 0.1 mg/m3 for copper as a fume, and 1.0 mg/m3 for dust.
- The Cal/OSHA PEL is listed as 0.1 mg/m3 for copper as a fume, and 1.0 mg/m3 for dust.
- The TLV is listed as 0.2 mg/m3 for copper as a fume, and 1.0 mg/m3 for dust (a value of 0.1 mg/m3 for elemental metal/and copper oxides, and 0.05 mg/m3 for soluble compounds is proposed).

## NICKEL

Nickel is a silvery gray, metallic, odorless metal. It is a confirmed carcinogen with experimental carcinogenic, neoplastigenic, tumorigenic, and teratogenic data. Nickel is a poison by ingestion, subcutaneous, and intravenous routes. Hypersensitivity to nickel is common and can cause allergic contact dermatitis, pulmonary asthma, and conjunctivitis. Exposure to nickel can cause pneumonitis. Nickel and its compounds have also been reported to cause cancer of the lungs and sinuses. Nickel itself is not very toxic if swallowed.

- The OSHA PEL is listed as 1.0 mg/m3 for elemental, insoluble and soluble compounds, as Ni.
- The Cal/OSHA PEL is listed as 1.0 mg/m3 for metal and insoluble compounds (as Ni), and 0.1 mg/m3 for soluble compounds.
- The TLV is listed as 1.5 mg/m3 for elemental compounds, 0.2 mg/m3 for insoluble compounds, and 0.1 mg/m3 for soluble inorganiccompounds and nickel subsulfide, as Ni.

**WARNING: This chemical is known to the State of California to cause cancer.**

## POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)

PAHs constitute a class of materials of which benzo[a]pyrene (BaP) is one of the most common and also the most hazardous. In general, PAHs can be formed in any hydrocarbon combustion process. The less efficient the combustion process, the higher the PAH emission factor is likely to be. The major sources are stationary sources, such as heat and power generation, refuse burning, industrial activity, such as coke ovens, and coal refuse heaps. PAHs may also be released from oil spills. Because of the large number of sources, people are exposed to very low levels of PAHs every day.

Certain PAHs, such as the more common BaP, have been demonstrated to be carcinogenic at relatively high exposure levels in laboratory animals. BaP is a yellowish crystalline solid that consists of five benzene rings joined together. It is highly soluble in fat tissue and has been shown to produce tumors in the stomachs of laboratory mice. In addition, skin cancers

have been induced in a variety of animals at very low levels and unspecified lengths of application.

It is important to recognize the PAHs' ability to adhere to soil and other particulates. Therefore, good particulate emission controls and the use of air purifying respirators with particulate filters are required for protection against airborne PAH hazards.

- The OSHA PEL is listed as 0.2 mg/m3 (as coal tar pitch volatiles).
- The Cal/OSHA PEL is listed as 0.2 mg/m3 (as coal tar pitch volatiles).
- The TLV is listed as 0.2 mg/m3 (coal tar pitch volatiles, as benzene soluble aerosol).

## POLYCHLORINATED BIPHENYLS (PCBs)

PCBs are a series of technical mixtures consisting of many isomers and compounds that vary from mobile oil liquids to white crystalline solids and hard non-crystalline resins. Technical products vary in composition, in the degree of chlorination, and possibly according to batch. Generally, they are moderately toxic by ingestion, and some are poisons by other routes. Most are suspect human carcinogens and experimental tumorigens, and exhibit experimental reproductive effects. They have two distinct actions on the body: a skin effect (chloracne) and a toxic action on the liver. The higher the chlorine content, the more toxic the PCBs tend to be.

- The OSHA PEL is listed as 0.5 mg/m3 for 54% chlorine content (as a PCB) and 1.0 mg/m3 for 42% chlorine content (as a PCB).
- The Cal/OSHA PEL is listed as 0.5 mg/m3 for 54% chlorine content (as a PCB) and 1.0 mg/m3 for 42% chlorine content (as a PCB).
- The TLV is listed as 0.5 mg/m3 for 54% chlorine content (as a PCB) and 1.0 mg/m3 for 42% chlorine content (as a PCB).

Note: Published exposure limits designate a skin notation indicating that dermal contact can contribute to the overall exposure.

**WARNING: This chemical is known to the State of California to cause cancer.**

**WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.**

## DIOXINS

"Dioxin" is a general term that describes a group of hundreds of chemicals that are highly persistent in the environment. The most toxic compound is 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD. The toxicity of other dioxins and chemicals like PCBs that act like dioxins are measured in relation to TCDD. Dioxins are formed as unintentional by-products of

many industrial processes involving chlorine such as waste incineration, chemical and pesticide manufacturing, and pulp and paper bleaching.

Dioxins are formed by burning chlorine-based chemical compounds with hydrocarbons. The major source of dioxins in the environment (95%) comes from incinerators burning chlorinated wastes. Dioxins are confirmed human carcinogens and can also cause severe reproductive and developmental problems (at levels 100 times lower than those associated with their cancer-causing effects). Dioxins can also cause immune system damage and interfere with regulatory hormones.

**WARNING: These chemicals are known to the State of California to cause cancer.**

## GASOLINE

Gasoline is produced from the light distillates during petroleum fractionation. Its major components include paraffins, olefins, naphthenes, aromatics, and recently ethanol. Gasoline also contains various functional additives as required for different uses, such as antiknock fluids, antioxidants, metal deactivators, corrosion inhibitors, anti-icing agents, preignition preventers, upper-cylinder lubricants, dyes, and decolorizers. Lead additives in particular were widely used in gasoline until the introduction of vehicle catalytic converters.

Mild cases of gasoline ingestion can cause inebriation, vomiting, vertigo, drowsiness, confusion, and fever. Aspiration into the lungs and secondary pneumonia may occur unless prevented. Gasoline can cause hyperemia of the conjunctiva and other eye disturbances. Gasoline is a skin irritant and a possible allergen. Repeated or chronic dermal contact can result in drying of the skin, lesions, and other dermatologic conditions.

- No OSHA PEL is listed for gasoline.
- The Cal/OSHA PEL is listed as 300 ppm.
- The TLV is listed as 300 ppm.

**WARNING: The exhaust from this chemical is known to the State of California to cause cancer.**

## DIESEL FUEL

Diesel fuel is a gas oil fraction available in various grades as required by different engines. Composition of diesel varies in ratios of predominantly aliphatic, olefinic, cycloparaffinic, aromatic hydrocarbons, and additives.

It is a severe skin irritant and ingestion of diesel can lead to systemic effects such as gastrointestinal irritation, vomiting, diarrhea, and, in severe cases, drowsiness and central nervous system depression, progressing to coma and death. Absorption of diesel fuel can cause hemorrhaging and pulmonary edema, progressing to pneumonitis and renal

involvement. It is combustible when exposed to heat or flame, and can react with strong oxidizing materials.

- No OSHA PEL or Cal/OSHA PEL is listed for diesel.
- The TLV is listed as 100 mg/m3 as total hydrocarbons (vapor and aerosol).

Note: Published exposure limits designate a skin notation indicating that dermal contact can contribute to the overall exposure.

**WARNING: The exhaust from this chemical is known to the State of California to cause cancer.**

## MOTOR OIL

Motor oil is a dark viscous liquid. It is composed of aliphatic, olefinic, naphthenic (cycloparaffinic), and aromatic hydrocarbons, as well as additives depending on specific uses. Motor oil has a burning lubricating oil odor. Short-term exposure via dermal contact with motor oil can cause irritation to the skin and dermatitis. Inhalation of motor oil can cause aspiration. Target organs are the upper respiratory system and the skin.

- No OSHA PEL, Cal/OSHA PEL, or ACGIH TLV is listed for motor oil.

## BENZENE

Benzene is a clear, volatile liquid. It is colorless, highly flammable, and toxic, with a characteristic odor. It is a severe eye and moderate skin irritant. Human effects by inhalation and ingestion include euphoria, changes in sleep and motor activity, nausea and vomiting, other blood effects, dermatitis, and fever. In industry, inhalation is the primary route of chronic benzene poisoning. If the liquid is aspirated into the lung it may cause pulmonary edema. Poisoning by skin contact has also been reported. Exposure to high concentrations (3,000 ppm) may result in acute poisoning, which is characterized by the narcotic action of benzene on the central nervous system. Chronic poisoning occurs most commonly through inhalation and dermal absorption. Benzene is a known human carcinogen that can cause leukemia.

- The OSHA PEL is listed as 1 ppm.
- The Cal/OSHA PEL is listed as 1 ppm.
- The TLV is listed as 0.5 ppm.

Note: Published exposure limits designate a skin notation indicating that dermal contact can contribute to the overall exposure.

**WARNING: This chemical is known to the State of California to cause cancer.**

**WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.**

## TOLUENE

Toluene is a colorless liquid with a benzol-like odor. Human systemic effects of exposure to toluene include central nervous system changes, hallucinations or distorted perceptions, motor activity changes, psychophysiological changes, and bone marrow changes. It is a severe eye irritant and an experimental teratogen. Inhalation of high vapor concentrations may cause impairment of coordination and reaction time, headaches, nausea, eye irritation, loss of appetite, a bad taste in the mouth, and lassitude.

- The OSHA PEL is listed as 200 ppm.
- The Cal/OSHA PEL is listed as 50 ppm.
- The TLV is listed as 50 ppm (a value of 20 ppm is proposed).

Note: Published exposure limits designate a skin notation indicating that dermal contact can contribute to the overall exposure.

**WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.**

## ETHYLBENZENE

Ethylbenzene is a clear, colorless liquid. It is mildly toxic by inhalation and skin contact. Inhalation can cause eye, sleep, and pulmonary changes. It is an eye and skin irritant at levels as low as 0.1% (1,000 ppm) of the vapor in air. At higher concentrations, it is extremely irritating at first, then can cause dizziness, irritation of the nose and throat, and a sense of constriction in the chest. Exposure to high concentrations of ethylbenzene vapor may result in irritation of the skin and mucous membranes, dizziness, irritation of the nose and throat, and a sense of constriction of the chest.

- The OSHA PEL is listed as 100 ppm.
- The Cal/OSHA PEL is listed as 100 ppm.
- The TLV is listed as 100 ppm.

## XYLENE

Xylene is a clear, colorless liquid. It exhibits the general chlorinated hydrocarbon central nervous system effects, olfactory (smell) changes, eye irritation and pulmonary changes. It is a severe skin irritant. There are three isomers: ortho, meta, and para. Exposure to high concentrations of xylene vapor may result in eye and skin irritation. Eye irritation may occur at concentrations of about 200 ppm.

- The OSHA PEL is listed as 100 ppm.
- The Cal/OSHA PEL is listed as 100 ppm.
- The TLV is listed as 100 ppm.

**NAPHTHALENE**

Naphthalene is a colorless to brown solid with an odor of mothballs. Poisoning may occur by inhalation, ingestion, or skin absorption. Naphthalene can cause nausea, headache, fever, anemia, liver damage, vomiting, convulsions, and coma. It is an experimental teratogen and a questionable carcinogen.

Naphthalene is flammable when exposed to heat or flame and reacts with oxidizing materials. It is explosive in the form of vapor or dust when exposed to heat or flame. When heated to decomposition, it emits acrid smoke and irritating fumes.

- The OSHA PEL is listed as 10 ppm.
- The Cal/OSHA PEL is listed as 10 ppm.
- The TLV is listed as 10 ppm.

Note: Published exposure limits designate a skin notation indicating that dermal contact can contribute to the overall exposure.

## 3.2 Hazard Communication

In accordance with the Hazard Communication standard, material safety data sheets (MSDSs) will be maintained on site for chemical products used by BC personnel at the Site (i.e., spray paint, PVC cement, etc.). Subcontractors will be responsible for maintaining MSDSs for chemical products they bring on Site. In addition, containers will be clearly labeled in English to indicate their contents and appropriate hazard warnings. Please note that labeling containers includes, but is not limited to, any waste, used PPE, and/or decontamination materials collected.

## 3.3 Physical Hazards

The following physical hazards, as marked below, have been identified and may be encountered during scheduled field activities.

- ☒ Slips, Trips and Falls
- ☒ Heavy Equipment
- ☒ Excavations
- ☒ Noise
- ☐ Overhead Utilities
- ☐ Electrical Equipment
- ☒ Housekeeping
- ☐ Materials and Equipment Handling - Lifting
- ☐ Drilling
- ☒ Underground Utilities
- ☐ Equipment Refueling
- ☐ Lockout/Tagout

- ☐ Confined Spaces
- ☐ Sharp Objects/Cutting
- ☐ Elevated Platforms
- ☐ Traffic
- ☐ Arc Flash Protection
- ☐ Building Collapse
- ☐ Fire
- ☐ Cutting Acetate Sleeves
- ☐ Ladder Use
- ☒ Driving
- ☐ Boating Safety
- ☒ Personal Safety – Urban Setting

Actions to be taken to protect against the hazards identified are provided in the sections below.

### 3.3.1 Slip, Trips and Falls

Slipping hazards may exist due to uneven terrain, wet or slick surfaces, leaks or spills. Tripping hazards may be present from elevation changes, debris, poor housekeeping or tools and equipment. Some specific hazards may include: climbing/descending ladders, scaffolding, berms or curbing. Collectively, these types of injuries account for nearly 50 percent of all occupational injuries and accepted disabling claims. Prevention requires attention and alertness on the part of each worker, following and enforcing proper procedures, including good housekeeping practices, and wearing appropriate protective equipment.

### 3.3.2 Housekeeping

Personnel shall maintain a clean and orderly work environment. Make sure that all materials stored in tiers are stacked, racked, blocked, interlocked, or secured to prevent sliding, falling, collapse, or overturning. Keep aisles and passageways clear and in good repair to provide for free and safe movement of employees and material-handling equipment. Do not allow materials to accumulate to a degree that it creates a safety or fire hazard.

During construction activities, scrap and form lumber with protruding nails and other items shall be kept clear from work areas, passageways, and stairs. Combustible scrap and debris shall be removed at regular intervals. Safe means must be provided to facilitate removal of debris.

Containers must be provided for collecting and separating waste, used rags and other debris. Containers used for garbage and other oily flammable or hazardous waste such as caustics, acids, harmless dusts, etc., must be separated and equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals.

### 3.3.3 Heavy Equipment

Equipment, including earth-moving equipment, drill rigs, or other heavy machinery, will be operated in compliance with the manufacturer's instructions, specifications, and limitations, as well as any applicable regulations. The operator is responsible for inspecting the equipment prior to use each work shift to verify that it is functioning properly and safely.

The following precautions should be observed whenever heavy equipment is in use.

- PPE, including steel-toed boots, safety glasses, high visibility vests, and hard hats must be worn.

- Personnel must be aware of the location and operation of heavy equipment and take precautions to avoid getting in the way of its operation. Workers must never assume that the equipment operator sees them; eye contact and hand signals should be used to inform the operator of the worker's intent.
- Personnel should not walk directly in back of, or to the side of, heavy equipment without the operator's knowledge. Workers should avoid entering the swing radius of equipment and be aware of potential pinch points.
- Nonessential personnel will be kept out of the work area.

### 3.3.4 Excavations

A competent person who is capable of identifying existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them, will be present during excavation activities.

The atmosphere will be tested in excavations, before employees are permitted to enter and begin work, greater than 4 feet in depth or where oxygen deficiency or toxic or flammable gases are likely to be present. The atmosphere shall be ventilated and re-tested until flammable gas concentrations less than 5 percent of the lower explosive limit (LEL) and site-specific action levels are obtained. Worker entry will not be allowed if the oxygen concentration is less than 20 percent. In addition, a safe means of access and egress (i.e., a ladder, stairs or ramp) must be provided so that no more than 25 feet of lateral travel is required by employees.

Workers will not enter unstable excavations or excavations greater than 5 feet in depth without appropriate protective systems such as benching, sloping, or shoring. If shoring or shielding systems are not used, side slopes will not be steeper than 1½:1 without written confirmation from the competent person that slope is safe for the soil conditions. Excavations will be constructed in accordance with the OSHA Excavation Safety Standard (29CFR1926 Subpart P).

The competent person will inspect excavations daily. If there is evidence that a cave-in or slide is possible, work will cease until the necessary safeguards have been taken. Excavated material will be placed far enough from the edge of the excavation (a minimum of 2 feet) so that it does not fall back into the opening or affect the integrity of the sidewall. At the end of each day's activities, open excavations will be clearly marked and secured to prevent nearby workers or unauthorized personnel from entering them. Remote sampling techniques will be the preferred method of sample collection in excavations.

### 3.3.5 Noise

Noise may result primarily from the operation of heavy equipment, process machinery or other mechanical equipment. Hearing protection with the appropriate noise reduction rating (NRR) shall be worn in areas with high noise levels. A good rule of thumb to determine if hearing protection is needed is the inability to have a conversation at arms length without raising voice levels. If loud noise is present or normal conversation becomes difficult, hearing protection in the form of ear plugs, or equivalent, will be required.

### 3.3.6 Underground Utilities

Reasonable efforts will be made to identify the location(s) of underground utilities (e.g., pipes, electrical conductors, fuel lines, and water and sewer lines) before intrusive soil work is performed. The state underground utility notification authority (e.g., USA, Dig Alert, Blue Stake, etc.) will be contacted prior to the start of intrusive field activities in accordance with local notification requirements. In areas not evaluated or serviced by the underground utility notification authority, and a reasonable potential for underground utilities exists, one or more of the following techniques will be employed to determine the location of subsurface structures.

- Contracting the services of a qualified private utility locator.
- Having a survey of the subject area conducted by staff trained in the use of subsurface utility locating equipment.
- Subsurface testing (i.e., hand digging or potholing) to the expected depth of probable utilities (not less than 5 feet).

If utilities cannot be located or if unlocated utilities are suspected to be present, subsurface activities (i.e., borings, excavation) should not be conducted before the location(s) or absence of underground utilities is confirmed.

Typical subsurface location marks are as follows:

- Red – electrical,
- Yellow – gas/oil/steam,
- Blue – water,
- Green – sanitary/storm drains/culverts,
- Orange – communications, and
- White – proposed excavation or boring.

Intrusive work should be limited to the area 3.3 feet (1 meter) on either side of the location marks. In some special cases such as fiber optics and high-pressure pipelines this area should be expanded to 16.5 feet (5 meters) on either side of the utility.

### 3.3.7 Driving

A lot of driving is required to get to, from, and between project Sites. Safe vehicle maintenance and operation must be a priority. It requires knowledge of directions to (and conditions of) the Site in advance, careful exiting and merging into traffic, anticipating the unexpected, remaining alert to one's physical and mental condition, resisting distractions such as cell phone use, other car activities and contacting assistance when needed. Report all vehicle accidents/incidents to BC's Risk Manager.

### 3.3.8 Personal Safety - Urban Setting

Working in a distressed neighborhood may present hazards associated with street violence or other crime. In these situations, mental preparation before going to the Site and awareness while on Site are of key importance. If in doubt, always ask Site or client personnel about the safety of a

neighborhood. Forethought should be given to arranging to work during daylight hours if possible. Take advantage of any Site security measures (monitoring cameras, security guards) and investigate such measures prior to the field work. Once in the field, work in parties of two or more and stay within view of the general public. Keep a charged cell phone nearby or on your person at all times. Become familiar with your location so you can effectively communicate it over the phone.

In addition to these basic principals, the following is a list of common personal safety rules that apply not only to work at the Site, but to general safety practices while in the field and also between work shifts.

- If at all possible, work/travel in groups. Do not venture out alone.
- Be alert. Notice who passes you and who's behind you. Maintain distance between yourself and strangers. Know where you are, and note potential exit paths.
- If work has paused do not appear slack or distracted. Do not sit in a vehicle with the doors unlocked.
- Walk in well-lighted areas. Don't walk close to bushes, alleys, and so on. In dark or deserted neighborhoods, walk down the middle of the street (be alert to vehicle traffic).
- If a car pulls up slowly, or the occupants of the vehicle bother you, cross the street and walk or run in the other direction. If you are pursued, dial 911.
- If you feel someone is following you, turn around and check. Proceed to the nearest lighted house or place of business.
- Don't overburden yourself with bags or packages, which might impede running or taking care of yourself.
- Be aware of loose clothing, packs/purses and hair. These give an assailant an easier method of grabbing and controlling you. Wear unrestrictive clothing for ease of movement (but not overly loose).
- Carry a non-weapon personal safety device (such as a whistle, panic button, or key light) - anything that could visually or audibly draw attention to your location.
- What you carry in your hand(s) is important. Valuables make you a potential target. Items such as a hand auger or tool may help you be perceived as a less-than-inviting victim.
- Carry as little cash as possible.
- Hold your purse tightly, close to your body. Keep your wallet in a front or in a buttoned, hip pocket. When at a fixed location, lock your valuable items away and out of site (i.e., in a trunk).
- Be careful when people stop you for directions or information. Always reply from a distance; never get too close to a stranger' car.
- If you feel that you are in danger, don't be afraid to scream and run.
    - Toss wallet/keys away from direction of escape.
    - Don't attach car keys to house keys.
    - Leave large valuables (purse, laptop) locked and hidden in the vehicle.

## 3.4 Natural Phenomena

Natural phenomena such as weather-related emergencies and acts of nature can affect employees' safety. Natural phenomena can occur with little or no warning. If an emergency situation arises as a result of natural phenomena, adhere to the contingency procedures outlined in Section 10. The following natural phenomena have been identified and may be encountered during scheduled field activities.

- ☒ Sunburn
- ☒ Cold Stress
- ☐ Hurricanes
- ☒ Earthquakes
- ☒ Heat Stress
- ☐ Lightening/Electrical Storms
- ☐ Tornados and Strong/Straight Line Winds

### 3.4.1 Sunburn

Working outdoors with the skin unprotected for extended periods of time can cause sunburn to the skin. Excessive exposure to sunlight is associated with the development of skin cancer. Field staff should take precautions to prevent sunburn by using sunscreen lotion and/or wearing hats and long-sleeved garments.

### 3.4.2 Heat Stress

Adverse climate conditions, primarily heat, are important considerations in planning and conducting site operations. Heat-related illnesses range from heat fatigue to heat stroke, with heat stroke being the most serious condition. The effects of ambient temperature can cause physical discomfort, loss of efficiency, and personal injury, and can increase the probability of accidents. In particular, protective clothing that decreases the body's ventilation can be an important factor leading to heat-related illnesses.

To reduce the possibility of heat-related illness, workers should drink plenty of fluids and establish a work schedule that will provide sufficient rest periods for cooling down. Personnel shall maintain an adequate supply of non-caffeinated drinking fluids on site for personal hydration. Workers should be aware of signs and symptoms of heat-related illnesses, as well as first aid for these conditions. These are summarized in the table below.

| Condition | Signs | Symptoms | Response |
|---|---|---|---|
| Heat Rash or Prickly Heat | Red rash on skin. | Intense itching and inflammation. | Increase fluid intake and observe affected worker. |
| Heat Cramps | Heavy sweating, lack of muscle coordination. | Muscle spasms, and pain in hands, feet, or abdomen. | Increase fluid uptake and rest periods. Closely observe affected worker for more serious symptoms. |

| Condition | Signs | Symptoms | Response |
|---|---|---|---|
| Heat Exhaustion | Heavy sweating; pale, cool, moist skin; lack of coordination; fainting. | Weakness, headache, dizziness, nausea. | Remove worker to a cool, shady area. Administer fluids and allow worker to rest until fully recovered. Increase rest periods and closely observe worker for additional signs of heat exhaustion. If symptoms of heat exhaustion recur, treat as above and release worker from the day's activities after he/she has fully recovered. |
| Heat Stroke | Red, hot, dry skin; disorientation; unconsciousness | Lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse. | Immediately contact emergency medical services by dialing emergency medical services. Remove the victim to a cool, shady location and observe for signs of shock. Attempt to comfort and cool the victim by administering small amounts of cool water (if conscious), loosening clothing, and placing cool compresses at locations where major arteries occur close to the body's surface (neck, underarms, and groin areas). Carefully follow instructions given by emergency medical services until help arrives. |

### 3.4.3 Cold Stress

Workers performing activities during winter and spring months may encounter extremely cold temperatures, as well as conditions of snow and ice, making activities in the field difficult. Adequate cold weather gear, especially head and foot wear, is required under these conditions. Workers should be aware of signs and symptoms of hypothermia and frostbite, as well as first aid for these conditions. These are summarized in the table below.

| Condition | Signs | Symptoms | Response |
|---|---|---|---|
| Hypothermia | Confusion, slurred speech, slow movement. | Sleepiness, confusion, warm feeling. | Remove subject to a non-exposed, warm area, such as truck cab; give warm fluids; warm body core; remove outer and wet clothing and wrap torso in blankets with hot water bottle or other heat source. Get medical attention immediately. |
| Frostbite | Reddish area on skin, frozen skin. | Numbness or lack of feeling on exposed skin. | Place affected extremity in warm, not hot, water, or wrap in warm towels. Get medical attention. |
| Trench Foot | Swelling and/or blisters of the feet | Tingling/itching sensation; burning; pain in the feet | Remove wet/constrictive clothing and shoes. Gently dry and warm feet with slight elevation. Seek medical attention. |

### 3.4.4 Earthquakes

Earthquakes strike suddenly, violently, and without warning. If your project is located near a fault line, earthquakes are an unpredictable possibility. For long term projects with temporary or permanent office area, keep an emergency preparedness kit consisting of, but not limited to:

- Current project/office contacts list - how to reach folks in an emergency,
- Blankets,
- Flashlights,
- Radio (operated by batteries),
- Batteries for flashlight and radio (note: batteries should be replaced as needed to assure freshness),

- Water (unless there is a water bubbler that can be used with no electricity), and
- Snack crackers, dried fruit, etc. - a source of food that won't go bad.

This kit is meant to serve as overnight survival in the event that it becomes unsafe to leave the project site. The kit's contents should be suited to meet the size and needs of your project.

If you feel the earth shaking, consider the following tips:

- Drop down; take cover under a desk or table and hold on.
- Stay indoors until the shaking stops and you are sure it is safe to exit.
- Stay away from bookcases, shelves, or anything that could fall on you.
- Stay away from windows.
- If inside a building, expect fire alarms and sprinklers to go off during the quake.
- If you are outdoors, find a clear spot away from buildings, trees, and power lines. Drop to the ground and cover your head.

If you are in a car, slow down and drive to a clear place, preferably away from power lines. Stay in the car until the shaking stops.

## 3.5 Biological Hazards

The following biological hazards have been identified and may be encountered during scheduled field activities.

- ☐ Bloodborne Pathogens/Sanitary Waste
- ☐ Rodents and Mammals
- ☐ Reptiles/Snakes
- ☐ Venomous Insects
- ☐ Mosquitoes
- ☐ Fire Ants
- ☐ Spiders/Scorpions
- ☐ Ticks
- ☐ Poisonous Plants

If any biological hazards are identified at the Site, workers in the area will immediately notify the SSO and nearby personnel.

# 4. PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to protect employees from hazards and potential hazards they are likely to encounter during site activities. The amount and type of PPE used will be based on the nature of the hazard encountered of anticipated. Respiratory protection will be utilized when an airborne hazard has been identified using real-time air monitoring devices, or as a precautionary measure in areas designated by the RSUM or SSO.

Dermal protection, primarily in the form of chemical-resistant gloves and coveralls, will be worn whenever contact with chemically affected materials (e.g., soil, groundwater, sludge) is anticipated, without regard to the level of respiratory protection required.

On the basis of the hazards identified for this project, the following levels of personal protective equipment (PPE) will be required and used. Changes to the specified levels of PPE will not be made without the approval of the SSO after consultation with the RSUM.

## 4.1 Conditions Requiring Level D Protection

In general, site activities will commence in Level D PPE unless otherwise specified, or if the SSO determines on site that a higher level of PPE is required. Air monitoring of employee breathing zones will be routinely conducted using real-time air monitoring devices to determine if upgrading to Level C PPE is necessary. Level D PPE will be permitted as long as air monitoring data indicate that airborne concentrations of chemicals of concern are maintained below the site-specific action levels defined in Section 5.2. Level A or B PPE is not anticipated and is therefore not addressed in this plan. If Level A or B PPE is necessary, this HASP will be revised to reflect changes as appropriate.

It is important to note that dermal protection is required whenever contact with chemically-affected materials is anticipated. The following equipment is specified as the minimum PPE required to conduct activities at the Site:

- Work shirt and long pants,
- ANSI- or ASTM-approved steel-toed boots or safety shoes,
- ANSI-approved safety glasses, and
- ANSI-approved hard hat.

Other personal protection readily available for use, if necessary, includes the following items.

- Outer nitrile gloves (11 mil or thicker) and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event).
- Chemical-resistant clothing (e.g., Tyvek or polycoated Tyvek coveralls) when contact with chemically affected soils or groundwater is anticipated.

- Safety shoes/boots with protective overboots or knee-high PVC polyblend boots when direct contact with chemically affected soils is anticipated.
- Hearing protection.
- Sturdy work gloves.
- High-visibility traffic safety vest.

Work will cease and PPE upgraded if action levels specified in Section 5.2 are exceeded. The RSUM will be notified whenever PPE is upgraded or downgraded.

## 4.2 Conditions Requiring Level C Protection

If air monitoring indicates that the site-specific action levels defined in Section 5.2 are exceeded, workers in the affected area(s) will upgrade PPE to Level C. In addition to the protective equipment specified for Level D, Level C also includes the following items.

- NIOSH-approved half- or full-face air-purifying respirator (APR) equipped with appropriate cartridges (reference Section 5.2). Note: safety glasses are not required when wearing a full-face APR.
- Outer nitrile gloves (11 mil or thicker) and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event).
- Chemical-resistant clothing (e.g., Tyvek or polycoated Tyvek coveralls) when contact with chemically affected soils or groundwater is anticipated.
- Safety shoes/boots with protective overboots or knee-high PVC polyblend boots when direct contact with chemically affected soils is anticipated.
- Hearing protection.
- Sturdy work gloves.

Respirators will be stored in clean containers (i.e., self-sealing bag) when not in use. Respirator cartridges will be replaced in accordance with the following change-out schedule.

| Type of Cartridge | Cartridge Change-out Schedule |
|---|---|
| Particulate (i.e., HEPA) | At least weekly or sooner the employee detects an increase in breathing resistance. This will occur as the filter becomes loaded with particulate matter. |
| Sorbent (i.e., organic vapor) | At the end of each day's use or sooner if the employee detects an abnormal odor or other indicator. |

Personnel who wear air-purifying respirators must be trained in their use and must have successfully passed either a qualitative or quantitative respirator fit test, and medical evaluation within the last 12 months in accordance with and 29 CFR 1910.134.

## 4.3 Stop Work Conditions

If air monitoring indicates that the site-specific action levels defined in Section 5.2 are exceeded, activities will cease, and personnel must evacuate the designated Exclusion Zone. The PM and RSUM will be contacted immediately.

Work will also cease if unanticipated conditions or materials are encountered or if an imminent danger is identified. The SSO will immediately contact the RSUM for consultation.

# 5. AIR MONITORING PLAN

Real-time air monitoring devices will be used to analyze airborne contaminant concentrations approximately every 15 minutes in the workers' breathing zones while workers are in the designated Exclusion Zone, or when task or exposure conditions change (whichever frequency is less). If elevated concentrations are indicated, the monitoring frequency will be increased, as appropriate.

Background concentrations will be determined at the beginning of each work shift by collecting several instrument readings upwind of the scheduled activities. Alternatively, background levels can be determined by collecting readings from a nearby (upwind) area that can reasonably be considered unaffected by Site activities.

Real-time measurements will be made as near as feasible to the breathing zone of the worker with the greatest exposure potential in each active work area. If authorized by the RSUM, real time measurements may cease being taken when enough historical data is generated to warrant its cessation. Air monitoring will be reinstated if potential exposure conditions change.

The equipment will be calibrated daily, and the results will be recorded on BC's Air Monitoring Form. The results of air monitoring will also be recorded on the Air Monitoring Form and will be retained in the project files following completion of field activities. A copy of the Air Monitoring Form is located in Appendix A.

## 5.1 Monitoring Instruments

On-site worker exposure to airborne contaminants will be monitored during intrusive site activities. A calibrated photoionization detector (PID) with a lamp strength of 10.6 eV or flame ionization detector (FID) will be used to monitor changes in personnel exposure to volatile organic compounds (VOCs). The SSO, or designee, will perform routine monitoring during site operations to evaluate concentrations of VOCs in employee breathing zones. If VOCs are detected above predetermined action levels specified in Section 5.2, the procedures found in Section 4 of this HASP will be followed.

## 5.2 Site Specific Action Levels

The following action levels were developed for exposure monitoring with real-time air monitoring instruments. Air monitoring data will determine the required respiratory protection levels at the Site during scheduled intrusive activities. The action levels are based on sustained readings indicated by the instrument(s). Air monitoring will be performed and recorded at up to 15-minute intervals.

If elevated concentrations are indicated, the monitoring frequency will be increased, as appropriate. If during this time, sustained measurements are observed, the following actions will be instituted, and the PM and RSUM will be notified. For purposes of this HASP, sustained readings are defined as the average airborne concentration maintained for a period of one (1) minute above established background levels.

| Activity | Action Level | Level of Respiratory Protection |
|---|---|---|
| Soil Remediation | < 5 ppm above background | Level D: No respiratory protection required. |
| Soil Remediation | 5 to 25 ppm | Level C: Half- or full-face air-purifying respirator fitted with organic vapor filter cartridges. |
| Soil Remediation | > 25 ppm | Cease operations and evacuate work area. Contact RSUM and PM immediately. |

# 6. SITE CONTROL MEASURES

The SSO will conduct a safety inspection of the work site before each day's activities begin to verify compliance with the requirements of the HASP. Results of the first day's inspection will be documented on the Site Safety Checklist. A copy of the checklist is included in Appendix B. Thereafter, the SSO should document unsafe conditions or acts, along with corrective action, in the project field log book.

Procedures must be followed to maintain site control so that persons who may be unaware of site conditions are not exposed to hazards. The work area will be barricaded by tape, warning signs, or other appropriate means. Site equipment or machinery will be secured and stored safely.

Access to the specified work area will be limited to authorized personnel. Only BC employees and designated BC subcontracted personnel, as well as designated employees of the client, will be admitted to the work site. Personnel entering the work area are required to sign the signature page of this HASP, indicating they have read and accepted the health and safety practices outlined in this plan.

In some instances it may be necessary to define established work zones: an Exclusion Zone, a Contamination Reduction Zone, and a Support Zone. Work zones may be established based on the extent of anticipated contamination, projected work activities, and the presence or absence of non-project personnel. The physical dimensions and applicability of work zones will be determined for each area based on the nature of job activity and hazards present. Within these zones, prescribed operations will commence using appropriate PPE. Movement between zones will be controlled at checkpoints.

Considerable judgment is needed to maintain a safe working area for each zone, balanced against practical work considerations. Physical and topographical barriers may constrain ideal locations. Field measurements combined with climatic conditions may, in part, determine the control zone distances. Even when work is performed in an area that does not require the use of chemical-resistant clothing, work zone procedures may still be necessary to limit the movement of personnel and retain adequate site control.

Personnel entering the designated Exclusion Zone should exit at the same location. There must be an alternate exit established for emergency situations. In all instances, worker safety will take precedence over decontamination procedures. If decontamination of personnel is necessary, exiting the Site will include the decontamination procedures described in the following section.

# 7. DECONTAMINATION PROCEDURES

Decontamination will take place in the decontamination area identified on-Site. Workers, PPE, sampling equipment, and heavy equipment leaving the exclusion area will be inspected to determine the level of decontamination necessary to prevent the spread of potentially hazardous materials. Unnecessary equipment and support vehicles are to be left outside the designated Exclusion Zone so that decontamination will not be necessary.

Despite protective procedures, personnel may come in contact with potentially hazardous compounds while performing work tasks. If so, decontamination needs to take place using an Alconox or TSP wash, followed by a rinse with clean water. Standard decontamination procedures for levels C and D are as follows.

- equipment drop,
- boot cover and outer glove wash and rinse,
- boot cover and outer glove removal,
- suit removal,
- safety boot wash and rinse,
- inner glove wash and rinse,
- respirator removal,
- inner glove removal, and
- field wash of hands and face.

Site workers should employ only applicable steps in accordance with level of PPE worn and extent of contamination present. The SSO shall maintain adequate quantities of clean water to be used for personal decontamination (i.e., field wash of hands and face) whenever a suitable washing facility is not located in the immediate vicinity of the work area.

Disposable items will be disposed of in an appropriate container. Wash and rinse water generated from decontamination activities will be handled and disposed of properly. Non-disposable items (i.e., respirators) may need to be cleaned or sanitized before reuse. Each site worker is responsible for the maintenance, decontamination, and sanitizing of their own PPE.

Used equipment may be decontaminated as follows.

- Remove adhered materials (i.e., dirt or mud) to increase the effectiveness of the decontamination process.
- An Alconox or TSP and water solution may be used to wash the equipment.
- The equipment will then be rinsed with clean water until it is determined clean.

Each person must follow these procedures to reduce the potential for transferring chemically affected materials off site.

# 8. TRAINING REQUIREMENTS

BC Site personnel, including subcontractors and visitors conducting work in controlled areas of the Site, must have completed the appropriate training as required by 29 CFR 1910.120. In addition, the SSO will have completed the 8-hour Site Supervisor course, have current training in first aid and CPR, and any additional training appropriate to the level of site hazards. Further site-specific training will be conducted by the SSO prior to the initiation of project activities. This training will include, but will not necessarily be limited to, emergency procedures, site control, personnel responsibilities, and the provisions of this HASP. Each employee will document that they have been briefed on the hazards identified at the site and that they have read and understand the requirements of this HASP by signing the H&S Plan Acknowledgement Form attached as Appendix C.

A daily morning briefing to cover safety procedures and contingency plans in the event of an emergency is to be included with a discussion of the day's activities. These daily meetings will be recorded on the Daily Tailgate Safety Meeting Form. A copy of the Daily Tailgate Safety Meeting Form is included in Appendix D.

# 9. MEDICAL SURVEILLANCE REQUIREMENTS

BC Site personnel, including subcontractors and site visitors, who will or may work in an area designated as an exclusion zone must have fulfilled the appropriate medical monitoring requirements in accordance with 29 CFR 1910.120(f). Each individual entering an exclusion zone must have successfully completed an annual surveillance examination and/or an initial baseline examination within the last 12 months.

Medical surveillance is conducted as a routine program for BC field staff in accordance with the requirements of 29 CFR 1910.120(f). There will not be any special medical tests or examinations required for staff involved in this project.

A Hepatitis B vaccination will be offered to BC personnel before the person participates in a task where direct exposure to potentially infectious materials is a possibility (i.e., first aid or CPR). For personnel who have potential exposure to sanitary wastes, a current tetanus/diphtheria inoculation or booster is recommended.

# 10. CONTINGENCY PROCEDURES

Minimum emergency equipment maintained on site will include a fully charged ABC dry chemical fire extinguisher, an adequately stocked first aid kit, and an emergency eyewash station (when corrosive chemicals are present). In addition, employees will consider maintaining the personal emergency supply items listed in Section 3: Natural Phenomena, as appropriate.

In the event of an emergency, site personnel will signal distress with three blasts of a horn (a vehicle horn will be sufficient), or other predetermined signal. Communication signals, such as hand signals, must be established where communication equipment is not feasible or in areas of loud noise.

It is the SSO's duty to evaluate the seriousness of the situation and to notify appropriate authorities. The first part of this plan contains emergency telephone numbers as well as directions to the hospital. Nearby telephone access must be identified and available to communicate with local authorities. If a nearby telephone is not available, a cellular telephone will be maintained on site during work activities. The operation of the cellular phone will be verified to ensure that a signal can be achieved at the work location.

The SSO, or designee, should contact local emergency services in the event of an emergency. After emergency services are notified, the PM and RSUM will be notified of the situation as soon as possible. If personal injury, property damage or equipment damage occurs, the PM and BC Risk Manager will be contacted as soon as practicable. An Accident/Incident Investigation Report will be completed within 24 hours by the SSO, or other designated person. A copy of the Accident/Incident Investigation Report is included in Appendix E.

MSHA Immediate Notification Rule:

At projects conducted at mining facilities, incident reporting requirements differ from OSHA standards. Site-specific MSHA reporting requirements must be addressed in conjunction with the RSUM and PM.

In order to comply with the MSHA Immediate Notification rule (50.10), Brown and Caldwell has developed the 'MSHA Immediately Reportable Accident/Injury Notification Procedure'. Note that incidents meeting the definition of "immediately reportable" must be reported to MSHA within 15 minutes of occurrence.

http://search.bc.com/health_safety/documents/BC_MSHANotificationProcedure.doc

This new procedure can be accessed by clicking the link above and includes a decision flowchart and accompanying instructions to help guide field personnel in the event of a reportable accident/injury at a mining site.

## 10.1 Injury or Illness

If an exposure or injury occurs, work will be temporarily halted until an assessment can be made to determine it is safe to continue work. The SSO, in consultation with the RSUM, will make the decision regarding the safety of continuing work. The SSO will conduct an investigation to determine the cause of the incident and steps to be taken to prevent recurrence.

In the event of an injury, the extent and nature of the victim's injuries will be assessed and first aid/CPR will be rendered as appropriate. If necessary, emergency services will be contacted or the individual may be transported to the nearby medical center. The mode of transportation and the eventual destination will be based on the nature and extent of the injury. A hospital route map is presented at the front of this HASP.

In the event of a life-threatening emergency, the injured person will be given immediate first aid and emergency medical services will be contacted by dialing the number listed in the Critical Project Information section at the beginning of this plan. The individual rendering first aid will follow directions given by emergency medical personnel via telephone.

## 10.2 Vehicle Collision or Property Damage

If a vehicle collision or property damage event occurs, the SSO, or designee, will contact the BC Risk Manager for appropriate action.

## 10.3 Fire

In the event of fire, the alarm will be sounded and Site personnel will evacuate to a safe location (preferably upwind). The SSO, or designee, should contact the local fire department immediately by dialing 911. When the fire department arrives, the SSO, or designated representative, will advise the commanding officer of the location and nature of the fire nature, and identification of hazardous materials on site. Only trained, experienced fire fighters should attempt to extinguish substantial fires at the Site. Site personnel should not attempt to fight fires, unless properly trained and equipped to do so. Site personnel should not attempt to fight a fire if it poses a risk to their personal safety.

Note that smoking is not permitted in controlled areas (i.e., exclusion or contamination reduction zones), near flammable or combustible materials, or in areas designated by the facility as non-smoking areas.

## 10.4 Underground Utilities

In the event that an underground conduit is damaged during subsurface work, mechanized equipment will immediately be shut off and personnel will evacuate the area until the nature of the piping can be determined. Depending on the nature of the broken conduit (e.g., natural gas, water, or electricity), the appropriate local utility will be contacted.

## 10.5 Site Evacuation

The SSO will designate evacuation routes and refuge areas to be used in the event of a Site emergency. Site personnel will stay upwind from vapors or smoke and upgradient from spills. If workers are in an Exclusion or Contamination Reduction Zone at the start of an emergency, they should exit through the established decontamination corridors, if possible. If evacuation cannot be done through an established decontamination area, site personnel will go to the nearest safe location and remove chemically-affected clothing there or, if possible, leave it near the Exclusion Zone. Personnel will assemble at the predetermined refuge following evacuation and decontamination. The SSO, or designated representative, will count and identify site personnel to verify that all have been evacuated safely.

## 10.6 Spill of Hazardous Materials

If a hazardous material spill occurs, site personnel should locate the source of the spill and determine the hazard to the health and safety of site workers and the public. Attempts to stop or reduce the flow should only be performed if it can be done without risk to personnel.

Isolate the spill area and do not allow entry by unauthorized personnel. De-energize sources of ignition within 100 feet of the spill, including vehicle engines. Should a spill be of the nature or extent that it cannot be safely contained, or poses an imminent threat to human health or the environment, an emergency cleanup contractor will be called out as soon as possible. Spill containment measures listed below are examples of responses to spills.

- Right or rotate containers to stop the flow of liquids. This step may be accomplished as soon as the spill or leak occurs, providing it is safe to do so.
- Sorbent pads, booms, or adjacent soil may be used to dike or berm materials, subject to flow, and to solidify liquids.
- Sorbent pads, soil, or booms, if used, must be placed in appropriate containers after use, pending disposal.
- Contaminated tools and equipment shall be collected for subsequent cleaning or disposal.

# 11. DOCUMENTATION

The implementation of the HASP must be documented on the appropriate forms (see appendices) to verify employee participation and protection. In addition, the regulatory requirements must be met for recordkeeping on training, medical surveillance, injuries and illnesses, exposure monitoring, health risk information, and respirator fit-tests. Documentation of each BC employee's health and safety records is maintained by the Health and Safety Data Manager in Walnut Creek, California.

Health and safety documentation and forms completed, as specified by this plan, are to be retained in the project file.

Other relevant project-specific health and safety documents, such as MSDSs or client-specified procedures, will be attached to this HASP in Appendix F.

# APPENDIX A

## Air Monitoring Form

BROWN AND CALDWELL

# Air Monitoring Form

Page ____ of ____

Instructions: Complete this form immediately prior to project start.

| | |
|---|---|
| Name of Project/Site: | Project No: |
| Project/Site Location: | |
| Employee Performing Air Monitoring:<br>(Print and Sign): | Date: |

## Photo Ionization/Flame Ionization Detectors (PIDs/FIDs)

| | | | |
|---|---|---|---|
| ☐ PID ☐ FID | Manufacturer: | Model: | Serial #: |
| Initial Calibration Reading: | | End-of-Use Calibration Reading: | |
| Calibration Standard/Concentration: | | | |

## Mini-RAM Dust Monitor

| | | |
|---|---|---|
| Manufacturer: | Model: | Serial #: |
| Zeroed in Z-Bag? ☐ Yes ☐ No | | |

## Monitoring Data

| Time | Location and Activity | PID/FID (ppm) | Mini-RAM (mg/m³) | Time | Location and Activity | PID/FID (ppm) | Mini-RAM (mg/m³) |
|---|---|---|---|---|---|---|---|
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# APPENDIX B

## Site Safety Checklist

BROWN AND CALDWELL

# Site Safety Checklist



Instructions: Complete this form immediately prior to project start.

| Name of Project/Site: | Project No: |
|---|---|
| Project/Site Location: | |
| Employee Completing Checklist:<br>(Print and Sign): | Date: |

| Yes | No | N/A | | Yes | No | N/A | |
|---|---|---|---|---|---|---|---|
| ☐ | ☐ | ☐ | Written Health and Safety (H&S) Plan is on site? | ☐ | ☐ | ☐ | Respirators are available, properly cleaned, and stored? |
| ☐ | ☐ | ☐ | Addenda to the H&S Plan are documented on site? | ☐ | ☐ | ☐ | Overhead utilities do not present a hazard to equipt./personnel? |
| ☐ | ☐ | ☐ | H&S Plan information matches conditions/activities at the site? | ☐ | ☐ | ☐ | Traffic control measures have been implemented? |
| ☐ | ☐ | ☐ | H&S Plan read/signed by all site personnel, including visitors? | ☐ | ☐ | ☐ | Trenches and excavations are safe for entry? |
| ☐ | ☐ | ☐ | Daily tailgate H&S meetings have been held/documented? | ☐ | ☐ | ☐ | Soil Spoils are at least 2 feet from the edge of the excavation? |
| ☐ | ☐ | ☐ | Site personnel have required training and medical? | ☐ | ☐ | ☐ | Emergency/FA equipt. is on site as described in the H&S Plan? |
| ☐ | ☐ | ☐ | Air monitoring is performed/documented per the H&S Plan? | ☐ | ☐ | ☐ | Drinking water is readily available? |
| ☐ | ☐ | ☐ | Air monitoring equipment has been calibrated daily? | ☐ | ☐ | ☐ | Phone is readily available for emergency use? |
| ☐ | ☐ | ☐ | Site zones are set up and observed where appropriate? | ☐ | ☐ | ☐ | Utility locator has cleared subject locations? |
| ☐ | ☐ | ☐ | Access to the work area limited to authorized personnel? | ☐ | ☐ | ☐ | Proper drum and material handling techniques are used? |
| ☐ | ☐ | ☐ | Decontamination procedures followed/match the H&S Plan? | ☐ | ☐ | ☐ | Waste containers/drums are labeled appropriately? |
| ☐ | ☐ | ☐ | Decontamination stations (incl. hand/face wash) are set up and used? | ☐ | ☐ | ☐ | Ext. cords are grounded/protected from water/vehicle traffic? |
| ☐ | ☐ | ☐ | PPE used matches H&S Plan requirements? | ☐ | ☐ | ☐ | Tools and equipment are in good working order? |
| ☐ | ☐ | ☐ | Hearing protection used where appropriate? | ☐ | ☐ | ☐ | GFCIs used for portable electrical tools and equipment? |

**Notes**

*(All "no" answers must be addressed and corrected immediately. Note additional health and safety observations here):*

# APPENDIX C

## H&S Plan Acknowledgement Form

# H&S Plan Acknowledgement Form



Instructions: Complete this form immediately prior to project start or as new personnel join the project.

| Name of Project/Site: | Project No: |
|---|---|
| Project/Site Location: | |
| Employee Performing Briefing:<br>(Print and Sign): | Date: |

**Employee Acknowledgement:**

The following signatures indicate that these personnel have read and/or been briefed on this Health and Safety (H&S) Plan and understand the potential hazards/controls for the work to be performed.

Important Notice to Subcontractor(s):

Subcontractors are responsible for developing, maintaining, and implementing their own health and safety programs, policies, procedures and equipment as necessary to protect their workers, and others, from their activities. Subcontractors shall operate equipment in accordance with their standard operating procedures as well as manufacturer's specifications. Any project monitoring activities conducted by BC at the Site shall not in any way relieve subcontractors of their critical obligation to monitor their operations and employees for the determination of exposure to hazards that may be present at the Site and to provide required guidance and protection. If requested, subcontractors will provide BC with a copy of their own H&S Plan for this project or other health and safety program documents for review.

BC's Health and Safety Plan has been prepared specifically for this project and is intended to address health and safety issues solely with respect to the activities of BC's own employees at the site. A copy of BC's H&S Plan may be provided to subcontractors in an effort to help them identify expected conditions at the site and general site hazards. The subcontractor shall remain responsible for identifying and evaluating hazards at the site as they pertain to their activities and for taking appropriate precautions. For example, BC's H&S Plan does not address specific hazards associated with tasks and equipment that are particular to the subcontractor's scope of work and site activities. (e.g., operation of a drill rig, excavator, crane or other equipment). Subcontractors are not to rely on BC's H&S Plan to identify all hazards that may be present at the Site. Subcontractor personnel are expected to comply fully with subcontractor's Health and Safety Plan and to observe the minimum safety guidelines applicable to their activities which may be identified in the BC H&S Plan. Failure to do so may result in the removal of the subcontractor or any of the subcontractor's workers from the job site.

| Print Sign Date | Print Sign Date |
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# APPENDIX D

## Daily Tailgate Meeting Form

BROWN AND CALDWELL

# Daily Tailgate Meeting Form



| Name of Project/Site: | Project No: |
|---|---|
| Project/Site Location: | |
| Employee Completing Form:<br>(Print and Sign): | Date: |

## Employee Acknowledgement:

The following signatures indicate that these personnel have read and/or been briefed on this Health and Safety (H&S) Plan and understand the potential hazards/controls for the work to be performed.

Important Notice to Subcontractor(s):

Subcontractors are responsible for developing, maintaining, and implementing their own health and safety programs, policies, procedures and equipment as necessary to protect their workers, and others, from their activities. Subcontractors shall operate equipment in accordance with their standard operating procedures as well as manufacturer's specifications. Any project monitoring activities conducted by BC at the Site shall not in any way relieve subcontractors of their critical obligation to monitor their operations and employees for the determination of exposure to hazards that may be present at the Site and to provide required guidance and protection. If requested, subcontractors will provide BC with a copy of their own H&S Plan for this project or other health and safety program documents for review.

BC's Health and Safety Plan has been prepared specifically for this project and is intended to address health and safety issues solely with respect to the activities of BC's own employees at the site. A copy of BC's H&S Plan may be provided to subcontractors in an effort to help them identify expected conditions at the site and general site hazards. The subcontractor shall remain responsible for identifying and evaluating hazards at the site as they pertain to their activities and for taking appropriate precautions. For example, BC's H&S Plan does not address specific hazards associated with tasks and equipment that are particular to the subcontractor's scope of work and site activities. (e.g., operation of a drill rig, excavator, crane or other equipment). Subcontractors are not to rely on BC's H&S Plan to identify all hazards that may be present at the Site. Subcontractor personnel are expected to comply fully with subcontractor's Health and Safety Plan and to observe the minimum safety guidelines applicable to their activities which may be identified in the BC H&S Plan. Failure to do so may result in the removal of the subcontractor or any of the subcontractor's workers from the job site.

| Print | Sign | Date | Print | Sign | Date |
|---|---|---|---|---|---|
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## Plan of the Day

(Describe the activities that are planned to be performed today)

## Potential Hazards and Topics Discussed

(Describe the potential hazards and controls that may be associated with planned activities)

☐ Electrical ☐ Chemical ☐ Biological ☐ Physical ☐ Other (specify):

# APPENDIX E

## Incident Investigation Report

BROWN AND CALDWELL

# Incident Investigation Report



Instructions:

If an accident or incident occurs, complete all applicable information in this form, make a copy for your records, and immediately forward the original to the office Health and Safety Coordinator (HSC). If fields are not applicable, indicate with "N/A". Use separate sheet(s) if necessary and attach sketches, photographs, or other information that may be helpful in understanding how the accident/incident occurred.
HSC – Review and enter report into the BC Online Safety Observation and Incident Reporting System within 3 workdays of receipt. File original in appropriate office health and safety file.

NOTE:

This report is important – please take the time necessary to properly complete it. Incomplete reports will be forwarded to appropriate management for review and action.

## General Information

| | | | |
|---|---|---|---|
| Date of Accident/Incident | Time of Accident/Incident: | Date Accident/Incident Reported: | To Whom: |
| Exact Location of Accident/Incident (Street, City, State): | | | BC Office: |
| Name Project: | | | Project Number: |
| Employee Completing the Investigation (Print and Sign): | | | Date: |

## Injured/Ill Employee/Property Damage Information

| | | | |
|---|---|---|---|
| Employee Name: | Employee No. | Department: | Phone Number: |
| Job Title: | | Manager's Name and Phone Number: | |
| Nature of Injury/Illness (laceration, contusion, strain, etc.): | | Body Part Affected (arm, leg, head, hand, etc.): | |
| Describe Property Damage and Estimate Loss : | | | |

## Description of Accident/Incident

Describe the accident sequentially, beginning with the initiating event, and followed by secondary and tertiary events. End with the nature and extent of injury/damage. Name any object or substance and tell how they were included. Examples: 1) Employee was pulling utility cart that was loaded with wastepaper from office area to hallway. Wheel of utility cart caught against door casing. Bags of heavy wastepaper that were in cart fell to end of cart. Cart tipped over onto foot of employee. Right foot was crushed between utility cart and door casing, resulting in severe contusion to right foot of employee. 2) Employee was driving rental car from office to project site. Car struck icy section of road. Employee lost control of vehicle, which skidded across road into concrete abutment on side of road. Accident resulted in damage to right fender, tire, headlight, and grill.

BROWN AND CALDWELL

# Incident Investigation Report



## Analysis of Accident Causes

### Immediate Causes - Substandard Actions

What substandard actions caused or could have caused the accident/incident? State the actions on the part of the employee or others that contributed to the occurrence of the accident/incident. Examples: 1) Employee overloaded the utility cart with wastepaper. 2) Employee exceeded safe speed on icy road, and was inattentive to hazard.

### Codes (check all that apply)

- ☐ 1. Operating equipment without authority
- ☐ 2. Failure to warn
- ☐ 3. Failure to secure
- ☐ 4. Operating at improper speed
- ☐ 5. Making safety devices inoperable
- ☐ 6. Removing safety devices
- ☐ 7. Using defective equipment
- ☐ 8. Using equipment improperly
- ☐ 9. Failure to use PPE properly
- ☐ 10. Improper loading
- ☐ 11. Improper placement
- ☐ 12. Improper lifting
- ☐ 13. Improper position for task
- ☐ 14. Servicing equipment in operation
- ☐ 15. Horseplay
- ☐ 16. Alcohol or drug influence
- ☐ 17. Other (specify)

### Immediate Causes - Substandard Conditions

What substandard conditions caused or could have caused the accident/incident? State the conditions that existed at the time of the accident (the specific control factors that were or may have been the direct or immediate cause or causes of the accident). Examples: 1) Wheel of utility cart was worn and would not roll properly; utility cart was overloaded with wastepaper. 2) Road was covered with icy spots; weather was foggy.

### Codes (check all that apply)

- ☐ 1. Inadequate guards or barriers
- ☐ 2. Inadequate or improper PPE
- ☐ 3. Defective tools, equipment, or materials
- ☐ 4. Congestion or restricted action
- ☐ 5. Inadequate earning system
- ☐ 6. Fire and explosion hazards
- ☐ 7. Poor housekeeping
- ☐ 8. Noise exposures
- ☐ 9. Radiation exposures
- ☐ 10. High or low temperature exposures
- ☐ 11. Inadequate or excess illumination
- ☐ 12. Inadequate ventilation
- ☐ 13. Hazardous environ. conditions (vapors, dusts, etc.)
- ☐ 14. Other (specify)

### Basic Causes - Personal and Job Factors

What personal and/or job factors caused or could have caused the accident/incident? State the influencing factors or underlying causes, either conditions or actions or both, that contributed to the accident/incident. Examples: 1) Employee had not been instructed in overloading hazards. 2) Employee had not been trained in driving under winter conditions; company has no driver training program.

### Codes (check all that apply)

Personal Factors

- ☐ 1. Inadequate capability ☐ 2. Lack of knowledge ☐ 3. Lack of skill ☐ 4. Improper motivation
- ☐ 5. Other (specify):_____

Job Factors

- ☐ 1. Inadequate leadership/supervision ☐ 2. Inadequate engineering ☐ 3. Inadequate purchasing ☐ 4. Inadequate maintenance ☐ 5. Inadequate tools/equipment
- ☐ 6. Inadequate work standards/procedures ☐ 7. Inadequate Wear and tear ☐ 8. Abuse or misuse
- ☐ 9. Other (specify):

## Remedial Actions

Describe the actions taken or planned to prevent recurrence of accident/incident - provide the implementation date and person responsible for any planned corrective action.. Examples: 1) Wheels of utility cart were replaced with larger size wheels; all carts were inspected for safe operation; employees were instructed in overloading hazards. 2) All project personnel were instructed at the safety training meeting on driving under hazardous conditions; driver training program will be implemented.

### Codes (check all that apply)

Job Factors

- ☐ 1. Reinstruction of personnel involved ☐ 2. Reprimand of personnel involved ☐ 3. Temporary/permanent reassignment of personnel ☐ 4. Action to improve clean-up
- ☐ 5. Equipment repair or replacement ☐ 6. Improve design ☐ 7. Improve construction ☐ 8. Improve PPE ☐ 9. Install of safety guard or device ☐ 10. Work method change
- ☐ 11. Order use of safer materials ☐ 12. Regional Safety Unit Manager Review
- ☐ 13. Other (specify):

# APPENDIX F

## Miscellaneous Health and Safety Information

# **Appendix E:** Laboratory Reports



Use of contents on this sheet is subject to the limitations specified at the beginning of this document.

# Confirmation Samples

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

November 22, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: Olympia Soils
Pace Project No.: 255662

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



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without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# CERTIFICATIONS

Project: Olympia Soils
Pace Project No.: 255662

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255662

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255662001** | **CNF-4-1-15** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662002** | **CNF-4-2-13** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662003** | **CNF-4-3-12** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662004** | **CNF-4-4-12** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662005** | **CNF-4-5-12** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662006** | **CNF-4-6-10.5** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662007** | **CNF-4-7-6** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662008** | **CNF-4-8-2.5** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662009** | **CNF-4-9-11** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662010** | **CNF-4-10-7** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662011** | **CNF-4-11-2** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662012** | **CNF-4-12-11** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662013** | **CNF-4-13-2.5** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662014** | **CNF-4-14-11** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662015** | **CNF-4-15-3.5** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662016** | **CNF-4-16-2** | EPA 6020 | CJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **255662017** | **CNF-5-1-15** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662018** | **CNF-5-2-13.5** | NWTPH-Dx | ERB | 4 | PASI-S |



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Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255662

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662019** | **CNF-5-3-10** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662020** | **CNF-5-4-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662021** | **CNF-5-5-13.5** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662022** | **CNF-5-6-10** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662023** | **CNF-5-7-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662024** | **CNF-5-8-13** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662025** | **CNF-5-9-10** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662026** | **CNF-5-10-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662027** | **CNF-5-11-13** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255662

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662028** | **CNF-5-12-10** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662029** | **CNF-5-13-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 1 | PASI-M |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255662030** | **Trip Blank Soil** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-4-1-15** **Lab ID: 255662001** Collected: 11/08/10 10:10 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.1** | mg/kg | 0.53 | 20 | 11/10/10 13:54 | 11/11/10 20:33 | 7440-38-2 | |
| Copper | **10.0** | mg/kg | 0.53 | 20 | 11/10/10 13:54 | 11/12/10 16:41 | 7440-50-8 | |
| Lead | **2.3** | mg/kg | 0.53 | 20 | 11/10/10 13:54 | 11/11/10 20:33 | 7439-92-1 | |
| Nickel | **16.2** | mg/kg | 0.53 | 20 | 11/10/10 13:54 | 11/12/10 16:41 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **26.9** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-2-13** **Lab ID: 255662002** Collected: 11/08/10 10:18 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.4** | mg/kg | 0.67 | 20 | 11/10/10 13:54 | 11/11/10 20:50 | 7440-38-2 | |
| Copper | **28.9** | mg/kg | 0.67 | 20 | 11/10/10 13:54 | 11/12/10 17:03 | 7440-50-8 | |
| Lead | **9.4** | mg/kg | 0.67 | 20 | 11/10/10 13:54 | 11/11/10 20:50 | 7439-92-1 | |
| Nickel | **27.8** | mg/kg | 0.67 | 20 | 11/10/10 13:54 | 11/12/10 17:03 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **46.3** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-3-12** **Lab ID: 255662003** Collected: 11/08/10 10:22 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.2** | mg/kg | 1.3 | 20 | 11/10/10 13:54 | 11/11/10 20:55 | 7440-38-2 | |
| Copper | **37.8** | mg/kg | 1.3 | 20 | 11/10/10 13:54 | 11/12/10 17:08 | 7440-50-8 | |
| Lead | **14.3** | mg/kg | 1.3 | 20 | 11/10/10 13:54 | 11/11/10 20:55 | 7439-92-1 | |
| Nickel | **31.2** | mg/kg | 1.3 | 20 | 11/10/10 13:54 | 11/12/10 17:08 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **65.5** | % | 0.10 | 1 | | 11/12/10 00:00 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-4-4-12** **Lab ID: 255662004** Collected: 11/08/10 10:28 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.6** | mg/kg | 1.1 | 20 | 11/10/10 13:54 | 11/11/10 20:59 | 7440-38-2 | |
| Copper | **26.4** | mg/kg | 1.1 | 20 | 11/10/10 13:54 | 11/12/10 17:12 | 7440-50-8 | |
| Lead | **11.4** | mg/kg | 1.1 | 20 | 11/10/10 13:54 | 11/11/10 20:59 | 7439-92-1 | |
| Nickel | **22.6** | mg/kg | 1.1 | 20 | 11/10/10 13:54 | 11/12/10 17:12 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **56.8** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-5-12** **Lab ID: 255662005** Collected: 11/08/10 10:35 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 0.54 | 20 | 11/10/10 13:54 | 11/11/10 21:04 | 7440-38-2 | |
| Copper | **23.8** | mg/kg | 0.54 | 20 | 11/10/10 13:54 | 11/12/10 17:16 | 7440-50-8 | |
| Lead | **9.7** | mg/kg | 0.54 | 20 | 11/10/10 13:54 | 11/11/10 21:04 | 7439-92-1 | |
| Nickel | **25.3** | mg/kg | 0.54 | 20 | 11/10/10 13:54 | 11/12/10 17:16 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **34.4** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-6-10.5** **Lab ID: 255662006** Collected: 11/08/10 10:38 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | ND | mg/kg | 2.2 | 20 | 11/10/10 13:54 | 11/11/10 21:08 | 7440-38-2 | |
| Copper | **7.4** | mg/kg | 2.2 | 20 | 11/10/10 13:54 | 11/12/10 17:21 | 7440-50-8 | |
| Lead | **6.4** | mg/kg | 2.2 | 20 | 11/10/10 13:54 | 11/11/10 21:08 | 7439-92-1 | |
| Nickel | **2.2** | mg/kg | 2.2 | 20 | 11/10/10 13:54 | 11/12/10 17:21 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **79.5** | % | 0.10 | 1 | | 11/12/10 00:00 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-4-7-6** **Lab ID: 255662007** Collected: 11/08/10 10:42 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.2** | mg/kg | 0.55 | 20 | 11/10/10 13:54 | 11/11/10 21:13 | 7440-38-2 | |
| Copper | **37.3** | mg/kg | 0.55 | 20 | 11/10/10 13:54 | 11/12/10 17:25 | 7440-50-8 | |
| Lead | **9.3** | mg/kg | 0.55 | 20 | 11/10/10 13:54 | 11/11/10 21:13 | 7439-92-1 | |
| Nickel | **43.3** | mg/kg | 0.55 | 20 | 11/10/10 13:54 | 11/12/10 17:25 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **22.9** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-8-2.5** **Lab ID: 255662008** Collected: 11/08/10 10:45 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.1** | mg/kg | 0.51 | 20 | 11/10/10 13:54 | 11/11/10 21:30 | 7440-38-2 | |
| Copper | **36.7** | mg/kg | 0.51 | 20 | 11/10/10 13:54 | 11/12/10 17:30 | 7440-50-8 | |
| Lead | **8.7** | mg/kg | 0.51 | 20 | 11/10/10 13:54 | 11/11/10 21:30 | 7439-92-1 | |
| Nickel | **47.1** | mg/kg | 0.51 | 20 | 11/10/10 13:54 | 11/12/10 17:30 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **18.6** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-9-11** **Lab ID: 255662009** Collected: 11/08/10 10:52 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.0** | mg/kg | 1.9 | 20 | 11/10/10 13:54 | 11/11/10 21:35 | 7440-38-2 | |
| Copper | **18.0** | mg/kg | 1.9 | 20 | 11/10/10 13:54 | 11/12/10 17:34 | 7440-50-8 | |
| Lead | **9.8** | mg/kg | 1.9 | 20 | 11/10/10 13:54 | 11/11/10 21:35 | 7439-92-1 | |
| Nickel | **7.6** | mg/kg | 1.9 | 20 | 11/10/10 13:54 | 11/12/10 17:34 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **79.2** | % | 0.10 | 1 | | 11/12/10 00:00 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-4-10-7** **Lab ID: 255662010** Collected: 11/08/10 10:55 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.4** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/11/10 21:39 | 7440-38-2 | |
| Copper | **46.4** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/12/10 17:47 | 7440-50-8 | |
| Lead | **7.3** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/11/10 21:39 | 7439-92-1 | |
| Nickel | **52.5** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/12/10 17:47 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **26.2** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-11-2** **Lab ID: 255662011** Collected: 11/08/10 11:00 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **14.6** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/11/10 21:43 | 7440-38-2 | M6 |
| Copper | **50.0** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/12/10 17:52 | 7440-50-8 | M6 |
| Lead | **85.0** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/11/10 21:43 | 7439-92-1 | M6 |
| Nickel | **26.3** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/12/10 17:52 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **19.2** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-12-11** **Lab ID: 255662012** Collected: 11/08/10 11:03 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.7** | mg/kg | 2.9 | 20 | 11/10/10 13:54 | 11/11/10 21:52 | 7440-38-2 | |
| Copper | **23.9** | mg/kg | 2.9 | 20 | 11/10/10 13:54 | 11/12/10 18:01 | 7440-50-8 | |
| Lead | **122** | mg/kg | 2.9 | 20 | 11/10/10 13:54 | 11/11/10 21:52 | 7439-92-1 | |
| Nickel | **13.4** | mg/kg | 2.9 | 20 | 11/10/10 13:54 | 11/12/10 18:01 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **83.8** | % | 0.10 | 1 | | 11/12/10 00:00 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-4-13-2.5** **Lab ID: 255662013** Collected: 11/08/10 11:07 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **1.6** | mg/kg | 0.49 | 20 | 11/10/10 13:54 | 11/11/10 21:57 | 7440-38-2 | |
| Copper | **9.9** | mg/kg | 0.49 | 20 | 11/10/10 13:54 | 11/12/10 18:05 | 7440-50-8 | |
| Lead | **1.7** | mg/kg | 0.49 | 20 | 11/10/10 13:54 | 11/11/10 21:57 | 7439-92-1 | |
| Nickel | **15.1** | mg/kg | 0.49 | 20 | 11/10/10 13:54 | 11/12/10 18:05 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.8** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-14-11** **Lab ID: 255662014** Collected: 11/08/10 11:12 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | ND | mg/kg | 3.0 | 20 | 11/10/10 13:54 | 11/11/10 22:01 | 7440-38-2 | |
| Copper | **17.6** | mg/kg | 3.0 | 20 | 11/10/10 13:54 | 11/12/10 18:09 | 7440-50-8 | |
| Lead | **17.3** | mg/kg | 3.0 | 20 | 11/10/10 13:54 | 11/11/10 22:01 | 7439-92-1 | |
| Nickel | **11.1** | mg/kg | 3.0 | 20 | 11/10/10 13:54 | 11/12/10 18:09 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **85.1** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-4-15-3.5** **Lab ID: 255662015** Collected: 11/08/10 11:15 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.2** | mg/kg | 0.59 | 20 | 11/10/10 13:54 | 11/11/10 22:06 | 7440-38-2 | |
| Copper | **15.7** | mg/kg | 0.59 | 20 | 11/10/10 13:54 | 11/12/10 18:14 | 7440-50-8 | |
| Lead | **2.4** | mg/kg | 0.59 | 20 | 11/10/10 13:54 | 11/11/10 22:06 | 7439-92-1 | |
| Nickel | **37.7** | mg/kg | 0.59 | 20 | 11/10/10 13:54 | 11/12/10 18:14 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **23.7** | % | 0.10 | 1 | | 11/12/10 00:00 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-4-16-2** **Lab ID: 255662016** Collected: 11/08/10 11:18 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/11/10 22:10 | 7440-38-2 | |
| Copper | **17.6** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/12/10 18:18 | 7440-50-8 | |
| Lead | **8.7** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/11/10 22:10 | 7439-92-1 | |
| Nickel | **25.0** | mg/kg | 0.47 | 20 | 11/10/10 13:54 | 11/12/10 18:18 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **11.7** | % | 0.10 | 1 | | 11/12/10 00:00 | | |

**Sample: CNF-5-1-15** **Lab ID: 255662017** Collected: 11/08/10 13:05 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 23.9 | 1 | 11/16/10 15:25 | 11/17/10 13:19 | | |
| Motor Oil Range SG | ND | mg/kg | 95.6 | 1 | 11/16/10 15:25 | 11/17/10 13:19 | 64742-65-0 | |
| n-Octacosane (S) SG | 117 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:19 | 630-02-4 | |
| o-Terphenyl (S) SG | 104 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:19 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.9 | 1 | 11/12/10 17:00 | 11/14/10 14:36 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 14:36 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 104 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 14:36 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **2.8** | mg/kg | 0.57 | 20 | 11/10/10 14:28 | 11/12/10 18:40 | 7439-92-1 | M6 |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.4 | 1 | | 11/11/10 22:35 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.4 | 1 | | 11/11/10 22:35 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.4 | 1 | | 11/11/10 22:35 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.3 | 1 | | 11/11/10 22:35 | 1330-20-7 | |
| Dibromofluoromethane (S) | 86 | % | 80-136 | 1 | | 11/11/10 22:35 | 1868-53-7 | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 11/11/10 22:35 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 130 | % | 72-122 | 1 | | 11/11/10 22:35 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/11/10 22:35 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **23.0** | % | 0.10 | 1 | | 11/14/10 18:16 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-2-13.5** **Lab ID: 255662018** Collected: 11/08/10 13:20 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 37.4 | 1 | 11/16/10 15:25 | 11/17/10 13:36 | | |
| Motor Oil Range SG | ND | mg/kg | 149 | 1 | 11/16/10 15:25 | 11/17/10 13:36 | 64742-65-0 | |
| n-Octacosane (S) SG | 110 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:36 | 630-02-4 | |
| o-Terphenyl (S) SG | 101 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:36 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 16.9 | 1 | 11/12/10 17:00 | 11/14/10 14:59 | | |
| a,a,a-Trifluorotoluene (S) | 91 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 14:59 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 85 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 14:59 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **14.0** | mg/kg | 0.75 | 20 | 11/10/10 14:28 | 11/12/10 18:58 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 6.3 | 1 | | 11/11/10 22:54 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 6.3 | 1 | | 11/11/10 22:54 | 100-41-4 | |
| Toluene | ND | ug/kg | 6.3 | 1 | | 11/11/10 22:54 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 18.9 | 1 | | 11/11/10 22:54 | 1330-20-7 | |
| Dibromofluoromethane (S) | 84 | % | 80-136 | 1 | | 11/11/10 22:54 | 1868-53-7 | |
| Toluene-d8 (S) | 124 | % | 80-120 | 1 | | 11/11/10 22:54 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 153 | % | 72-122 | 1 | | 11/11/10 22:54 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 88 | % | 80-143 | 1 | | 11/11/10 22:54 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **48.0** | % | 0.10 | 1 | | 11/14/10 18:17 | | |

**Sample: CNF-5-3-10** **Lab ID: 255662019** Collected: 11/08/10 13:30 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | **135** | mg/kg | 84.3 | 1 | 11/16/10 15:25 | 11/17/10 13:53 | | |
| Motor Oil Range SG | ND | mg/kg | 337 | 1 | 11/16/10 15:25 | 11/17/10 13:53 | 64742-65-0 | |
| n-Octacosane (S) SG | 94 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:53 | 630-02-4 | |
| o-Terphenyl (S) SG | 78 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:53 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 45.2 | 1 | 11/12/10 17:00 | 11/14/10 15:23 | | |
| a,a,a-Trifluorotoluene (S) | 92 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 15:23 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 82 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 15:23 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **127** | mg/kg | 2.1 | 20 | 11/10/10 14:28 | 11/12/10 19:02 | 7439-92-1 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-3-10** **Lab ID: 255662019** Collected: 11/08/10 13:30 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 17.2 | 1 | | 11/11/10 23:13 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 17.2 | 1 | | 11/11/10 23:13 | 100-41-4 | |
| Toluene | ND | ug/kg | 17.2 | 1 | | 11/11/10 23:13 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 51.6 | 1 | | 11/11/10 23:13 | 1330-20-7 | |
| Dibromofluoromethane (S) | 98 | % | 80-136 | 1 | | 11/11/10 23:13 | 1868-53-7 | |
| Toluene-d8 (S) | 148 | % | 80-120 | 1 | | 11/11/10 23:13 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 144 | % | 72-122 | 1 | | 11/11/10 23:13 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 11/11/10 23:13 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **76.9** | % | 0.10 | 1 | | 11/14/10 18:17 | | |

**Sample: CNF-5-4-2** **Lab ID: 255662020** Collected: 11/08/10 13:40 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 21.6 | 1 | 11/16/10 15:25 | 11/17/10 14:10 | | |
| Motor Oil Range SG | ND | mg/kg | 86.3 | 1 | 11/16/10 15:25 | 11/17/10 14:10 | 64742-65-0 | |
| n-Octacosane (S) SG | 117 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:10 | 630-02-4 | |
| o-Terphenyl (S) SG | 107 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:10 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | **35.7** | mg/kg | 5.3 | 1 | 11/12/10 17:00 | 11/14/10 15:46 | | |
| a,a,a-Trifluorotoluene (S) | 81 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 15:46 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 79 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 15:46 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **3.8** | mg/kg | 0.44 | 20 | 11/10/10 14:28 | 11/12/10 19:07 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.6 | 1 | | 11/11/10 23:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.6 | 1 | | 11/11/10 23:31 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.6 | 1 | | 11/11/10 23:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.9 | 1 | | 11/11/10 23:31 | 1330-20-7 | |
| Dibromofluoromethane (S) | 90 | % | 80-136 | 1 | | 11/11/10 23:31 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 11/11/10 23:31 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 123 | % | 72-122 | 1 | | 11/11/10 23:31 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/11/10 23:31 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.7** | % | 0.10 | 1 | | 11/14/10 18:18 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-5-13.5** **Lab ID: 255662021** Collected: 11/08/10 13:55 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 35.1 | 1 | 11/16/10 15:25 | 11/17/10 14:26 | | |
| Motor Oil Range SG | ND | mg/kg | 141 | 1 | 11/16/10 15:25 | 11/17/10 14:26 | 64742-65-0 | |
| n-Octacosane (S) SG | 121 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:26 | 630-02-4 | |
| o-Terphenyl (S) SG | 107 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:26 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 14.9 | 1 | 11/12/10 17:00 | 11/14/10 16:09 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 16:09 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 90 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 16:09 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **15.6** | mg/kg | 0.93 | 20 | 11/10/10 14:28 | 11/12/10 19:11 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 6.0 | 1 | | 11/11/10 23:50 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 6.0 | 1 | | 11/11/10 23:50 | 100-41-4 | |
| Toluene | ND | ug/kg | 6.0 | 1 | | 11/11/10 23:50 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 18.0 | 1 | | 11/11/10 23:50 | 1330-20-7 | |
| Dibromofluoromethane (S) | 89 | % | 80-136 | 1 | | 11/11/10 23:50 | 1868-53-7 | |
| Toluene-d8 (S) | 119 | % | 80-120 | 1 | | 11/11/10 23:50 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 144 | % | 72-122 | 1 | | 11/11/10 23:50 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 92 | % | 80-143 | 1 | | 11/11/10 23:50 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **47.5** | % | 0.10 | 1 | | 11/14/10 18:19 | | |

**Sample: CNF-5-6-10** **Lab ID: 255662022** Collected: 11/08/10 14:05 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 103 | 1 | 11/16/10 15:25 | 11/17/10 15:17 | | |
| Motor Oil Range SG | ND | mg/kg | 410 | 1 | 11/16/10 15:25 | 11/17/10 15:17 | 64742-65-0 | |
| n-Octacosane (S) SG | 115 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 15:17 | 630-02-4 | |
| o-Terphenyl (S) SG | 92 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 15:17 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 61.4 | 1 | 11/12/10 17:00 | 11/14/10 16:33 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 16:33 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 76 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 16:33 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **64.9** | mg/kg | 2.7 | 20 | 11/10/10 14:28 | 11/12/10 19:24 | 7439-92-1 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-6-10** **Lab ID: 255662022** Collected: 11/08/10 14:05 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 22.0 | 1 | | 11/12/10 00:09 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 22.0 | 1 | | 11/12/10 00:09 | 100-41-4 | |
| Toluene | ND | ug/kg | 22.0 | 1 | | 11/12/10 00:09 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 66.0 | 1 | | 11/12/10 00:09 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 11/12/10 00:09 | 1868-53-7 | |
| Toluene-d8 (S) | 147 | % | 80-120 | 1 | | 11/12/10 00:09 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 149 | % | 72-122 | 1 | | 11/12/10 00:09 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 11/12/10 00:09 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **81.8** | % | 0.10 | 1 | | 11/14/10 18:19 | | |

**Sample: CNF-5-7-2** **Lab ID: 255662023** Collected: 11/08/10 14:20 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 21.1 | 1 | 11/16/10 15:25 | 11/17/10 15:34 | | |
| Motor Oil Range SG | ND | mg/kg | 84.3 | 1 | 11/16/10 15:25 | 11/17/10 15:34 | 64742-65-0 | |
| n-Octacosane (S) SG | 118 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 15:34 | 630-02-4 | |
| o-Terphenyl (S) SG | 107 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 15:34 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 4.3 | 1 | 11/12/10 17:00 | 11/14/10 16:57 | | |
| a,a,a-Trifluorotoluene (S) | 105 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 16:57 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 97 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 16:57 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **2.1** | mg/kg | 0.50 | 20 | 11/10/10 14:28 | 11/12/10 19:29 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/12/10 00:28 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/12/10 00:28 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/12/10 00:28 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.3 | 1 | | 11/12/10 00:28 | 1330-20-7 | |
| Dibromofluoromethane (S) | 87 | % | 80-136 | 1 | | 11/12/10 00:28 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 11/12/10 00:28 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 126 | % | 72-122 | 1 | | 11/12/10 00:28 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/12/10 00:28 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.1** | % | 0.10 | 1 | | 11/14/10 18:20 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-8-13** **Lab ID: 255662024** Collected: 11/08/10 14:35 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 102 | 1 | 11/16/10 15:25 | 11/17/10 12:27 | | |
| Motor Oil Range SG | ND | mg/kg | 407 | 1 | 11/16/10 15:25 | 11/17/10 12:27 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 12:27 | 630-02-4 | |
| o-Terphenyl (S) SG | 81 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 12:27 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 59.4 | 1 | 11/12/10 17:00 | 11/14/10 17:43 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 17:43 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 11/12/10 17:00 | 11/14/10 17:43 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **28.2** | mg/kg | 2.4 | 20 | 11/10/10 14:28 | 11/12/10 19:33 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 21.9 | 1 | | 11/12/10 00:47 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 21.9 | 1 | | 11/12/10 00:47 | 100-41-4 | |
| Toluene | ND | ug/kg | 21.9 | 1 | | 11/12/10 00:47 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 65.8 | 1 | | 11/12/10 00:47 | 1330-20-7 | |
| Dibromofluoromethane (S) | 86 | % | 80-136 | 1 | | 11/12/10 00:47 | 1868-53-7 | |
| Toluene-d8 (S) | 132 | % | 80-120 | 1 | | 11/12/10 00:47 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 148 | % | 72-122 | 1 | | 11/12/10 00:47 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 91 | % | 80-143 | 1 | | 11/12/10 00:47 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **81.0** | % | 0.10 | 1 | | 11/14/10 18:21 | | |

**Sample: CNF-5-9-10** **Lab ID: 255662025** Collected: 11/08/10 14:50 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | **137** | mg/kg | 98.6 | 1 | 11/16/10 15:25 | 11/17/10 12:51 | | |
| Motor Oil Range SG | ND | mg/kg | 394 | 1 | 11/16/10 15:25 | 11/17/10 12:51 | 64742-65-0 | |
| n-Octacosane (S) SG | 113 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 12:51 | 630-02-4 | |
| o-Terphenyl (S) SG | 99 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 12:51 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 61.3 | 1 | 11/16/10 17:00 | 11/17/10 04:13 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 04:13 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 88 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 04:13 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **18.9** | mg/kg | 2.2 | 20 | 11/10/10 14:28 | 11/12/10 19:38 | 7439-92-1 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-9-10** **Lab ID: 255662025** Collected: 11/08/10 14:50 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 23.8 | 1 | | 11/13/10 12:54 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 23.8 | 1 | | 11/13/10 12:54 | 100-41-4 | |
| Toluene | ND | ug/kg | 23.8 | 1 | | 11/13/10 12:54 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 71.4 | 1 | | 11/13/10 12:54 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 11/13/10 12:54 | 1868-53-7 | |
| Toluene-d8 (S) | 119 | % | 80-120 | 1 | | 11/13/10 12:54 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 120 | % | 72-122 | 1 | | 11/13/10 12:54 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 11/13/10 12:54 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **79.9** | % | 0.10 | 1 | | 11/14/10 18:29 | | |

**Sample: CNF-5-10-2** **Lab ID: 255662026** Collected: 11/08/10 15:10 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 24.2 | 1 | 11/16/10 15:25 | 11/17/10 13:14 | | |
| Motor Oil Range SG | ND | mg/kg | 96.8 | 1 | 11/16/10 15:25 | 11/17/10 13:14 | 64742-65-0 | |
| n-Octacosane (S) SG | 117 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:14 | 630-02-4 | |
| o-Terphenyl (S) SG | 106 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:14 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.9 | 1 | 11/16/10 17:00 | 11/17/10 04:37 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 04:37 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 04:37 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **4.1** | mg/kg | 0.45 | 20 | 11/10/10 14:28 | 11/12/10 19:42 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/16/10 13:07 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/16/10 13:07 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/16/10 13:07 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.2 | 1 | | 11/16/10 13:07 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 11/16/10 13:07 | 1868-53-7 | |
| Toluene-d8 (S) | 112 | % | 80-120 | 1 | | 11/16/10 13:07 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 113 | % | 72-122 | 1 | | 11/16/10 13:07 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 90 | % | 80-143 | 1 | | 11/16/10 13:07 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **20.4** | % | 0.10 | 1 | | 11/14/10 18:30 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-11-13** **Lab ID: 255662027** Collected: 11/08/10 15:20 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 33.2 | 1 | 11/16/10 15:25 | 11/17/10 13:37 | | |
| Motor Oil Range SG | ND | mg/kg | 133 | 1 | 11/16/10 15:25 | 11/17/10 13:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 111 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 97 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 13:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 12.5 | 1 | 11/16/10 17:00 | 11/17/10 05:00 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 05:00 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 93 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 05:00 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **7.4** | mg/kg | 0.60 | 20 | 11/10/10 14:28 | 11/12/10 19:46 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 5.1 | 1 | | 11/13/10 13:32 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 5.1 | 1 | | 11/13/10 13:32 | 100-41-4 | |
| Toluene | ND | ug/kg | 5.1 | 1 | | 11/13/10 13:32 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 15.4 | 1 | | 11/13/10 13:32 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 11/13/10 13:32 | 1868-53-7 | |
| Toluene-d8 (S) | 114 | % | 80-120 | 1 | | 11/13/10 13:32 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 122 | % | 72-122 | 1 | | 11/13/10 13:32 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/13/10 13:32 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **44.1** | % | 0.10 | 1 | | 11/14/10 18:30 | | |

**Sample: CNF-5-12-10** **Lab ID: 255662028** Collected: 11/08/10 15:30 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 109 | 1 | 11/16/10 15:25 | 11/17/10 14:01 | | |
| Motor Oil Range SG | ND | mg/kg | 435 | 1 | 11/16/10 15:25 | 11/17/10 14:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 86 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 74 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:01 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 66.4 | 1 | 11/16/10 17:00 | 11/17/10 05:24 | | |
| a,a,a-Trifluorotoluene (S) | 94 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 05:24 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 81 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 05:24 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **35.7** | mg/kg | 2.3 | 20 | 11/10/10 14:28 | 11/12/10 19:55 | 7439-92-1 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: CNF-5-12-10** **Lab ID: 255662028** Collected: 11/08/10 15:30 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 23.3 | 1 | | 11/13/10 13:51 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 23.3 | 1 | | 11/13/10 13:51 | 100-41-4 | |
| Toluene | ND | ug/kg | 23.3 | 1 | | 11/13/10 13:51 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 70.0 | 1 | | 11/13/10 13:51 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 11/13/10 13:51 | 1868-53-7 | |
| Toluene-d8 (S) | 127 | % | 80-120 | 1 | | 11/13/10 13:51 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 135 | % | 72-122 | 1 | | 11/13/10 13:51 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/13/10 13:51 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **81.9** | % | 0.10 | 1 | | 11/14/10 18:31 | | |

**Sample: CNF-5-13-2** **Lab ID: 255662029** Collected: 11/08/10 15:40 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 22.5 | 1 | 11/16/10 15:25 | 11/17/10 14:24 | | |
| Motor Oil Range SG | ND | mg/kg | 89.9 | 1 | 11/16/10 15:25 | 11/17/10 14:24 | 64742-65-0 | |
| n-Octacosane (S) SG | 113 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:24 | 630-02-4 | |
| o-Terphenyl (S) SG | 102 | % | 50-150 | 1 | 11/16/10 15:25 | 11/17/10 14:24 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.3 | 1 | 11/16/10 17:00 | 11/17/10 05:47 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 05:47 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 80 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 05:47 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **4.0** | mg/kg | 0.49 | 20 | 11/10/10 14:28 | 11/12/10 20:00 | 7439-92-1 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/13/10 14:10 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/13/10 14:10 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/13/10 14:10 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 11/13/10 14:10 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 11/13/10 14:10 | 1868-53-7 | |
| Toluene-d8 (S) | 112 | % | 80-120 | 1 | | 11/13/10 14:10 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 114 | % | 72-122 | 1 | | 11/13/10 14:10 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 11/13/10 14:10 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **14.2** | % | 0.10 | 1 | | 11/14/10 18:32 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255662

**Sample: Trip Blank Soil** **Lab ID: 255662030** Collected: 11/08/10 00:00 Received: 11/09/10 15:20 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 11/16/10 17:00 | 11/17/10 02:39 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 02:39 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 02:39 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/13/10 11:01 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/13/10 11:01 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/13/10 11:01 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 11/13/10 11:01 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 11/13/10 11:01 | 1868-53-7 | |
| Toluene-d8 (S) | 110 | % | 80-120 | 1 | | 11/13/10 11:01 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 109 | % | 72-122 | 1 | | 11/13/10 11:01 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/13/10 11:01 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: OEXT/2991 | Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 | Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024, 255662025, 255662026, 255662027, 255662028, 255662029

METHOD BLANK: 49692 | Matrix: Solid
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024, 255662025, 255662026, 255662027, 255662028, 255662029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 11/17/10 11:55 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 11/17/10 11:55 | |
| n-Octacosane (S) SG | % | 119 | 50-150 | 11/17/10 11:55 | |
| o-Terphenyl (S) SG | % | 108 | 50-150 | 11/17/10 11:55 | |

LABORATORY CONTROL SAMPLE: 49693

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 455 | 91 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 544 | 109 | 50-150 | |
| n-Octacosane (S) SG | % | | | 122 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 122 | 50-150 | |

SAMPLE DUPLICATE: 49694

| Parameter | Units | 255621001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 5J | | |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 120 | 116 | 1 | |
| o-Terphenyl (S) SG | % | 109 | 105 | .7 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: GCV/2018 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024

METHOD BLANK: 49445 | Matrix: Solid
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/14/10 07:56 | |
| 4-Bromofluorobenzene (S) | % | 113 | 50-150 | 11/14/10 07:56 | |
| a,a,a-Trifluorotoluene (S) | % | 117 | 50-150 | 11/14/10 07:56 | |

LABORATORY CONTROL SAMPLE: 49446

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 11.7 | 93 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 103 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 101 | 50-150 | |

SAMPLE DUPLICATE: 49607

| Parameter | Units | 255632007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 6.3J | | |
| 4-Bromofluorobenzene (S) | % | 81 | 96 | 17 | |
| a,a,a-Trifluorotoluene (S) | % | 86 | 96 | 11 | |

SAMPLE DUPLICATE: 49608

| Parameter | Units | 255662017 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.5J | | |
| 4-Bromofluorobenzene (S) | % | 104 | 94 | 10 | |
| a,a,a-Trifluorotoluene (S) | % | 108 | 97 | 11 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: GCV/2028 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255662025, 255662026, 255662027, 255662028, 255662029, 255662030

METHOD BLANK: 49707 Matrix: Solid
Associated Lab Samples: 255662025, 255662026, 255662027, 255662028, 255662029, 255662030

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/17/10 02:16 | |
| 4-Bromofluorobenzene (S) | % | 96 | 50-150 | 11/17/10 02:16 | |
| a,a,a-Trifluorotoluene (S) | % | 104 | 50-150 | 11/17/10 02:16 | |

LABORATORY CONTROL SAMPLE: 49708

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.7 | 110 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 95 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 99 | 50-150 | |

SAMPLE DUPLICATE: 49856

| Parameter | Units | 255708003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .92J | | |
| 4-Bromofluorobenzene (S) | % | 75 | 86 | 13 | |
| a,a,a-Trifluorotoluene (S) | % | 96 | 105 | 9 | |

SAMPLE DUPLICATE: 49857

| Parameter | Units | 255708007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .84J | | |
| 4-Bromofluorobenzene (S) | % | 98 | 97 | 1 | |
| a,a,a-Trifluorotoluene (S) | % | 110 | 107 | 3 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: ICPM/23432 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255662001, 255662002, 255662003, 255662004, 255662005, 255662006, 255662007, 255662008, 255662009, 255662010, 255662011, 255662012

METHOD BLANK: 889176 Matrix: Solid
Associated Lab Samples: 255662001, 255662002, 255662003, 255662004, 255662005, 255662006, 255662007, 255662008, 255662009, 255662010, 255662011, 255662012, 255662013, 255662014, 255662015, 255662016

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.49 | 11/11/10 19:35 | |
| Copper | mg/kg | ND | 0.49 | 11/11/10 19:35 | |
| Lead | mg/kg | ND | 0.49 | 11/11/10 19:35 | |
| Nickel | mg/kg | ND | 0.49 | 11/15/10 12:28 | |

LABORATORY CONTROL SAMPLE: 889177

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.2 | 16.8 | 87 | 75-125 | |
| Copper | mg/kg | 19.2 | 19.6 | 102 | 75-125 | |
| Lead | mg/kg | 19.2 | 18.4 | 96 | 75-125 | |
| Nickel | mg/kg | 19.2 | 24.1 | 125 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 889178 889179

| Parameter | Units | 255662001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 7.1 | 21.8 | 21.5 | 29.6 | 28.8 | 104 | 101 | 75-125 | 3 | |
| Copper | mg/kg | 10.0 | 21.8 | 21.5 | 33.8 | 32.8 | 109 | 106 | 75-125 | 3 | |
| Lead | mg/kg | 2.3 | 21.8 | 21.5 | 24.9 | 24.2 | 104 | 101 | 75-125 | 3 | |
| Nickel | mg/kg | 16.2 | 21.8 | 21.5 | 41.7 | 41.9 | 117 | 119 | 75-125 | .5 | |

MATRIX SPIKE SAMPLE: 889180

| Parameter | Units | 255662011 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 14.6 | 23.5 | 26.8 | 52 | 75-125 | M6 |
| Copper | mg/kg | 50.0 | 23.5 | 54.4 | 19 | 75-125 | M6 |
| Lead | mg/kg | 85.0 | 23.5 | 33.1 | -220 | 75-125 | M6 |
| Nickel | mg/kg | 26.3 | 23.5 | 50.1 | 101 | 75-125 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: ICPM/23433 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024, 255662025, 255662026, 255662027, 255662028, 255662029

METHOD BLANK: 889182 Matrix: Solid
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024, 255662025, 255662026, 255662027, 255662028, 255662029

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 11/12/10 18:31 | |
| Copper | mg/kg | ND | 0.48 | 11/12/10 18:31 | |
| Lead | mg/kg | ND | 0.48 | 11/12/10 18:31 | |
| Nickel | mg/kg | ND | 0.48 | 11/12/10 18:31 | |

LABORATORY CONTROL SAMPLE: 889183

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.6 | 20.5 | 105 | 75-125 | |
| Copper | mg/kg | 19.6 | 22.8 | 116 | 75-125 | |
| Lead | mg/kg | 19.6 | 22.5 | 115 | 75-125 | |
| Nickel | mg/kg | 19.6 | 23.8 | 121 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 889184 889185

| Parameter | Units | 255662017 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 5.3 | 23.8 | 22.7 | 29.6 | 37.0 | 102 | 139 | 75-125 | 22 | D6,M6 |
| Copper | mg/kg | 10.6 | 23.8 | 22.7 | 38.6 | 48.9 | 117 | 168 | 75-125 | 24 | D6,M6 |
| Lead | mg/kg | 2.8 | 23.8 | 22.7 | 27.6 | 43.3 | 104 | 177 | 75-125 | 44 | D6,M6 |
| Nickel | mg/kg | 17.2 | 23.8 | 22.7 | 48.1 | 61.3 | 130 | 193 | 75-125 | 24 | D6,M6 |

MATRIX SPIKE SAMPLE: 889186

| Parameter | Units | 255662027 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 5.9 | 32.6 | 35.7 | 92 | 75-125 | |
| Copper | mg/kg | 20.9 | 32.6 | 54.7 | 104 | 75-125 | |
| Lead | mg/kg | 7.4 | 32.6 | 38.4 | 95 | 75-125 | |
| Nickel | mg/kg | 26.2 | 32.6 | 63.2 | 114 | 75-125 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: MPRP/23496 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255662001, 255662002, 255662003, 255662004, 255662005, 255662006, 255662007, 255662008, 255662009, 255662010, 255662011, 255662012, 255662013, 255662014, 255662015, 255662016

SAMPLE DUPLICATE: 891209

| Parameter | Units | 255662001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 26.9 | 27.7 | 3 | |

SAMPLE DUPLICATE: 891210

| Parameter | Units | 10143022003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 20.9 | 19.5 | 7 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: MSV/3429 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024

METHOD BLANK: 49263 Matrix: Solid
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Toluene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/11/10 18:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 101 | 80-143 | 11/11/10 18:30 | |
| 4-Bromofluorobenzene (S) | % | 106 | 72-122 | 11/11/10 18:30 | |
| Dibromofluoromethane (S) | % | 105 | 80-136 | 11/11/10 18:30 | |
| Toluene-d8 (S) | % | 106 | 80-120 | 11/11/10 18:30 | |

LABORATORY CONTROL SAMPLE & LCSD: 49264 49265

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 43.5 | 42.5 | 87 | 85 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 38.5 | 37.6 | 77 | 75 | 68-131 | 2 | 30 | |
| Toluene | ug/kg | 50 | 41.6 | 40.7 | 83 | 81 | 73-124 | 2 | 30 | |
| Xylene (Total) | ug/kg | 150 | 124 | 120 | 82 | 80 | 68-130 | 3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 104 | 102 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 104 | 106 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 112 | 111 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 109 | 108 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: MSV/3436 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255662025, 255662027, 255662028, 255662029, 255662030

METHOD BLANK: 49424 | Matrix: Solid
Associated Lab Samples: 255662025, 255662027, 255662028, 255662029, 255662030

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/13/10 10:42 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/13/10 10:42 | |
| Toluene | ug/kg | ND | 3.0 | 11/13/10 10:42 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/13/10 10:42 | |
| 1,2-Dichloroethane-d4 (S) | % | 104 | 80-143 | 11/13/10 10:42 | |
| 4-Bromofluorobenzene (S) | % | 107 | 72-122 | 11/13/10 10:42 | |
| Dibromofluoromethane (S) | % | 106 | 80-136 | 11/13/10 10:42 | |
| Toluene-d8 (S) | % | 108 | 80-120 | 11/13/10 10:42 | |

LABORATORY CONTROL SAMPLE & LCSD: 49425 49426

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 51.6 | 52.2 | 103 | 104 | 75-133 | 1 | 30 | |
| Ethylbenzene | ug/kg | 50 | 52.8 | 54.5 | 106 | 109 | 68-131 | 3 | 30 | |
| Toluene | ug/kg | 50 | 54.3 | 53.3 | 109 | 107 | 73-124 | 2 | 30 | |
| Xylene (Total) | ug/kg | 150 | 153 | 155 | 102 | 103 | 68-130 | 2 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 106 | 106 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 110 | 107 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 104 | 106 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 107 | 109 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: MSV/3460
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255662026

METHOD BLANK: 49675
Matrix: Solid
Associated Lab Samples: 255662026

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/16/10 12:08 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/16/10 12:08 | |
| Toluene | ug/kg | ND | 3.0 | 11/16/10 12:08 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/16/10 12:08 | |
| 1,2-Dichloroethane-d4 (S) | % | 98 | 80-143 | 11/16/10 12:08 | |
| 4-Bromofluorobenzene (S) | % | 104 | 72-122 | 11/16/10 12:08 | |
| Dibromofluoromethane (S) | % | 92 | 80-136 | 11/16/10 12:08 | |
| Toluene-d8 (S) | % | 109 | 80-120 | 11/16/10 12:08 | |

LABORATORY CONTROL SAMPLE & LCSD: 49676 49677

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 49.7 | 50.0 | 99 | 100 | 75-133 | .6 | 30 | |
| Ethylbenzene | ug/kg | 50 | 50.1 | 50.5 | 100 | 101 | 68-131 | .7 | 30 | |
| Toluene | ug/kg | 50 | 46.2 | 47.6 | 92 | 95 | 73-124 | 3 | 30 | |
| Xylene (Total) | ug/kg | 150 | 146 | 147 | 98 | 98 | 68-130 | .3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 105 | 99 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 103 | 104 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 112 | 110 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 95 | 97 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: PMST/1426 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255662017, 255662018, 255662019, 255662020, 255662021, 255662022, 255662023, 255662024

SAMPLE DUPLICATE: 49524

| Parameter | Units | 255605001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 17.1 | 16.8 | 2 | |

SAMPLE DUPLICATE: 49525

| Parameter | Units | 255662024 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 81.0 | 79.5 | 2 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255662

QC Batch: PMST/1427 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255662025, 255662026, 255662027, 255662028, 255662029

SAMPLE DUPLICATE: 49526

| Parameter | Units | 255650001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 18.0 | 17.4 | 3 | |

SAMPLE DUPLICATE: 49527

| Parameter | Units | 255698001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 7.0 | 7.5 | 7 | |



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# QUALIFIERS

Project: Olympia Soils
Pace Project No.: 255662

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| D6 | The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Olympia Soils
Pace Project No.: 255662

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255662017** | **CNF-5-1-15** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662018** | **CNF-5-2-13.5** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662019** | **CNF-5-3-10** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662020** | **CNF-5-4-2** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662021** | **CNF-5-5-13.5** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662022** | **CNF-5-6-10** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662023** | **CNF-5-7-2** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662024** | **CNF-5-8-13** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662025** | **CNF-5-9-10** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662026** | **CNF-5-10-2** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662027** | **CNF-5-11-13** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662028** | **CNF-5-12-10** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662029** | **CNF-5-13-2** | EPA 3546 | OEXT/2991 | NWTPH-Dx | GCSV/2086 |
| **255662017** | **CNF-5-1-15** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662018** | **CNF-5-2-13.5** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662019** | **CNF-5-3-10** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662020** | **CNF-5-4-2** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662021** | **CNF-5-5-13.5** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662022** | **CNF-5-6-10** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662023** | **CNF-5-7-2** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662024** | **CNF-5-8-13** | NWTPH-Gx | GCV/2018 | NWTPH-Gx | GCV/2022 |
| **255662025** | **CNF-5-9-10** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255662026** | **CNF-5-10-2** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255662027** | **CNF-5-11-13** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255662028** | **CNF-5-12-10** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255662029** | **CNF-5-13-2** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255662030** | **Trip Blank Soil** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255662001** | **CNF-4-1-15** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662002** | **CNF-4-2-13** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662003** | **CNF-4-3-12** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662004** | **CNF-4-4-12** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662005** | **CNF-4-5-12** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662006** | **CNF-4-6-10.5** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662007** | **CNF-4-7-6** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662008** | **CNF-4-8-2.5** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662009** | **CNF-4-9-11** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662010** | **CNF-4-10-7** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662011** | **CNF-4-11-2** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662012** | **CNF-4-12-11** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662013** | **CNF-4-13-2.5** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662014** | **CNF-4-14-11** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662015** | **CNF-4-15-3.5** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662016** | **CNF-4-16-2** | EPA 6020 | ICPM/23432 | EPA 6020 | ICPM/9524 |
| **255662017** | **CNF-5-1-15** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662018** | **CNF-5-2-13.5** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662019** | **CNF-5-3-10** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662020** | **CNF-5-4-2** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Olympia Soils
Pace Project No.: 255662

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255662021** | **CNF-5-5-13.5** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662022** | **CNF-5-6-10** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662023** | **CNF-5-7-2** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662024** | **CNF-5-8-13** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662025** | **CNF-5-9-10** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662026** | **CNF-5-10-2** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662027** | **CNF-5-11-13** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662028** | **CNF-5-12-10** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662029** | **CNF-5-13-2** | EPA 6020 | ICPM/23433 | EPA 6020 | ICPM/9536 |
| **255662001** | **CNF-4-1-15** | % Moisture | MPRP/23496 | | |
| **255662002** | **CNF-4-2-13** | % Moisture | MPRP/23496 | | |
| **255662003** | **CNF-4-3-12** | % Moisture | MPRP/23496 | | |
| **255662004** | **CNF-4-4-12** | % Moisture | MPRP/23496 | | |
| **255662005** | **CNF-4-5-12** | % Moisture | MPRP/23496 | | |
| **255662006** | **CNF-4-6-10.5** | % Moisture | MPRP/23496 | | |
| **255662007** | **CNF-4-7-6** | % Moisture | MPRP/23496 | | |
| **255662008** | **CNF-4-8-2.5** | % Moisture | MPRP/23496 | | |
| **255662009** | **CNF-4-9-11** | % Moisture | MPRP/23496 | | |
| **255662010** | **CNF-4-10-7** | % Moisture | MPRP/23496 | | |
| **255662011** | **CNF-4-11-2** | % Moisture | MPRP/23496 | | |
| **255662012** | **CNF-4-12-11** | % Moisture | MPRP/23496 | | |
| **255662013** | **CNF-4-13-2.5** | % Moisture | MPRP/23496 | | |
| **255662014** | **CNF-4-14-11** | % Moisture | MPRP/23496 | | |
| **255662015** | **CNF-4-15-3.5** | % Moisture | MPRP/23496 | | |
| **255662016** | **CNF-4-16-2** | % Moisture | MPRP/23496 | | |
| **255662017** | **CNF-5-1-15** | EPA 8260 | MSV/3429 | | |
| **255662018** | **CNF-5-2-13.5** | EPA 8260 | MSV/3429 | | |
| **255662019** | **CNF-5-3-10** | EPA 8260 | MSV/3429 | | |
| **255662020** | **CNF-5-4-2** | EPA 8260 | MSV/3429 | | |
| **255662021** | **CNF-5-5-13.5** | EPA 8260 | MSV/3429 | | |
| **255662022** | **CNF-5-6-10** | EPA 8260 | MSV/3429 | | |
| **255662023** | **CNF-5-7-2** | EPA 8260 | MSV/3429 | | |
| **255662024** | **CNF-5-8-13** | EPA 8260 | MSV/3429 | | |
| **255662025** | **CNF-5-9-10** | EPA 8260 | MSV/3436 | | |
| **255662026** | **CNF-5-10-2** | EPA 8260 | MSV/3460 | | |
| **255662027** | **CNF-5-11-13** | EPA 8260 | MSV/3436 | | |
| **255662028** | **CNF-5-12-10** | EPA 8260 | MSV/3436 | | |
| **255662029** | **CNF-5-13-2** | EPA 8260 | MSV/3436 | | |
| **255662030** | **Trip Blank Soil** | EPA 8260 | MSV/3436 | | |



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# Sample Condition Upon Receipt

Pace Analytical

Client Name: B + C

Project # 255662

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ~~Pace~~ PCS NJS 11/9/10

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other Temp. Blank Yes No

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 11/9/10

Temp should be above freezing ≤ 6°C

Comments:

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes | ☐ No | ☐ N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☑ Yes | ☐ No | ☐ N/A | 6. Terracore kits. 11/11/10 |
| **Rush Turn Around Time Requested:** | ☑ Yes | ☐ No | ☑ N/A | 7. |
| Sufficient Volume: | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact: | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes | ☐ No | ☑ N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: Soil | ☑ Yes | ☐ No | ☐ N/A | 12. |
| All containers needing preservation have been checked. | ☐ Yes | ☐ No | ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes | ☐ No | ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes | ☐ No | ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes | ☐ No | ☑ N/A | 15. |
| Trip Blanks Present: | ☑ Yes | ☑ No | ☐ N/A | 16. Trip blank for soil & water received. Not on COC. |
| Trip Blank Custody Seals Present | ☐ Yes | ☐ No | ☑ N/A | |
| Pace Trip Blank Lot # (if purchased): | | | NJS 11/9 | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Josh Johnson Date/Time: 11/9/10 4:55

Comments/ Resolution:

Do you need Dx w/ Silica Gel? Not written on coc. Per Josh add SG. Ce
All results are needed ASAP. Ce

Project Manager Review: JENNI GROSS Date: 11/9/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255662

Page: 1 of 3

1391150

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW, Ste 420, Olympia WA
Email To: jturk@browncald.com
Phone: 3605341206 Fax: 3609437513
Requested Due Date/TAT: 11/11/10

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Arsenic | Lead | Copper | Nickel | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-4-1-15 | SL | G | | | 11/8/10 | 10:10 | | 1 | X | | | | | | | | X | X | X | X | | |
| 2 | CNF-4-2-13 | ↓ | ↓ | | | ↓ | 10:18 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 3 | CNF-4-3-12 | ↓ | ↓ | | | ↓ | 10:22 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 4 | CNF-4-4-12 | ↓ | ↓ | | | ↓ | 10:28 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 5 | CNF-4-5-12 | ↓ | ↓ | | | ↓ | 10:35 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 6 | CNF-4-6-10.5 | ↓ | ↓ | | | ↓ | 10:38 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 7 | CNF-4-7-6 | ↓ | ↓ | | | ↓ | 10:42 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 8 | CNF-4-8-2.5 | ↓ | ↓ | | | ↓ | 10:45 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 9 | CNF-4-9-11 | ↓ | ↓ | | | ↓ | 10:52 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 10 | CNF-4-10-7 | ↓ | ↓ | | | ↓ | 10:55 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 11 | CNF-4-11-2 | ↓ | ↓ | | | ↓ | 11:00 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 12 | CNF-4-12-11 | ↓ | ↓ | | | ↓ | 11:03 | | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jon Turk CBC | 11/9/10 | 14:05 | K. Cottright PCS | 11/9/10 | 1405 | | | | |
| | K. Cottright PCS | 11/9/10 | 15:20 | Jyothi Swamy | 11/9/10 | 1520 | 1.4 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: Jon Turk

DATE Signed (MM/DD/YY): 11/8/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255662



1391155

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW, Ste 420, Olympia WA
Email To: jturk@brwncald.com
Phone: 360-534-1206 Fax: 360 943 7513
Requested Due Date/TAT: 11/11/10

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Arsenic | Lead | Copper | Nickel | TPH-D | TPH-HO | BTEX | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-4-13-2.5 | SL | G | | | 11/8/10 | 11:07 | | 1 | X | | | | | | | | | X | X | X | X | | | | | |
| 2 | CNF-4-14-11 | | | | | | 11:12 | | | | | | | | | | | | | | | | | | | | |
| 3 | CNF-4-15-3.5 | | | | | | 11:15 | | | | | | | | | | | | | | | | | | | | |
| 4 | CNF-4-16-2 | | | | | | 11:18 | | | | | | | | | | | | | | | | | | | | |
| 5 | CNF-5-1-15 | | | | | | 13:05 | | 5 | X | | | | | | X | | | | X | | | X | X | X | | |
| 6 | CNF-5-2-13.5 | | | | | | 13:20 | | | | | | | | | | | | | | | | | | | | |
| 7 | CNF-5-3-10 | | | | | | 13:30 | | | | | | | | | | | | | | | | | | | | |
| 8 | CNF-5-4-2 | | | | | | 13:40 | | | | | | | | | | | | | | | | | | | | |
| 9 | CNF-5-5-13.5 | | | | | | 13:55 | | | | | | | | | | | | | | | | | | | | |
| 10 | CNF-5-6-10 | | | | | | 14:05 | | | | | | | | | | | | | | | | | | | | |
| 11 | CNF-5-7-2 | | | | | | 14:20 | | | | | | | | | | | | | | | | | | | | |
| 12 | CNF-5-8-13 | | | | | | 14:35 | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jon Turk (BC) | 11/9/10 | 14:05 | K. Cottright | 11/9/10 | 1405 | | | | |
| | K. Cottright (PO) | 11/9/10 | 1520 | Jyothi Sway | 11/9/10 | 1520 | 1.4 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: Jon Turk

DATE Signed (MM/DD/YY): 11/8/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 3

1391151

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW
Ste 420, Olympia WA
Email To: jturk@browncald.com
Phone: 360 534 1206 Fax: 360 943 8525
Requested Due Date/TAT: 11/11/10

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/GRAB DATE | COLLECTED Composite End/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Lead | TPH-D | TPH-HO | BTEX | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-5-9-10 | SL | G | | | 11/8/10 | 14:50 | | 5 | X | | | | | | X | | X | X | X | X | | |
| 2 | CNF-5-10-2 | ↓ | ↓ | | | ↓ | 15:10 | | ↓ | ↓ | | | | | | ↓ | | ↓ | ↓ | ↓ | ↓ | | |
| 3 | CNF-5-11-13 | ↓ | ↓ | | | ↓ | 15:20 | | ↓ | ↓ | | | | | | ↓ | | ↓ | ↓ | ↓ | ↓ | | |
| 4 | CNF-5-12-10 | ↓ | ↓ | | | ↓ | 15:30 | | ↓ | ↓ | | | | | | ↓ | | ↓ | ↓ | ↓ | ↓ | | |
| 5 | CNF-5-13-2 | ↓ | ↓ | | | ↓ | 15:40 | | ↓ | ↓ | | | | | | ↓ | | ↓ | ↓ | ↓ | ↓ | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jon Turk (BC) | 11/9/10 | 14:05 | K. Cortright | 11/9/10 | 1405 | | | | |
| | K. Cortright PCS | 11/9/10 | 1520 | Jyothi Sway | 11/9/10 | 1520 | 1.4 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: Jon Turk

DATE Signed (MM/DD/YY): 11/8/10

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

CLIENT: Bal C

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COC PAGE 1 of 3
COC ID# 1391150

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? ~~No~~ Yes |

NSB 11/9/16

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Container Count

CLIENT: B+C

COC PAGE 2 of 3

COC ID# _____

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| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DGAM | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 1 | | | | | |
| 2 | | | | | | | | | | 1 | | | | | |
| 3 | | | | | | | | | | 1 | | | | | |
| 4 | | | | | | | | | | 1 | | | | | |
| 5 | | | | | | | | | | 2 | | 1 | 2 | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? ~~No~~ Yes 11/7/10 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Container Count

CLIENT: Bat C

COC PAGE 3 of 3
COC ID# 1391151

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255662

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 1 | 2 | | |
| 2 | | | | | | | | | | 2 | | 1 | 2 | | |
| 3 | | | | | | | | | | 2 | | 1 | 2 | | |
| 4 | | | | | | | | | | 2 | | 1 | 2 | | |
| 5 | | | | | | | | | | 2 | | 1 | 2 | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? ~~No~~. Yes |

NJS 11/9/10

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

January 18, 2011

## Report Information:

**Pace Project #: 10146792**
**Sample Receipt Date: 01/07/2011**
**Client Project #: 256181**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

January 19, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
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Minneapolis, MN 55414
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Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of Pace Analytical Services, Inc. The sample was analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extract ranged from 48-87%. With the exception of one low value, which was flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. The levels reported for the affected congeners in the field sample were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field sample.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 91-129%, with relative percent differences of 0.2-9.7%. These results indicate high degrees of accuracy and precision for these determinations.



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Minneapolis, MN 55414

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# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

# Chain of Custody

~~RUSH~~ 10146792

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**Workorder:** 256181 **Workorder Name:** Port Soils **Owner Received Date:** 1/6/2011 **Results Requested By:** 1/20/2011

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Requested Analysis: Dioxin, Furan | Dry Weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3-17-3.5_010511 | PS | 1/5/2011 10:30 | 256181001 | Solid | 1 | X | X | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Colette Weaver | 01/6/11/1600 | [illegible] | 01/7/11 0452 |
| 2 | | | | |
| 3 | | | | |

**Comments**

10-Day RUSH TAT

**Cooler Temperature on Receipt** 2.5 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE WA **Project #** 10146792

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

**Tracking #:** 7942 9698 3646

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.5 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 1/7/11 NB

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. 10 DAY DIOXIN |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☑No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 1/7/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-17-3.5_010511 | | | |
| Lab Sample ID | 256181001 | | | |
| Filename | P110114B_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.3 g | Matrix | Solid | |
| % Moisture | 5.6 | Dilution | NA | |
| Dry Weight Extracted | 9.72 g | Collected | 01/05/2011 | 10:30 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110114A_07 & P110114A_17 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/15/2011 | 02:21 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.130 | | 2,3,7,8-TCDF-13C | 2.00 | 48 |
| Total TCDF | 0.36 | ----- | 0.130 | J | 2,3,7,8-TCDD-13C | 2.00 | 63 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 55 |
| 2,3,7,8-TCDD | ND | ----- | 0.110 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 58 |
| Total TCDD | 0.54 | ----- | 0.110 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 65 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.240 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 64 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.120 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 |
| Total PeCDF | 0.77 | ----- | 0.180 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.180 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 |
| Total PeCDD | 0.63 | ----- | 0.180 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 79 |
| 1,2,3,4,7,8-HxCDF | 0.36 | ----- | 0.180 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 87 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.79 | 0.140 | P | OCDD-13C | 4.00 | 64 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.120 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.180 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 3.60 | ----- | 0.160 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.12 | ----- | 0.086 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 60 |
| 1,2,3,6,7,8-HxCDD | 0.30 | ----- | 0.094 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.27 | ----- | 0.098 | J | | | |
| Total HxCDD | 2.90 | ----- | 0.093 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.40 | ----- | 0.170 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.290 | | Equivalence: 0.42 ng/Kg | | |
| Total HpCDF | 9.50 | ----- | 0.230 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 7.00 | ----- | 0.290 | | | | |
| Total HpCDD | 12.00 | ----- | 0.290 | | | | |
| OCDF | 9.90 | ----- | 0.270 | J | | | |
| OCDD | 71.00 | ----- | 0.290 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27549 | Matrix | Solid |
| Filename | P110113A_05 | Dilution | NA |
| Total Amount Extracted | 10.2 g | Extracted | 01/12/2011 13:00 |
| ICAL ID | P101202 | Analyzed | 01/13/2011 22:28 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.120 | 2,3,7,8-TCDF-13C | 2.00 | 38 R |
| Total TCDF | ND | ----- | 0.120 | 2,3,7,8-TCDD-13C | 2.00 | 50 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 45 |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | 2,3,4,7,8-PeCDF-13C | 2.00 | 43 |
| Total TCDD | ND | ----- | 0.150 | 1,2,3,7,8-PeCDD-13C | 2.00 | 52 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 46 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.150 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 48 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.110 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 49 |
| Total PeCDF | ND | ----- | 0.130 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 48 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 54 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 54 |
| Total PeCDD | ND | ----- | 0.140 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 58 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.067 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.086 | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.093 | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.090 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.084 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.120 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 48 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.130 | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.120 | | | |
| Total HxCDD | ND | ----- | 0.120 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.084 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.098 | Equivalence: 0.21 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.091 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.17 | ----- | 0.130 J | | | |
| Total HpCDD | 0.41 | ----- | 0.130 J | | | |
| OCDF | ----- | 0.19 | 0.092 I | | | |
| OCDD | 0.57 | ----- | 0.170 J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27550 | | |
| Filename | P110113A_03 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | P101202 | Extracted | 01/12/2011 13:00 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Analyzed | 01/13/2011 21:04 |
| Method Blank ID | BLANK-27549 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.22 | 112 | 2,3,7,8-TCDF-13C | 2.0 | 44 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 59 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 46 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 91 | 2,3,4,7,8-PeCDF-13C | 2.0 | 48 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 58 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 46 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 106 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 47 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 100 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 52 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 50 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 53 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.93 | 93 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 58 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 60 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 63 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.0 | 101 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 69 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 108 | OCDD-13C | 4.0 | 56 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 105 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 106 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.0 | 104 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 57 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 0.99 | 99 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.3 | 129 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 106 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 104 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.97 | 97 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.2 | 112 | | | |
| OCDD | 2.0 | 2.2 | 110 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | CNF-3-17-3.5_010511-MS | | |
| Lab Sample ID | 256181001-MS | | |
| Filename | P110114B_12 | Matrix | Solid |
| Total Amount Extracted | 10.2 g | Dilution | NA |
| ICAL ID | P101202 | Extracted | 01/12/2011 13:00 |
| CCal Filename(s) | P110114A_07 & P110114A_17 | Analyzed | 01/15/2011 03:04 |
| Method Blank ID | BLANK-27549 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.22 | 111 | 2,3,7,8-TCDF-13C | 2.00 | 44 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 59 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 49 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 94 | 2,3,4,7,8-PeCDF-13C | 2.00 | 49 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 62 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 56 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.05 | 105 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 54 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.02 | 102 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 56 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 55 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.92 | 92 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 64 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.04 | 104 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 72 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.14 | 114 | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.13 | 113 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.05 | 105 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.00 | 100 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 59 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.02 | 102 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.13 | 113 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.11 | 111 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.05 | 105 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.05 | 105 | | | |
| OCDF | 2.00 | 2.25 | 112 | | | |
| OCDD | 2.00 | 2.79 | 140 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | CNF-3-17-3.5_010511-MSD | | |
| Lab Sample ID | 256181001-MSD | | |
| Filename | P110114B_13 | Matrix | Solid |
| Total Amount Extracted | 10.2 g | Dilution | NA |
| ICAL ID | P101202 | Extracted | 01/12/2011 13:00 |
| CCal Filename(s) | P110114A_07 & P110114A_17 | Analyzed | 01/15/2011 03:47 |
| Method Blank ID | BLANK-27549 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 117 | 2,3,7,8-TCDF-13C | 2.00 | 51 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 68 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 55 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 98 | 2,3,4,7,8-PeCDF-13C | 2.00 | 57 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 70 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.11 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 56 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.07 | 107 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 60 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 61 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.97 | 97 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 67 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 71 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 71 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.06 | 106 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 81 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.14 | 114 | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.12 | 112 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.12 | 112 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.05 | 105 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 67 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.08 | 108 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.25 | 125 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.16 | 116 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.12 | 112 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.07 | 107 | | | |
| OCDF | 2.00 | 2.35 | 118 | | | |
| OCDD | 2.00 | 2.80 | 140 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | CNF-3-17-3.5_010511 | | | Dry Weights | |
| Lab Sample ID | 256181001 | Sample Filename | P110114B_11 | Sample Amount | 9.72 g |
| MS ID | 256181001-MS | MS Filename | P110114B_12 | MS Amount | 9.6 g |
| MSD ID | 256181001-MSD | MSD Filename | P110114B_13 | MSD Amount | 9.6 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.000 | 0.20 | 0.22 | 0.23 | 4.8 | 111 | 117 | 4.8 |
| 2,3,7,8-TCDD | 0.000 | 0.20 | 0.19 | 0.20 | 4.4 | 94 | 98 | 4.4 |
| 1,2,3,7,8-PeCDF | 0.000 | 1.00 | 1.05 | 1.11 | 5.6 | 105 | 111 | 5.6 |
| 2,3,4,7,8-PeCDF | 0.000 | 1.00 | 1.02 | 1.07 | 4.4 | 102 | 107 | 4.4 |
| 1,2,3,7,8-PeCDD | 0.000 | 1.00 | 0.92 | 0.97 | 5.7 | 92 | 97 | 5.7 |
| 1,2,3,4,7,8-HxCDF | 0.356 | 1.00 | 1.04 | 1.06 | 1.4 | 104 | 105 | 1.5 |
| 1,2,3,6,7,8-HxCDF | 0.000 | 1.00 | 1.14 | 1.14 | 0.2 | 113 | 114 | 0.2 |
| 2,3,4,6,7,8-HxCDF | 0.000 | 1.00 | 1.13 | 1.12 | 1.4 | 113 | 112 | 1.4 |
| 1,2,3,7,8,9-HxCDF | 0.000 | 1.00 | 1.05 | 1.12 | 6.7 | 105 | 112 | 6.7 |
| 1,2,3,4,7,8-HxCDD | 0.118 | 1.00 | 1.00 | 1.05 | 5.0 | 100 | 105 | 5.0 |
| 1,2,3,6,7,8-HxCDD | 0.295 | 1.00 | 1.02 | 1.08 | 6.2 | 101 | 108 | 6.2 |
| 1,2,3,7,8,9-HxCDD | 0.266 | 1.00 | 1.13 | 1.25 | 9.7 | 113 | 125 | 9.8 |
| 1,2,3,4,6,7,8-HpCDF | 2.432 | 1.00 | 1.11 | 1.16 | 4.9 | 108 | 114 | 5.0 |
| 1,2,3,4,7,8,9-HpCDF | 0.000 | 1.00 | 1.05 | 1.12 | 6.2 | 105 | 112 | 6.2 |
| 1,2,3,4,6,7,8-HpCDD | 6.982 | 1.00 | 1.05 | 1.07 | 1.8 | 99 | 101 | 1.9 |
| OCDF | 9.943 | 2.00 | 2.25 | 2.35 | 4.5 | 108 | 113 | 4.7 |
| OCDD | 70.854 | 2.00 | 2.79 | 2.80 | 0.2 | 106 | 106 | 0.2 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

# Sample Condition Upon Receipt

Pace Analytical

Client Name: ~~Pioneer~~ Brown+Caldwell  Project # 256181

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

**Tracking #:** 8738 8211 5391

**Custody Seal on Cooler/Box Present:** ☑ Yes ☐ No  Seals intact: ☑ Yes ☐ No

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☑ None ☐ Other _____  Temp. Blank Yes ____ No ✓

**Thermometer Used** 132013 or 101731962 or 226099  **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.7c  **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** 010611 CW

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. 10-Day RUSH Dioxins |
| Sufficient Volume: | not sure ☐Yes | ☐No | ☐N/A | 8. 8oz jar is only ½ full. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. jar is not PACE provided. |
| -Pace Containers Used: | ☐Yes | ☑No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: SL | ☑Yes | ☐No | ☐N/A | 12. |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed ____ Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS  **Date:** 1/6/11

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256181

Page: 1 of 1

1391154

**Section A** Required Client Information:

Company: PIONEER
Address: 5265 Corp CTR. CT
Olympia, WA 98503
Email To: bussey@pioneer.com
Phone: 360-570-1700 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Troy Bussey
Copy To:
Purchase Order No.:
Project Name: Port Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): 5038/8290 Dioxins/furans | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3-17-35_010511 | SL | G | 01/05/11 | 10:36 | | | | 1 | X | | | | | | | | X | | |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Melody Fedun / PTC | 1/5/11 | 11:45 | Jon Turk (BC) | 1/5/11 | 11:45 | | | | |
| | Jon Turk (BC) | 1/5/11 | 13:15 | Custody Seal | | | | | | |
| | | | | Colette Weaver / PACE | 010611 | 0920 | 2.7°C | Y | Y | Y |
| | | | | | | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |

ORIGINAL

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Melody Fedun

SIGNATURE of SAMPLER: Melody Fedun DATE Signed (MM/DD/YY): 1/05/11

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

# Sample Container Count

256181

CLIENT: ~~Pioneer~~ JCE 1/6/11 Brown + Caldwell

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COC PAGE 1 of 1
COC ID# 139 1154

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | 1 | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
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Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

January 18, 2011

## Report Information:

**Pace Project #: 10146795**
**Sample Receipt Date: 01/07/2011**
**Client Project #: 256177**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

January 20, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

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## DISCUSSION

This report presents the results from the analyses performed on eleven samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 45-104%. With the exception of one low value, which was flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Concentrations above the calibration range were flagged "E" and should be regarded as estimates. Selected values reported for the field samples were obtained from analyses of dilutions of the sample extracts; the affected values were flagged "N2" on the results tables.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show the blanks to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory spike samples were also prepared with the sample batches using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 91-129%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batches using sample materials from separate projects; results from these analyses will be provided upon request.



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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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Report No.....10146792

# Appendix A

Sample Management

Report No....10146795 8290

# Chain of Custody

RUSH

10146795

Pace Analytical®
www.pacelabs.com

**Workorder:** 256177 **Workorder Name:** East Bay Redevelopment **Owner Received Date:** 1/6/2011 **Results Requested By:** 1/20/2011

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Requested Analysis: Dioxin, Furan | Dry Weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3A-1-1.75 | PS | 1/5/2011 10:55 | 256177001 | Solid | 1 | X | X | |
| 2 | CNF-3A-2-3.0 | PS | 1/5/2011 11:05 | 256177002 | Solid | 1 | X | X | |
| 3 | CNF-3A-3-3.25 | PS | 1/5/2011 11:10 | 256177003 | Solid | 1 | X | X | |
| 4 | CNF-3A-4-2.25 | PS | 1/5/2011 11:20 | 256177004 | Solid | 1 | X | X | |
| 5 | CNF-3A-5-3.25 | PS | 1/5/2011 11:25 | 256177005 | Solid | 1 | X | X | |
| 6 | CNF-3A-6-2.0 | PS | 1/5/2011 11:35 | 256177006 | Solid | 1 | X | X | |
| 7 | CNF-3A-7-3.25 | PS | 1/5/2011 11:40 | 256177007 | Solid | 1 | X | X | |
| 8 | CNF-3A-8-5.5 | PS | 1/5/2011 12:10 | 256177008 | Solid | 1 | X | X | |
| 9 | CNF-3A-9-5.5 | PS | 1/5/2011 12:15 | 256177009 | Solid | 1 | X | X | |
| 10 | CNF-3A-10-5.5 | PS | 1/5/2011 12:20 | 256177010 | Solid | 1 | X | X | |
| 11 | CNF-3A-11-6 | PS | 1/5/2011 12:25 | 256177011 | Solid | 1 | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Colette Weaver | 010611/1600 | [illegible] | 1/7/11 0952 |
| 2 | | | | |
| 3 | | | | |

**Comments**

10-Day RUSH

**Cooler Temperature on Receipt** 2.5 °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE WA **Project #** 10146795

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

**Tracking #:** 7942 9698 3646

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.5 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: 1/7/11 MJ

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. 10 DAY DIOXIN |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☑No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 1/7/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

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Minneapolis, MN 55414

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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

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Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-1-1.75 | | | |
| Lab Sample ID | 256177001 | | | |
| Filename | P110113A_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.6 g | Matrix | Solid | |
| % Moisture | 5.6 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 01/05/2011 | 10:55 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/13/2011 | 23:10 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDF-13C | 2.00 | 51 |
| Total TCDF | 0.52 | ----- | 0.140 | J | 2,3,7,8-TCDD-13C | 2.00 | 66 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 49 |
| 2,3,7,8-TCDD | ND | ----- | 0.190 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 49 |
| Total TCDD | 0.27 | ----- | 0.190 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 50 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.240 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 49 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.120 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 52 |
| Total PeCDF | 1.20 | ----- | 0.180 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 50 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 56 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.150 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 58 |
| Total PeCDD | 0.33 | ----- | 0.150 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 59 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 60 |
| 1,2,3,4,7,8-HxCDF | 0.31 | ----- | 0.100 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 67 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.40 | 0.110 | I | OCDD-13C | 4.00 | 52 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.088 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.100 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 3.20 | ----- | 0.100 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.095 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 64 |
| 1,2,3,6,7,8-HxCDD | 0.25 | ----- | 0.087 | J | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.20 | 0.110 | I | | | |
| Total HxCDD | 3.70 | ----- | 0.097 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.00 | ----- | 0.094 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.140 | | Equivalence: 0.40 ng/Kg | | |
| Total HpCDF | 7.60 | ----- | 0.120 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 8.10 | ----- | 0.220 | | | | |
| Total HpCDD | 24.00 | ----- | 0.220 | | | | |
| OCDF | 6.70 | ----- | 0.140 | J | | | |
| OCDD | 54.00 | ----- | 0.330 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-2-3.0 | | | |
| Lab Sample ID | 256177002 | | | |
| Filename | P110114B_02 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.4 g | Matrix | Solid | |
| % Moisture | 34.2 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 01/05/2011 | 11:05 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_18 & P110114B_17 | Extracted | 01/12/2011 | 15:15 |
| Method Blank ID | BLANK-27547 | Analyzed | 01/14/2011 | 19:57 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 16.0 | 0.25 | P | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| Total TCDF | 250.0 | ----- | 0.25 | | 2,3,7,8-TCDD-13C | 2.00 | 92 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 89 Y |
| 2,3,7,8-TCDD | 4.7 | ----- | 0.17 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 89 Y |
| Total TCDD | 630.0 | ----- | 0.17 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | 14.0 | ----- | 0.35 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 |
| 2,3,4,7,8-PeCDF | 25.0 | ----- | 0.29 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 78 |
| Total PeCDF | 230.0 | ----- | 0.32 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | 25.0 | ----- | 0.25 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 85 |
| Total PeCDD | 630.0 | ----- | 0.25 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | 34.0 | ----- | 0.37 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 Y |
| 1,2,3,6,7,8-HxCDF | ----- | 57.0 | 0.33 | P | OCDD-13C | 4.00 | 72 |
| 2,3,4,6,7,8-HxCDF | 28.0 | ----- | 0.33 | | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 8.7 | 0.32 | P | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 420.0 | ----- | 0.34 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| | | | | | | | |
| 1,2,3,4,7,8-HxCDD | 24.0 | ----- | 0.37 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 59.0 | ----- | 0.38 | | | | |
| 1,2,3,7,8,9-HxCDD | 44.0 | ----- | 0.33 | | | | |
| Total HxCDD | 920.0 | ----- | 0.36 | | | | |
| | | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 300.0 | ----- | 0.41 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 26.0 | ----- | 0.57 | | Equivalence: 77 ng/Kg | | |
| Total HpCDF | 1000.0 | ----- | 0.49 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| | | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1300.0 | ----- | 0.81 | | | | |
| Total HpCDD | 2500.0 | ----- | 0.81 | | | | |
| | | | | | | | |
| OCDF | 1100.0 | ----- | 0.26 | Y | | | |
| OCDD | 12000.0 | ----- | 0.18 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-3-3.25 | | | |
| Lab Sample ID | 256177003 | | | |
| Filename | P110113A_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 10.9 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 01/05/2011 | 11:10 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/13/2011 | 23:53 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.4 | ----- | 0.19 | | 2,3,7,8-TCDF-13C | 2.00 | 52 |
| Total TCDF | 49.0 | ----- | 0.19 | | 2,3,7,8-TCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 48 |
| 2,3,7,8-TCDD | ----- | 0.51 | 0.12 | I | 2,3,4,7,8-PeCDF-13C | 2.00 | 48 |
| Total TCDD | 70.0 | ----- | 0.12 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 58 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 45 |
| 1,2,3,7,8-PeCDF | 3.3 | ----- | 0.35 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 46 |
| 2,3,4,7,8-PeCDF | 9.1 | ----- | 0.30 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 48 |
| Total PeCDF | 70.0 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 47 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 49 |
| 1,2,3,7,8-PeCDD | 4.3 | ----- | 0.24 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 54 |
| Total PeCDD | 85.0 | ----- | 0.24 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 52 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 56 |
| 1,2,3,4,7,8-HxCDF | 15.0 | ----- | 0.36 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 62 |
| 1,2,3,6,7,8-HxCDF | ----- | 13.00 | 0.27 | P | OCDD-13C | 4.00 | 48 |
| 2,3,4,6,7,8-HxCDF | 6.8 | ----- | 0.31 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.2 | ----- | 0.37 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 110.0 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.6 | ----- | 0.24 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 71 |
| 1,2,3,6,7,8-HxCDD | 8.9 | ----- | 0.21 | | | | |
| 1,2,3,7,8,9-HxCDD | 7.9 | ----- | 0.19 | | | | |
| Total HxCDD | 130.0 | ----- | 0.21 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 46.0 | ----- | 0.32 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.1 | ----- | 0.31 | J | Equivalence: 14 ng/Kg | | |
| Total HpCDF | 150.0 | ----- | 0.31 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 150.0 | ----- | 0.63 | | | | |
| Total HpCDD | 250.0 | ----- | 0.63 | | | | |
| OCDF | 110.0 | ----- | 0.46 | | | | |
| OCDD | 1000.0 | ----- | 1.70 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-4-2.25 | | | |
| Lab Sample ID | 256177004 | | | |
| Filename | P110113A_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.9 g | Matrix | Solid | |
| % Moisture | 5.2 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 01/05/2011 | 11:20 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/14/2011 | 00:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.170 | | 2,3,7,8-TCDF-13C | 2.00 | 45 |
| Total TCDF | ND | ----- | 0.170 | | 2,3,7,8-TCDD-13C | 2.00 | 63 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 49 |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 49 |
| Total TCDD | ND | ----- | 0.150 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 48 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.250 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 51 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.160 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 54 |
| Total PeCDF | ND | ----- | 0.200 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 52 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.150 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 58 |
| Total PeCDD | ND | ----- | 0.150 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 62 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.150 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.18 | 0.110 | P | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.088 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.088 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.19 | ----- | 0.110 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.120 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 59 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.095 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.100 | | | | |
| Total HxCDD | 0.39 | ----- | 0.100 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.41 | ----- | 0.079 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.110 | | Equivalence: 0.24 ng/Kg | | |
| Total HpCDF | 1.40 | ----- | 0.093 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.10 | ----- | 0.110 | BJ | | | |
| Total HpCDD | 2.20 | ----- | 0.110 | BJ | | | |
| OCDF | 1.30 | ----- | 0.120 | J | | | |
| OCDD | 12.00 | ----- | 0.160 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-5-3.25 | | | |
| Lab Sample ID | 256177005 | | | |
| Filename | P110114B_03 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.4 g | Matrix | Solid | |
| % Moisture | 24.6 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 01/05/2011 | 11:25 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_18 & P110114B_17 | Extracted | 01/12/2011 | 15:15 |
| Method Blank ID | BLANK-27547 | Analyzed | 01/14/2011 | 20:40 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 88 | 0.28 | P | 2,3,7,8-TCDF-13C | 2.00 | 78 |
| Total TCDF | 1600 | ----- | 0.28 | | 2,3,7,8-TCDD-13C | 2.00 | 97 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 104 Y |
| 2,3,7,8-TCDD | 27 | ----- | 0.34 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 101 Y |
| Total TCDD | 2600 | ----- | 0.34 | E | 1,2,3,7,8-PeCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDF | 91 | ----- | 1.20 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 |
| 2,3,4,7,8-PeCDF | ----- | 170 | 1.30 | P | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | 1500 | ----- | 1.30 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 90 |
| 1,2,3,7,8-PeCDD | 150 | ----- | 0.75 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 80 |
| Total PeCDD | 3200 | ----- | 0.75 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 84 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 83 |
| 1,2,3,4,7,8-HxCDF | 200 | ----- | 0.67 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 88 Y |
| 1,2,3,6,7,8-HxCDF | 180 | ----- | 0.62 | | OCDD-13C | 4.00 | 73 |
| 2,3,4,6,7,8-HxCDF | 130 | ----- | 0.61 | | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 66 | 0.83 | P | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4300 | ----- | 0.68 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 150 | ----- | 1.10 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 90 |
| 1,2,3,6,7,8-HxCDD | 380 | ----- | 0.88 | | | | |
| 1,2,3,7,8,9-HxCDD | 280 | ----- | 0.17 | | | | |
| Total HxCDD | 5200 | ----- | 0.72 | E | | | |
| 1,2,3,4,6,7,8-HpCDF | 3100 | ----- | 0.92 | E | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 240 | ----- | 1.10 | | Equivalence: 450 ng/Kg | | |
| Total HpCDF | 11000 | ----- | 1.00 | E | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 7900 | ----- | 0.19 | E | | | |
| Total HpCDD | 13000 | ----- | 0.19 | E | | | |
| OCDF | ----- | 13000 | 0.64 | PEY | | | |
| OCDD | 79000 | ----- | 2.10 | DN2 | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range
D = Result obtained from analysis of diluted sample
Nn = Value obtained from additional analysis
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-6-2.0 | | | |
| Lab Sample ID | 256177006 | | | |
| Filename | P110113A_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.7 g | Matrix | Solid | |
| % Moisture | 4.5 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 01/05/2011 | 11:35 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/14/2011 | 01:18 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.092 | | 2,3,7,8-TCDF-13C | 2.00 | 49 |
| Total TCDF | 0.30 | ----- | 0.092 | J | 2,3,7,8-TCDD-13C | 2.00 | 64 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 50 |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 51 |
| Total TCDD | ND | ----- | 0.150 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 53 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.160 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 51 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.110 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 55 |
| Total PeCDF | ND | ----- | 0.130 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 54 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 57 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.150 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 59 |
| Total PeCDD | ND | ----- | 0.150 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 64 |
| 1,2,3,4,7,8-HxCDF | 0.18 | ----- | 0.093 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 72 |
| 1,2,3,6,7,8-HxCDF | 0.27 | ----- | 0.086 | J | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.094 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.110 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.00 | ----- | 0.096 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.110 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.093 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.084 | | | | |
| Total HxCDD | 0.19 | ----- | 0.095 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.63 | ----- | 0.160 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.150 | | Equivalence: 0.28 ng/Kg | | |
| Total HpCDF | 2.20 | ----- | 0.150 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.80 | ----- | 0.089 | J | | | |
| Total HpCDD | 4.00 | ----- | 0.089 | BJ | | | |
| OCDF | 2.00 | ----- | 0.150 | J | | | |
| OCDD | 15.00 | ----- | 0.250 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-7-3.25 | | | |
| Lab Sample ID | 256177007 | | | |
| Filename | P110113A_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.6 g | Matrix | Solid | |
| % Moisture | 5.3 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 01/05/2011 | 11:40 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/14/2011 | 02:01 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.110 | | 2,3,7,8-TCDF-13C | 2.00 | 58 |
| Total TCDF | 0.15 | ----- | 0.110 | J | 2,3,7,8-TCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 55 |
| 2,3,7,8-TCDD | ND | ----- | 0.140 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 55 |
| Total TCDD | ND | ----- | 0.140 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 54 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 54 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.091 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 57 |
| Total PeCDF | 0.35 | ----- | 0.120 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.160 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 60 |
| Total PeCDD | 0.20 | ----- | 0.160 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.17 | 0.087 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 76 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.49 | 0.110 | P | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.077 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.087 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.30 | ----- | 0.090 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.150 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 72 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.110 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.110 | | | | |
| Total HxCDD | 1.20 | ----- | 0.120 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.10 | ----- | 0.099 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.110 | | Equivalence: 0.27 ng/Kg | | |
| Total HpCDF | 4.10 | ----- | 0.110 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 3.90 | ----- | 0.170 | J | | | |
| Total HpCDD | 8.60 | ----- | 0.170 | | | | |
| OCDF | 3.80 | ----- | 0.095 | J | | | |
| OCDD | 32.00 | ----- | 0.260 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

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Minneapolis, MN 55414

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-8-5.5 | | | |
| Lab Sample ID | 256177008 | | | |
| Filename | P110114B_04 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.7 g | Matrix | Solid | |
| % Moisture | 20.0 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 01/05/2011 | 12:10 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_18 & P110114B_17 | Extracted | 01/12/2011 | 15:15 |
| Method Blank ID | BLANK-27547 | Analyzed | 01/14/2011 | 21:23 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 8.2 | ----- | 0.21 | | 2,3,7,8-TCDF-13C | 2.00 | 77 | |
| Total TCDF | 110.0 | ----- | 0.21 | | 2,3,7,8-TCDD-13C | 2.00 | 96 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 104 | Y |
| 2,3,7,8-TCDD | 2.2 | ----- | 0.32 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 93 | Y |
| Total TCDD | 150.0 | ----- | 0.32 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 82 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 | |
| 1,2,3,7,8-PeCDF | 8.6 | ----- | 0.43 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 | |
| 2,3,4,7,8-PeCDF | 43.0 | ----- | 0.31 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 | |
| Total PeCDF | 200.0 | ----- | 0.37 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 85 | |
| 1,2,3,7,8-PeCDD | 8.7 | ----- | 0.44 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 87 | |
| Total PeCDD | 160.0 | ----- | 0.44 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 | |
| 1,2,3,4,7,8-HxCDF | ----- | 66 | 0.43 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 | Y |
| 1,2,3,6,7,8-HxCDF | 18.0 | ----- | 0.29 | | OCDD-13C | 4.00 | 47 | |
| 2,3,4,6,7,8-HxCDF | 10.0 | ----- | 0.23 | | | | | |
| 1,2,3,7,8,9-HxCDF | 13.0 | ----- | 0.48 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 200.0 | ----- | 0.36 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 4.5 | ----- | 0.41 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 93 | |
| 1,2,3,6,7,8-HxCDD | 21.0 | ----- | 0.51 | | | | | |
| 1,2,3,7,8,9-HxCDD | 9.9 | ----- | 0.41 | | | | | |
| Total HxCDD | 220.0 | ----- | 0.44 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 120.0 | ----- | 1.20 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 14.0 | ----- | 1.10 | | Equivalence: 41 ng/Kg | | | |
| Total HpCDF | 460.0 | ----- | 1.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 450.0 | ----- | 1.10 | | | | | |
| Total HpCDD | 870.0 | ----- | 1.10 | | | | | |
| OCDF | 340.0 | ----- | 0.49 | Y | | | | |
| OCDD | 7900.0 | ----- | 0.56 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
Y = Calculated using average of daily RFs

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-9-5.5 | | | |
| Lab Sample ID | 256177009 | | | |
| Filename | P110114B_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.1 g | Matrix | Solid | |
| % Moisture | 23.2 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 01/05/2011 | 12:15 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_18 & P110114B_17 | Extracted | 01/12/2011 | 15:15 |
| Method Blank ID | BLANK-27547 | Analyzed | 01/14/2011 | 22:05 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 20 | 0.42 | P | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| Total TCDF | 310.0 | ----- | 0.42 | | 2,3,7,8-TCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 93 Y |
| 2,3,7,8-TCDD | 5.1 | ----- | 0.27 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 94 Y |
| Total TCDD | 580.0 | ----- | 0.27 | E | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDF | 19.0 | ----- | 0.62 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 81 |
| 2,3,4,7,8-PeCDF | 36.0 | ----- | 0.48 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 76 |
| Total PeCDF | 310.0 | ----- | 0.55 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDD | 31.0 | ----- | 0.31 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 84 |
| Total PeCDD | 670.0 | ----- | 0.31 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 78 |
| 1,2,3,4,7,8-HxCDF | 44.0 | ----- | 0.56 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 80 Y |
| 1,2,3,6,7,8-HxCDF | 29.0 | ----- | 0.35 | | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | 23.0 | ----- | 0.45 | | | | |
| 1,2,3,7,8,9-HxCDF | 11.0 | ----- | 0.36 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 440.0 | ----- | 0.43 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 26.0 | ----- | 0.38 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 57.0 | ----- | 0.35 | | | | |
| 1,2,3,7,8,9-HxCDD | 43.0 | ----- | 0.53 | | | | |
| Total HxCDD | 1000.0 | ----- | 0.42 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 230.0 | ----- | 0.44 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 19.0 | ----- | 0.51 | | Equivalence: 83 ng/Kg | | |
| Total HpCDF | 700.0 | ----- | 0.48 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 800.0 | ----- | 1.40 | | | | |
| Total HpCDD | 1400.0 | ----- | 1.40 | | | | |
| OCDF | ----- | 720 | 0.43 | PY | | | |
| OCDD | 6000.0 | ----- | 0.32 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range
Y = Calculated using average of daily RFs

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-10-5.5 | | | |
| Lab Sample ID | 256177010 | | | |
| Filename | P110113A_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 1.30 g | Matrix | Solid | |
| % Moisture | 37.4 | Dilution | NA | |
| Dry Weight Extracted | 0.814 g | Collected | 01/05/2011 | 12:20 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Extracted | 01/12/2011 | 13:00 |
| Method Blank ID | BLANK-27549 | Analyzed | 01/14/2011 | 02:44 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 27.0 | ----- | 2.4 | | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 400.0 | ----- | 2.4 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 57 |
| 2,3,7,8-TCDD | 6.2 | ----- | 1.6 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 60 |
| Total TCDD | 650.0 | ----- | 1.6 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDF | 46.0 | ----- | 6.2 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 61 |
| 2,3,4,7,8-PeCDF | 180.0 | ----- | 3.6 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 1100.0 | ----- | 4.9 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 67 |
| 1,2,3,7,8-PeCDD | 26.0 | ----- | 2.8 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 69 |
| Total PeCDD | 840.0 | ----- | 2.8 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 75 |
| 1,2,3,4,7,8-HxCDF | 460.0 | ----- | 3.7 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 87 |
| 1,2,3,6,7,8-HxCDF | ----- | 730 | 4.0 | P | OCDD-13C | 4.00 | 74 |
| 2,3,4,6,7,8-HxCDF | 58.0 | ----- | 3.1 | J | | | |
| 1,2,3,7,8,9-HxCDF | 100.0 | ----- | 2.5 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4100.0 | ----- | 3.3 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 36.0 | ----- | 1.6 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | 240.0 | ----- | 1.6 | | | | |
| 1,2,3,7,8,9-HxCDD | 100.0 | ----- | 1.6 | | | | |
| Total HxCDD | 1800.0 | ----- | 1.6 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 2800.0 | ----- | 5.5 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 230.0 | ----- | 7.9 | | Equivalence: 330 ng/Kg | | |
| Total HpCDF | 13000.0 | ----- | 6.7 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 7400.0 | ----- | 1.7 | | | | |
| Total HpCDD | 12000.0 | ----- | 1.7 | | | | |
| OCDF | 14000.0 | ----- | 2.9 | | | | |
| OCDD | 110000.0 | ----- | 1.2 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3A-11-6 | | | |
| Lab Sample ID | 256177011 | | | |
| Filename | P110114B_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 26.1 g | Matrix | Solid | |
| % Moisture | 61.0 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 01/05/2011 | 12:25 |
| ICAL ID | P101202 | Received | 01/07/2011 | 09:52 |
| CCal Filename(s) | P110113A_18 & P110114B_17 | Extracted | 01/12/2011 | 15:15 |
| Method Blank ID | BLANK-27547 | Analyzed | 01/14/2011 | 22:48 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 12.00 | ----- | 0.39 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 77.00 | ----- | 0.39 | | 2,3,7,8-TCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 86 Y |
| 2,3,7,8-TCDD | 0.95 | ----- | 0.27 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 87 Y |
| Total TCDD | 280.00 | ----- | 0.27 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 |
| 1,2,3,7,8-PeCDF | 28.00 | ----- | 1.00 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 |
| 2,3,4,7,8-PeCDF | 130.00 | ----- | 0.68 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 76 |
| Total PeCDF | 690.00 | ----- | 0.84 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 83 |
| 1,2,3,7,8-PeCDD | 2.40 | ----- | 0.36 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 84 |
| Total PeCDD | 85.00 | ----- | 0.36 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | 250.00 | ----- | 0.70 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 Y |
| 1,2,3,6,7,8-HxCDF | ----- | 260 | 0.60 | P | OCDD-13C | 4.00 | 74 |
| 2,3,4,6,7,8-HxCDF | 94.00 | ----- | 0.75 | | | | |
| 1,2,3,7,8,9-HxCDF | 68.00 | ----- | 0.67 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 3300.00 | ----- | 0.68 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 13.00 | ----- | 0.62 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 140.00 | ----- | 0.46 | | | | |
| 1,2,3,7,8,9-HxCDD | 18.00 | ----- | 0.39 | | | | |
| Total HxCDD | 440.00 | ----- | 0.49 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1800.00 | ----- | 1.10 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 170.00 | ----- | 0.99 | | Equivalence: 180 ng/Kg | | |
| Total HpCDF | 8700.00 | ----- | 1.10 | E | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 4100.00 | ----- | 2.30 | E | | | |
| Total HpCDD | 6400.00 | ----- | 2.30 | E | | | |
| OCDF | 9200.00 | ----- | 2.00 | EY | | | |
| OCDD | 48000.00 | ----- | 1.80 | EDN2 | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range
D = Result obtained from analysis of diluted sample
Nn = Value obtained from additional analysis
Y = Calculated using average of daily RFs

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27549 | Matrix | Solid |
| Filename | P110113A_05 | Dilution | NA |
| Total Amount Extracted | 10.2 g | Extracted | 01/12/2011 13:00 |
| ICAL ID | P101202 | Analyzed | 01/13/2011 22:28 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.120 | 2,3,7,8-TCDF-13C | 2.00 | 38 R |
| Total TCDF | ND | ----- | 0.120 | 2,3,7,8-TCDD-13C | 2.00 | 50 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 45 |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | 2,3,4,7,8-PeCDF-13C | 2.00 | 43 |
| Total TCDD | ND | ----- | 0.150 | 1,2,3,7,8-PeCDD-13C | 2.00 | 52 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 46 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.150 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 48 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.110 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 49 |
| Total PeCDF | ND | ----- | 0.130 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 48 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 54 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 54 |
| Total PeCDD | ND | ----- | 0.140 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 58 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.067 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.086 | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.093 | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.090 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.084 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.120 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 48 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.130 | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.120 | | | |
| Total HxCDD | ND | ----- | 0.120 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.084 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.098 | Equivalence: 0.21 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.091 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.17 | ----- | 0.130 J | | | |
| Total HpCDD | 0.41 | ----- | 0.130 J | | | |
| OCDF | ----- | 0.19 | 0.092 I | | | |
| OCDD | 0.57 | ----- | 0.170 J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
I = Interference present

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27547 | Matrix | Solid |
| Filename | F110114A_03 | Dilution | NA |
| Total Amount Extracted | 20.1 g | Extracted | 01/12/2011 15:15 |
| ICAL ID | F101206 | Analyzed | 01/14/2011 15:54 |
| CCal Filename(s) | F110113B_15 & F110114A_05 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.068 | | 2,3,7,8-TCDF-13C | 2.00 | 65 |
| Total TCDF | ND | ----- | 0.068 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 77 |
| 2,3,7,8-TCDD | ND | ----- | 0.079 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | ND | ----- | 0.079 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.066 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 81 |
| 2,3,4,7,8-PeCDF | 0.12 | ----- | 0.070 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 78 |
| Total PeCDF | 0.12 | ----- | 0.068 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.069 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 86 |
| Total PeCDD | ND | ----- | 0.069 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 63 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.071 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 75 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.080 | 0.070 | I | OCDD-13C | 4.00 | 58 |
| 2,3,4,6,7,8-HxCDF | 0.18 | ----- | 0.075 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.14 | ----- | 0.088 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.32 | ----- | 0.076 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.077 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.087 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.071 | | | | |
| Total HxCDD | ND | ----- | 0.078 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.110 | 0.099 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.130 | | Equivalence: 0.17 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.110 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.36 | ----- | 0.140 | J | | | |
| Total HpCDD | 0.74 | ----- | 0.140 | J | | | |
| OCDF | ----- | 0.380 | 0.190 | I | | | |
| OCDD | 1.10 | ----- | 0.270 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27550 | | |
| Filename | P110113A_03 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | P101202 | Extracted | 01/12/2011 13:00 |
| CCal Filename(s) | P110113A_02 & P110113A_18 | Analyzed | 01/13/2011 21:04 |
| Method Blank ID | BLANK-27549 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.22 | 112 | 2,3,7,8-TCDF-13C | 2.0 | 44 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 59 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 46 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 91 | 2,3,4,7,8-PeCDF-13C | 2.0 | 48 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 58 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 46 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 106 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 47 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 100 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 52 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 50 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 53 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.93 | 93 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 58 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 60 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 63 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.0 | 101 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 69 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 108 | OCDD-13C | 4.0 | 56 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 105 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 106 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.0 | 104 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 57 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 0.99 | 99 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.3 | 129 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 106 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 104 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.97 | 97 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.2 | 112 | | | |
| OCDD | 2.0 | 2.2 | 110 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27548 | | |
| Filename | F110114A_01 | Matrix | Solid |
| Total Amount Extracted | 20.2 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 01/12/2011 15:15 |
| CCal Filename(s) | F110113B_15 & F110114A_05 | Analyzed | 01/14/2011 14:04 |
| Method Blank ID | BLANK-27547 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 120 | 2,3,7,8-TCDF-13C | 2.0 | 67 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 81 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 79 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 95 | 2,3,4,7,8-PeCDF-13C | 2.0 | 78 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 92 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 79 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 113 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 79 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 109 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 78 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 77 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 89 |
| 1,2,3,7,8-PeCDD | 1.0 | 1.00 | 100 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 84 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 68 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 66 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 109 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 77 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 111 | OCDD-13C | 4.0 | 64 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 109 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 112 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.0 | 103 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 77 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 107 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.0 | 103 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 108 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 106 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.98 | 98 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.0 | 102 | | | |
| OCDD | 2.0 | 2.2 | 110 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell  Project # 256177

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

**Tracking #:** 8738 8211 5380

**Custody Seal on Cooler/Box Present:** ☑ Yes ☐ No  Seals intact: ☑ Yes ☐ No

**Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank Yes ✓ No _____

**Thermometer Used** 132013 or 101731962 or 226099  **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.1c  **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** 010611 CW

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed: ____ Lot # of added preservative: ____ |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS  **Date:** 1/10/11

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256177

Page: | of |

1318952

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW #420
Olympia, WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-9552 Fax: 360-943-7513
Requested Due Date/TAT: 10 day

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 135130

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: see A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Y/N; Analysis Test: Dioxin, Furan

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Dioxin, Furan | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3A-1-1.75 | SL | G | | | 1/5/11 | 10:55 | | 1 | X | | | | | | | | | | |
| 2 | CNF-3A-2-3.0 | | | | | | 11:05 | | | | | | | | | | | | | |
| 3 | CNF-3A-3-3.25 | | | | | | 11:10 | | | | | | | | | | | | | |
| 4 | CNF-3A-4-2.25 | | | | | | 11:20 | | | | | | | | | | | | | |
| 5 | CNF-3A-5-3.25 | | | | | | 11:25 | | | | | | | | | | | | | |
| 6 | CNF-3A-6-2.0 | | | | | | 11:35 | | | | | | | | | | | | | |
| 7 | CNF-3A-7-3.25 | | | | | | 11:40 | | | | | | | | | | | | | |
| 8 | CNF-3A-8-5.5 | | | | | | 12:10 | | | | | | | | | | | | | |
| 9 | CNF-3A-9-5.5 | | | | | | 12:15 | | | | | | | | | | | | | |
| 10 | CNF-3A-10-5.5 | | | | | | 12:20 | | | | | | | | | | | | | |
| 11 | CNF-3A-11-6 | | | | | | 12:25 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Kate Green, BC | 1/5/11 | 14:15 | Relinquished to FedEx for delivery | | | | | | |
| | | | | Colette Weaver / PACE | 010611 | 0920 | 2.1c | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/5/11

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

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

256177

# Sample Container Count

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CLIENT: Brown & Caldwell

COC PAGE 1 of 1
COC ID# 1318952

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

November 22, 2010

## Report Information:

**Pace Project #: 10142843**
**Sample Receipt Date: 11/10/2010**
**Client Project #: 255663**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

November 23, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on twenty-five samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 33-158%. With the exceptions of thirteen values, which were flagged "R" on the results tables, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Values above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show the blanks to contain background levels of selected congeners. With the exception of one non-2,3,7,8-substituted TCDF congener in Blank-26969, these were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 98-128%, with relative percent differences of 0.4-14.4%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were prepared with the 11/15/2010 sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

1122

10142843 COC p. 1 (of 2)

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 255663 **Workorder Name:** Olympia Soils **Owner Received Date:** 11/9/2010 **Results Requested By:** 11/23/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Requested Analysis: Dioxins/Furans | Dry Weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3-1-1.5 | PS | 11/9/2010 08:05 | 255663001 | Solid | 1 | X | X | |
| 2 | CNF-3-2-1.5 | PS | 11/9/2010 08:10 | 255663002 | Solid | 1 | X | | |
| 3 | CNF-3-3-1.5 | PS | 11/9/2010 08:15 | 255663003 | Solid | 1 | X | | |
| 4 | CNF-3-4-1.5 | PS | 11/9/2010 08:25 | 255663004 | Solid | 1 | X | | |
| 5 | CNF-3-5-1 | PS | 11/9/2010 08:28 | 255663005 | Solid | 1 | X | | |
| 6 | CNF-3-6-1 | PS | 11/9/2010 08:32 | 255663006 | Solid | 1 | X | | |
| 7 | CNF-3-7-2.5 | PS | 11/9/2010 08:35 | 255663007 | Solid | 1 | X | | |
| 8 | CNF-3-8-2.5 | PS | 11/9/2010 08:40 | 255663008 | Solid | 1 | X | | |
| 9 | CNF-3-9-2.5 | PS | 11/9/2010 08:43 | 255663009 | Solid | 1 | X | | |
| 10 | CNF-3-10-2.5 | PS | 11/9/2010 08:48 | 255663010 | Solid | 1 | X | | |
| 11 | CNF-3-11-2.5 | PS | 11/9/2010 08:52 | 255663011 | Solid | 1 | X | | |
| 12 | CNF-3-12-2.5 | PS | 11/9/2010 08:55 | 255663012 | Solid | 1 | X | | |
| 13 | CNF-3-13-3.5 | PS | 11/9/2010 08:58 | 255663013 | Solid | 1 | X | | |
| 14 | CNF-3-14-3.5 | PS | 11/9/2010 09:05 | 255663014 | Solid | 1 | X | | |
| 15 | CNF-3-15-3.5 | PS | 11/9/2010 09:10 | 255663015 | Solid | 1 | X | | |
| 16 | CNF-3-16-3.5 | PS | 11/9/2010 09:15 | 255663016 | Solid | 1 | X | | |
| 17 | CNF-3-17-3.5 | PS | 11/9/2010 09:25 | 255663017 | Solid | 1 | X | | |
| 18 | CNF-3-18-3.5 | PS | 11/9/2010 09:35 | 255663018 | Solid | 1 | X | | |
| 19 | CNF-3-19-7.5 | PS | 11/9/2010 09:50 | 255663019 | Solid | 1 | X | | |

10142843 COC pg 2 (of 2)

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 255663 **Workorder Name:** Olympia Soils **Owner Received Date:** 11/9/2010 **Results Requested By:** 11/23/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxins/Furans | Dry weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 20 | CNF-3-20-7.5 | PS | 11/9/2010 09:58 | 255663020 | Solid | 1 | X | X | |
| 21 | CNF-3-21-7.5 | PS | 11/9/2010 10:10 | 255663021 | Solid | 1 | X | | |
| 22 | CNF-3-22-7.5 | PS | 11/9/2010 10:20 | 255663022 | Solid | 1 | X | | |
| 23 | CNF-3-23-7.5 | PS | 11/9/2010 10:30 | 255663023 | Solid | 1 | X | | |
| 24 | CNF-3-24-7.4 | PS | 11/9/2010 10:40 | 255663024 | Solid | 1 | X | | |
| 25 | CNF-3-25-10 | PS | 11/9/2010 09:48 | 255663025 | Solid | 1 | X | | |

**Comments**

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Jyothi Sway | 11/09/10 1500 | [illegible] Pace MN | 11/10/10 1000 |
| 2 | | | | |
| 3 | | | | |

**Cooler Temperature on Receipt** 2.1 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace WA **Project #** 10142843

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

**Tracking #:** 7941 0102 5392

Optional: Proj. Due Date: Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank: Yes** ✓ **No** _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.1 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and initials of person examining contents:** 11/10/10 MSP

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 11/10/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-1-1.5 | | | |
| Lab Sample ID | 255663001 | | | |
| Filename | P101119A_04 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 1.07 g | Matrix | Solid | |
| % Moisture | 7.8 | Dilution | NA | |
| Dry Weight Extracted | 0.987 g | Collected | 11/09/2010 | 08:05 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_17 & P101119A_17 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/19/2010 | 10:17 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 11.0 | ----- | 2.30 | | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 160.0 | ----- | 2.30 | | 2,3,7,8-TCDD-13C | 2.00 | 71 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | 3.3 | ----- | 1.10 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 72 |
| Total TCDD | 130.0 | ----- | 1.10 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDF | 19.0 | ----- | 0.95 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 110.0 | ----- | 1.30 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 870.0 | ----- | 1.10 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDD | 19.0 | ----- | 2.10 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 270.0 | ----- | 2.10 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 320.0 | ----- | 2.90 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 84 |
| 1,2,3,6,7,8-HxCDF | ----- | 490 | 1.90 | P | OCDD-13C | 4.00 | 66 |
| 2,3,4,6,7,8-HxCDF | 59.0 | ----- | 1.90 | | | | |
| 1,2,3,7,8,9-HxCDF | 66.0 | ----- | 2.20 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 3300.0 | ----- | 2.20 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 36.0 | ----- | 2.10 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 170.0 | ----- | 2.20 | | | | |
| 1,2,3,7,8,9-HxCDD | 78.0 | ----- | 2.30 | | | | |
| Total HxCDD | 1000.0 | ----- | 2.20 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 2000.0 | ----- | 3.10 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 160.0 | ----- | 4.20 | | Equivalence: 210 ng/Kg | | |
| Total HpCDF | 7600.0 | ----- | 3.70 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 4600.0 | ----- | 5.70 | | | | |
| Total HpCDD | 7300.0 | ----- | 5.70 | | | | |
| OCDF | 6800.0 | ----- | 1.80 | | | | |
| OCDD | 50000.0 | ----- | 1.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-2-1.5 | | | |
| Lab Sample ID | 255663002 | | | |
| Filename | F101118A_10 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.6 g | Matrix | Solid | |
| % Moisture | 5.3 | Dilution | NA | |
| Dry Weight Extracted | 11.9 g | Collected | 11/09/2010 | 08:10 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 11:32 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.180 | ----- | 0.100 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 1.200 | ----- | 0.100 | B | 2,3,7,8-TCDD-13C | 2.00 | 72 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 78 |
| 2,3,7,8-TCDD | ND | ----- | 0.140 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 93 |
| Total TCDD | ND | ----- | 0.140 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 0.180 | ----- | 0.082 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 0.930 | ----- | 0.100 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 61 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.091 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 |
| Total PeCDD | 0.160 | ----- | 0.091 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.51 | 0.055 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 54 |
| 1,2,3,6,7,8-HxCDF | 0.100 | ----- | 0.052 | J | OCDD-13C | 4.00 | 55 |
| 2,3,4,6,7,8-HxCDF | 0.120 | ----- | 0.050 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.069 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.700 | ----- | 0.056 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.080 | ----- | 0.074 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 67 |
| 1,2,3,6,7,8-HxCDD | 0.120 | ----- | 0.048 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.086 | ----- | 0.056 | J | | | |
| Total HxCDD | 0.570 | ----- | 0.059 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.720 | ----- | 0.096 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.140 | | Equivalence: 0.29 ng/Kg | | |
| Total HpCDF | 0.720 | ----- | 0.120 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 2.500 | ----- | 0.210 | J | | | |
| Total HpCDD | 5.100 | ----- | 0.210 | | | | |
| OCDF | 2.500 | ----- | 0.170 | J | | | |
| OCDD | 28.000 | ----- | 0.490 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-3-1.5 | | | |
| Lab Sample ID | 255663003 | | | |
| Filename | P101119A_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 1.29 g | Matrix | Solid | |
| % Moisture | 11.5 | Dilution | NA | |
| Dry Weight Extracted | 1.14 g | Collected | 11/09/2010 | 08:15 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_17 & P101119A_17 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/19/2010 | 11:02 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 4.4 | ----- | 1.30 | J | 2,3,7,8-TCDF-13C | 2.00 | 69 |
| Total TCDF | 53.0 | ----- | 1.30 | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | ND | ----- | 1.30 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| Total TCDD | 18.0 | ----- | 1.30 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 70 |
| 1,2,3,7,8-PeCDF | 5.8 | ----- | 1.30 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 15.0 | ----- | 1.40 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 120.0 | ----- | 1.30 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDD | 3.2 | ----- | 1.70 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 71.0 | ----- | 1.70 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 42.0 | ----- | 1.10 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 78 |
| 1,2,3,6,7,8-HxCDF | ----- | 14 | 0.79 | P | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | 10.0 | ----- | 0.92 | J | | | |
| 1,2,3,7,8,9-HxCDF | 7.9 | ----- | 1.40 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 260.0 | ----- | 1.10 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.8 | ----- | 1.40 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 81 |
| 1,2,3,6,7,8-HxCDD | 15.0 | ----- | 1.50 | J | | | |
| 1,2,3,7,8,9-HxCDD | 6.8 | ----- | 1.40 | J | | | |
| Total HxCDD | 140.0 | ----- | 1.40 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 89.0 | ----- | 1.20 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 9.3 | ----- | 1.70 | J | Equivalence: 22 ng/Kg | | |
| Total HpCDF | 290.0 | ----- | 1.50 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 240.0 | ----- | 2.10 | | | | |
| Total HpCDD | 440.0 | ----- | 2.10 | | | | |
| OCDF | 150.0 | ----- | 2.30 | | | | |
| OCDD | 3000.0 | ----- | 2.00 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-4-1.5 | | | |
| Lab Sample ID | 255663004 | | | |
| Filename | P101119A_03 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 10.3 | Dilution | 10 | |
| Dry Weight Extracted | 11.1 g | Collected | 11/09/2010 | 08:25 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_17 & P101119A_17 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/19/2010 | 09:31 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.93 | ----- | 0.82 | BJD | 2,3,7,8-TCDF-13C | 2.00 | 70 | D |
| Total TCDF | 12.00 | ----- | 0.82 | BD | 2,3,7,8-TCDD-13C | 2.00 | 81 | D |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 | D |
| 2,3,7,8-TCDD | ND | ----- | 1.00 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 | D |
| Total TCDD | 7.90 | ----- | 1.00 | JD | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 | D |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 70 | D |
| 1,2,3,7,8-PeCDF | ----- | 1.40 | 0.83 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 69 | D |
| 2,3,4,7,8-PeCDF | 8.00 | ----- | 0.80 | JD | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 | D |
| Total PeCDF | 53.00 | ----- | 0.81 | D | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 | D |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 74 | D |
| 1,2,3,7,8-PeCDD | ----- | 1.20 | 1.10 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 | D |
| Total PeCDD | 9.80 | ----- | 1.10 | JD | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 66 | D |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 59 | D |
| 1,2,3,4,7,8-HxCDF | 14.00 | ----- | 0.79 | JD | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 73 | D |
| 1,2,3,6,7,8-HxCDF | 3.00 | ----- | 0.81 | JD | OCDD-13C | 4.00 | 41 | D |
| 2,3,4,6,7,8-HxCDF | ----- | 1.90 | 0.66 | I | | | | |
| 1,2,3,7,8,9-HxCDF | 3.10 | ----- | 0.72 | JD | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 92.00 | ----- | 0.74 | D | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ----- | 0.87 | 0.75 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 | D |
| 1,2,3,6,7,8-HxCDD | 4.40 | ----- | 0.74 | JD | | | | |
| 1,2,3,7,8,9-HxCDD | 1.60 | ----- | 0.74 | JD | | | | |
| Total HxCDD | 33.00 | ----- | 0.74 | JD | | | | |
| 1,2,3,4,6,7,8-HpCDF | 20.00 | ----- | 0.68 | JD | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 2.30 | ----- | 0.94 | JD | Equivalence: 7.2 ng/Kg | | | |
| Total HpCDF | 63.00 | ----- | 0.81 | D | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 55.00 | ----- | 0.62 | D | | | | |
| Total HpCDD | 110.00 | ----- | 0.62 | D | | | | |
| OCDF | 19.00 | ----- | 1.50 | JD | | | | |
| OCDD | 650.00 | ----- | 1.40 | D | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
D = Result obtained from analysis of diluted sample

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-5-1 | | | |
| Lab Sample ID | 255663005 | | | |
| Filename | F101118A_11 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.8 g | Matrix | Solid | |
| % Moisture | 7.8 | Dilution | NA | |
| Dry Weight Extracted | 11.8 g | Collected | 11/09/2010 | 08:28 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 12:18 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.150 | | 2,3,7,8-TCDF-13C | 2.00 | 77 |
| Total TCDF | 1.700 | ----- | 0.150 | B | 2,3,7,8-TCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 86 |
| 2,3,7,8-TCDD | ND | ----- | 0.140 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 94 |
| Total TCDD | 0.150 | ----- | 0.140 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 98 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.160 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | 0.110 | ----- | 0.099 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 0.940 | ----- | 0.130 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 70 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.075 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 66 |
| Total PeCDD | ND | ----- | 0.075 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 54 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 56 |
| 1,2,3,4,7,8-HxCDF | 0.290 | ----- | 0.093 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 54 |
| 1,2,3,6,7,8-HxCDF | 0.087 | ----- | 0.072 | J | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | 0.083 | ----- | 0.076 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.100 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.100 | ----- | 0.086 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.093 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.100 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.120 | | | | |
| Total HxCDD | 0.700 | ----- | 0.100 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.670 | ----- | 0.120 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.160 | | Equivalence: 0.25 ng/Kg | | |
| Total HpCDF | 0.670 | ----- | 0.140 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 2.400 | ----- | 0.130 | J | | | |
| Total HpCDD | 5.400 | ----- | 0.130 | | | | |
| OCDF | 1.800 | ----- | 0.180 | J | | | |
| OCDD | 21.000 | ----- | 0.320 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-6-1 | | | |
| Lab Sample ID | 255663006 | | | |
| Filename | P101118B_13 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.9 g | Matrix | Solid | |
| % Moisture | 7.6 | Dilution | NA | |
| Dry Weight Extracted | 12.8 g | Collected | 11/09/2010 | 08:32 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101119B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 04:10 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.120 | ----- | 0.110 | J | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | 0.920 | ----- | 0.110 | B | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 68 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 0.360 | ----- | 0.160 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.180 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 0.180 | ----- | 0.130 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| Total PeCDF | 1.600 | ----- | 0.150 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 83 |
| Total PeCDD | 1.500 | ----- | 0.130 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 0.310 | ----- | 0.083 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 79 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.74 | 0.069 | P | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | 0.180 | ----- | 0.072 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.096 | ----- | 0.078 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 3.800 | ----- | 0.075 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.120 | ----- | 0.092 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 |
| 1,2,3,6,7,8-HxCDD | 0.420 | ----- | 0.098 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.190 | ----- | 0.094 | J | | | |
| Total HxCDD | 4.000 | ----- | 0.095 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.200 | ----- | 0.099 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.200 | ----- | 0.079 | J | Equivalence: 0.47 ng/Kg | | |
| Total HpCDF | 7.100 | ----- | 0.089 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 8.000 | ----- | 0.120 | | | | |
| Total HpCDD | 17.000 | ----- | 0.120 | | | | |
| OCDF | 5.800 | ----- | 0.130 | J | | | |
| OCDD | 63.000 | ----- | 0.110 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-7-2.5 | | | |
| Lab Sample ID | 255663007 | | | |
| Filename | F101119A_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.2 g | Matrix | Solid | |
| % Moisture | 4.4 | Dilution | NA | |
| Dry Weight Extracted | 9.79 g | Collected | 11/09/2010 | 08:35 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 08:56 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.75 | ----- | 0.21 | J | 2,3,7,8-TCDF-13C | 2.00 | 68 |
| Total TCDF | 9.20 | ----- | 0.21 | | 2,3,7,8-TCDD-13C | 2.00 | 73 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | 0.22 | ----- | 0.16 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 91 |
| Total TCDD | 7.30 | ----- | 0.16 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 97 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 70 |
| 1,2,3,7,8-PeCDF | 1.50 | ----- | 0.73 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 |
| 2,3,4,7,8-PeCDF | 6.20 | ----- | 0.43 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 46.00 | ----- | 0.58 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDD | 1.70 | ----- | 0.35 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 81 |
| Total PeCDD | 16.00 | ----- | 0.35 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 63 |
| 1,2,3,4,7,8-HxCDF | 21.00 | ----- | 0.49 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 72 |
| 1,2,3,6,7,8-HxCDF | 4.50 | ----- | 0.50 | J | OCDD-13C | 4.00 | 62 |
| 2,3,4,6,7,8-HxCDF | 3.70 | ----- | 0.52 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.70 | ----- | 0.68 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 78.00 | ----- | 0.55 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.10 | ----- | 0.26 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 6.80 | ----- | 0.23 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.90 | ----- | 0.30 | J | | | |
| Total HxCDD | 60.00 | ----- | 0.26 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 63.00 | ----- | 0.70 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.40 | ----- | 1.20 | | Equivalence: 12 ng/Kg | | |
| Total HpCDF | 68.00 | ----- | 0.97 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 210.00 | ----- | 1.30 | | | | |
| Total HpCDD | 470.00 | ----- | 1.30 | | | | |
| OCDF | 330.00 | ----- | 0.61 | | | | |
| OCDD | 1900.00 | ----- | 0.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-8-2.5 | | | |
| Lab Sample ID | 255663008 | | | |
| Filename | P101118B_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.3 g | Matrix | Solid | |
| % Moisture | 7.7 | Dilution | NA | |
| Dry Weight Extracted | 11.4 g | Collected | 11/09/2010 | 08:40 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/18/2010 | 23:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | ----- | 0.170 | J | 2,3,7,8-TCDF-13C | 2.00 | 51 |
| Total TCDF | 2.40 | ----- | 0.170 | | 2,3,7,8-TCDD-13C | 2.00 | 58 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 60 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 4.40 | ----- | 0.160 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDF | 0.30 | ----- | 0.110 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 0.95 | ----- | 0.062 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 7.80 | ----- | 0.088 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDD | 0.27 | ----- | 0.150 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 6.40 | ----- | 0.150 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 70 |
| 1,2,3,4,7,8-HxCDF | 2.70 | ----- | 0.130 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | ----- | 6.2 | 0.110 | P | OCDD-13C | 4.00 | 63 |
| 2,3,4,6,7,8-HxCDF | 1.00 | ----- | 0.094 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.64 | ----- | 0.100 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 29.00 | ----- | 0.110 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| | | | | | | | |
| 1,2,3,4,7,8-HxCDD | 0.53 | ----- | 0.095 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 63 |
| 1,2,3,6,7,8-HxCDD | 1.70 | ----- | 0.120 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.77 | ----- | 0.095 | J | | | |
| Total HxCDD | 16.00 | ----- | 0.100 | | | | |
| | | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 17.00 | ----- | 0.088 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.40 | ----- | 0.110 | J | Equivalence: 2.1 ng/Kg | | |
| Total HpCDF | 61.00 | ----- | 0.100 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| | | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 43.00 | ----- | 0.210 | | | | |
| Total HpCDD | 82.00 | ----- | 0.210 | | | | |
| | | | | | | | |
| OCDF | 51.00 | ----- | 0.100 | | | | |
| OCDD | 400.00 | ----- | 0.053 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-9-2.5 | | | |
| Lab Sample ID | 255663009 | | | |
| Filename | F101119A_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.1 g | Matrix | Solid | |
| % Moisture | 6.8 | Dilution | NA | |
| Dry Weight Extracted | 11.3 g | Collected | 11/09/2010 | 08:43 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 09:42 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.51 | ----- | 0.20 | J | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 6.90 | ----- | 0.20 | | 2,3,7,8-TCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | ND | ----- | 0.23 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 87 |
| Total TCDD | 13.00 | ----- | 0.23 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDF | 0.67 | ----- | 0.15 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 69 |
| 2,3,4,7,8-PeCDF | 2.30 | ----- | 0.10 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 65 |
| Total PeCDF | 16.00 | ----- | 0.13 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 65 |
| 1,2,3,7,8-PeCDD | 0.81 | ----- | 0.36 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| Total PeCDD | 16.00 | ----- | 0.36 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 55 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 55 |
| 1,2,3,4,7,8-HxCDF | 6.50 | ----- | 0.26 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 63 |
| 1,2,3,6,7,8-HxCDF | 2.20 | ----- | 0.26 | J | OCDD-13C | 4.00 | 49 |
| 2,3,4,6,7,8-HxCDF | 1.20 | ----- | 0.27 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.10 | ----- | 0.37 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 30.00 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.89 | ----- | 0.33 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 3.70 | ----- | 0.30 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.80 | ----- | 0.30 | J | | | |
| Total HxCDD | 39.00 | ----- | 0.31 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 25.00 | ----- | 0.26 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.00 | ----- | 0.49 | J | Equivalence: 4.7 ng/Kg | | |
| Total HpCDF | 27.00 | ----- | 0.37 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 70.00 | ----- | 0.68 | | | | |
| Total HpCDD | 130.00 | ----- | 0.68 | | | | |
| OCDF | 75.00 | ----- | 0.15 | | | | |
| OCDD | 890.00 | ----- | 0.19 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-10-2.5 | | | |
| Lab Sample ID | 255663010 | | | |
| Filename | P101118B_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.0 g | Matrix | Solid | |
| % Moisture | 8.5 | Dilution | NA | |
| Dry Weight Extracted | 11.9 g | Collected | 11/09/2010 | 08:48 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 00:21 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.47 | ----- | 0.120 | J | 2,3,7,8-TCDF-13C | 2.00 | 61 |
| Total TCDF | 8.30 | ----- | 0.120 | | 2,3,7,8-TCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 61 |
| 2,3,7,8-TCDD | 0.17 | ----- | 0.110 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 8.90 | ----- | 0.110 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDF | 0.81 | ----- | 0.100 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 69 |
| 2,3,4,7,8-PeCDF | 3.80 | ----- | 0.062 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 24.00 | ----- | 0.081 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDD | 0.74 | ----- | 0.100 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 73 |
| Total PeCDD | 15.00 | ----- | 0.100 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 13.00 | ----- | 0.110 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 75 |
| 1,2,3,6,7,8-HxCDF | ----- | 4.8 | 0.100 | P | OCDD-13C | 4.00 | 63 |
| 2,3,4,6,7,8-HxCDF | 1.80 | ----- | 0.110 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.10 | ----- | 0.120 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 68.00 | ----- | 0.110 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.92 | ----- | 0.096 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | 3.50 | ----- | 0.099 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.50 | ----- | 0.081 | J | | | |
| Total HxCDD | 32.00 | ----- | 0.092 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 24.00 | ----- | 0.094 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.50 | ----- | 0.072 | J | Equivalence: 5.6 ng/Kg | | |
| Total HpCDF | 74.00 | ----- | 0.083 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 64.00 | ----- | 0.220 | | | | |
| Total HpCDD | 120.00 | ----- | 0.220 | | | | |
| OCDF | 30.00 | ----- | 0.071 | | | | |
| OCDD | 830.00 | ----- | 0.081 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-11-2.5 | | | |
| Lab Sample ID | 255663011 | | | |
| Filename | P101118B_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.3 g | Matrix | Solid | |
| % Moisture | 5.2 | Dilution | NA | |
| Dry Weight Extracted | 12.6 g | Collected | 11/09/2010 | 08:52 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101119B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 01:07 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.100 | | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | 0.32 | ----- | 0.100 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 66 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 63 |
| 2,3,7,8-TCDD | ND | ----- | 0.120 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 72 |
| Total TCDD | ND | ----- | 0.120 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.100 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 0.13 | ----- | 0.089 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 0.81 | ----- | 0.096 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.110 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 78 |
| Total PeCDD | 0.35 | ----- | 0.110 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 0.24 | ----- | 0.050 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 79 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.710 | 0.066 | P | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | 0.10 | ----- | 0.093 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.097 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 2.60 | ----- | 0.076 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.070 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 70 |
| 1,2,3,6,7,8-HxCDD | 0.24 | ----- | 0.084 | J | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.087 | 0.071 | I | | | |
| Total HxCDD | 0.94 | ----- | 0.075 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.40 | ----- | 0.059 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.12 | ----- | 0.060 | J | Equivalence: 0.31 ng/Kg | | |
| Total HpCDF | 5.20 | ----- | 0.060 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 4.40 | ----- | 0.140 | | | | |
| Total HpCDD | 7.70 | ----- | 0.140 | | | | |
| OCDF | 4.20 | ----- | 0.130 | J | | | |
| OCDD | 50.00 | ----- | 0.100 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-12-2.5 | | | |
| Lab Sample ID | 255663012 | | | |
| Filename | P101118B_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.2 g | Matrix | Solid | |
| % Moisture | 9.9 | Dilution | NA | |
| Dry Weight Extracted | 11.9 g | Collected | 11/09/2010 | 08:55 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 01:53 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.23 | ----- | 0.098 | J | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 3.20 | ----- | 0.098 | | 2,3,7,8-TCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | ND | ----- | 0.120 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 73 |
| Total TCDD | 3.20 | ----- | 0.120 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 69 |
| 1,2,3,7,8-PeCDF | 0.33 | ----- | 0.220 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 0.78 | ----- | 0.082 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 5.50 | ----- | 0.150 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDD | 0.39 | ----- | 0.180 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 78 |
| Total PeCDD | 7.70 | ----- | 0.180 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 1.50 | ----- | 0.100 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 76 |
| 1,2,3,6,7,8-HxCDF | ----- | 2.1 | 0.087 | P | OCDD-13C | 4.00 | 59 |
| 2,3,4,6,7,8-HxCDF | 0.41 | ----- | 0.086 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.41 | ----- | 0.100 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 10.00 | ----- | 0.095 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.36 | ----- | 0.094 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 81 |
| 1,2,3,6,7,8-HxCDD | 1.20 | ----- | 0.086 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.71 | ----- | 0.090 | J | | | |
| Total HxCDD | 16.00 | ----- | 0.090 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 5.50 | ----- | 0.061 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.59 | ----- | 0.083 | J | Equivalence: 1.5 ng/Kg | | |
| Total HpCDF | 18.00 | ----- | 0.072 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 21.00 | ----- | 0.100 | | | | |
| Total HpCDD | 54.00 | ----- | 0.100 | | | | |
| OCDF | 16.00 | ----- | 0.190 | | | | |
| OCDD | 170.00 | ----- | 0.130 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-13-3.5 | | | |
| Lab Sample ID | 255663013 | | | |
| Filename | F101119A_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.1 g | Matrix | Solid | |
| % Moisture | 5.0 | Dilution | NA | |
| Dry Weight Extracted | 11.5 g | Collected | 11/09/2010 | 08:58 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 10:28 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.71 | ----- | 0.34 | J | 2,3,7,8-TCDF-13C | 2.00 | 55 |
| Total TCDF | 8.00 | ----- | 0.34 | | 2,3,7,8-TCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 72 |
| 2,3,7,8-TCDD | ND | ----- | 0.19 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 84 |
| Total TCDD | 3.70 | ----- | 0.19 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | 1.40 | ----- | 0.42 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | 6.70 | ----- | 0.30 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 |
| Total PeCDF | 44.00 | ----- | 0.36 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 65 |
| 1,2,3,7,8-PeCDD | 1.60 | ----- | 0.30 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 68 |
| Total PeCDD | 12.00 | ----- | 0.30 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 60 |
| 1,2,3,4,7,8-HxCDF | 18.00 | ----- | 0.33 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 67 |
| 1,2,3,6,7,8-HxCDF | 5.60 | ----- | 0.47 | | OCDD-13C | 4.00 | 55 |
| 2,3,4,6,7,8-HxCDF | 3.10 | ----- | 0.46 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.80 | ----- | 0.60 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 79.00 | ----- | 0.46 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.40 | ----- | 0.22 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 66 |
| 1,2,3,6,7,8-HxCDD | 6.80 | ----- | 0.30 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.30 | ----- | 0.24 | J | | | |
| Total HxCDD | 44.00 | ----- | 0.25 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 56.00 | ----- | 0.46 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.90 | ----- | 0.88 | | Equivalence: 10 ng/Kg | | |
| Total HpCDF | 61.00 | ----- | 0.67 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 150.00 | ----- | 0.18 | | | | |
| Total HpCDD | 250.00 | ----- | 0.18 | | | | |
| OCDF | 210.00 | ----- | 0.39 | | | | |
| OCDD | 1300.00 | ----- | 0.34 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-14-3.5 | | | |
| Lab Sample ID | 255663014 | | | |
| Filename | F101119A_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.2 g | Matrix | Solid | |
| % Moisture | 13.6 | Dilution | NA | |
| Dry Weight Extracted | 10.5 g | Collected | 11/09/2010 | 09:05 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 11:13 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.70 | ----- | 0.36 | | 2,3,7,8-TCDF-13C | 2.00 | 78 |
| Total TCDF | 24.00 | ----- | 0.36 | | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 86 |
| 2,3,7,8-TCDD | 0.45 | ----- | 0.20 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 97 |
| Total TCDD | 40.00 | ----- | 0.20 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 102 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDF | 1.70 | ----- | 0.65 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 |
| 2,3,4,7,8-PeCDF | 4.30 | ----- | 0.20 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 47.00 | ----- | 0.42 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDD | 2.20 | ----- | 0.35 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 70 |
| Total PeCDD | 57.00 | ----- | 0.35 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 |
| 1,2,3,4,7,8-HxCDF | 7.40 | ----- | 0.45 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 69 |
| 1,2,3,6,7,8-HxCDF | 3.90 | ----- | 0.44 | J | OCDD-13C | 4.00 | 51 |
| 2,3,4,6,7,8-HxCDF | 2.40 | ----- | 0.41 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.70 | ----- | 0.47 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 49.00 | ----- | 0.44 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.40 | ----- | 0.32 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 6.40 | ----- | 0.33 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.60 | ----- | 0.37 | J | | | |
| Total HxCDD | 96.00 | ----- | 0.34 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 31.00 | ----- | 0.36 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 1.7 | 0.61 | I | Equivalence: 8.4 ng/Kg | | |
| Total HpCDF | 79.00 | ----- | 0.49 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 95.00 | ----- | 0.32 | | | | |
| Total HpCDD | 170.00 | ----- | 0.32 | | | | |
| OCDF | 76.00 | ----- | 0.28 | | | | |
| OCDD | 800.00 | ----- | 0.37 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-15-3.5 | | | |
| Lab Sample ID | 255663015 | | | |
| Filename | P101118B_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.6 g | Matrix | Solid | |
| % Moisture | 8.8 | Dilution | NA | |
| Dry Weight Extracted | 11.5 g | Collected | 11/09/2010 | 09:10 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 02:39 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.200 | | 2,3,7,8-TCDF-13C | 2.00 | 35 R |
| Total TCDF | 0.25 | ----- | 0.200 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 43 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 50 |
| 2,3,7,8-TCDD | ND | ----- | 0.230 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 60 |
| Total TCDD | ND | ----- | 0.230 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 63 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.170 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 64 |
| 2,3,4,7,8-PeCDF | 0.14 | ----- | 0.091 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 64 |
| Total PeCDF | 0.34 | ----- | 0.130 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.120 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | ND | ----- | 0.120 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 63 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.170 | 0.082 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.170 | 0.080 | P | OCDD-13C | 4.00 | 53 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.082 | 0.074 | I | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.096 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.79 | ----- | 0.083 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.082 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 46 |
| 1,2,3,6,7,8-HxCDD | ----- | 0.081 | 0.078 | I | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.094 | | | | |
| Total HxCDD | 0.30 | ----- | 0.085 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.53 | ----- | 0.059 | BJ | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.070 | | Equivalence: 0.28 ng/Kg | | |
| Total HpCDF | 1.60 | ----- | 0.064 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.20 | ----- | 0.100 | J | | | |
| Total HpCDD | 2.30 | ----- | 0.100 | J | | | |
| OCDF | 1.10 | ----- | 0.110 | BJ | | | |
| OCDD | 12.00 | ----- | 0.130 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
R = Recovery outside target range
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-16-3.5 | | | |
| Lab Sample ID | 255663016 | | | |
| Filename | P101118B_12 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.1 g | Matrix | Solid | |
| % Moisture | 13.3 | Dilution | NA | |
| Dry Weight Extracted | 11.4 g | Collected | 11/09/2010 | 09:15 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 03:24 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.28 | ----- | 0.150 | J | 2,3,7,8-TCDF-13C | 2.00 | 45 |
| Total TCDF | 2.90 | ----- | 0.150 | | 2,3,7,8-TCDD-13C | 2.00 | 52 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 52 |
| 2,3,7,8-TCDD | ND | ----- | 0.130 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 62 |
| Total TCDD | 5.50 | ----- | 0.130 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 61 |
| 1,2,3,7,8-PeCDF | 0.28 | ----- | 0.130 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 60 |
| 2,3,4,7,8-PeCDF | 0.34 | ----- | 0.095 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 61 |
| Total PeCDF | 2.80 | ----- | 0.110 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 65 |
| 1,2,3,7,8-PeCDD | ----- | 0.21 | 0.097 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 67 |
| Total PeCDD | 5.10 | ----- | 0.097 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 |
| 1,2,3,4,7,8-HxCDF | 0.35 | ----- | 0.094 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.35 | 0.079 | P | OCDD-13C | 4.00 | 52 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.25 | 0.075 | I | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.084 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.30 | ----- | 0.083 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.25 | ----- | 0.110 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 58 |
| 1,2,3,6,7,8-HxCDD | 0.44 | ----- | 0.110 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.35 | ----- | 0.090 | J | | | |
| Total HxCDD | 6.30 | ----- | 0.100 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.87 | ----- | 0.063 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.10 | ----- | 0.076 | J | Equivalence: 0.45 ng/Kg | | |
| Total HpCDF | 2.00 | ----- | 0.070 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 2.70 | ----- | 0.120 | J | | | |
| Total HpCDD | 5.00 | ----- | 0.120 | | | | |
| OCDF | 1.30 | ----- | 0.110 | BJ | | | |
| OCDD | 17.00 | ----- | 0.120 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-17-3.5 | | | |
| Lab Sample ID | 255663017 | | | |
| Filename | F101119A_12 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 1.25 g | Matrix | Solid | |
| % Moisture | 12.5 | Dilution | NA | |
| Dry Weight Extracted | 1.09 g | Collected | 11/09/2010 | 09:25 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 11:59 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 100 | ----- | 6.0 | | 2,3,7,8-TCDF-13C | 2.00 | 77 |
| Total TCDF | 1200 | ----- | 6.0 | | 2,3,7,8-TCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 91 |
| 2,3,7,8-TCDD | 21 | ----- | 2.3 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 101 |
| Total TCDD | 1800 | ----- | 2.3 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 109 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDF | ----- | 320 | 5.6 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 81 |
| 2,3,4,7,8-PeCDF | 1400 | ----- | 2.3 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 12000 | ----- | 3.9 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 69 |
| 1,2,3,7,8-PeCDD | 230 | ----- | 4.5 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 71 |
| Total PeCDD | 3500 | ----- | 4.5 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | 4600 | ----- | 17.0 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 |
| 1,2,3,6,7,8-HxCDF | 1400 | ----- | 16.0 | | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 740 | ----- | 18.0 | | | | |
| 1,2,3,7,8,9-HxCDF | 880 | ----- | 12.0 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 23000 | ----- | 16.0 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 300 | ----- | 8.0 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 88 |
| 1,2,3,6,7,8-HxCDD | 1400 | ----- | 12.0 | | | | |
| 1,2,3,7,8,9-HxCDD | 660 | ----- | 9.6 | | | | |
| Total HxCDD | 11000 | ----- | 10.0 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 11000 | ----- | 13.0 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1000 | ----- | 19.0 | | Equivalence: 2200 ng/Kg | | |
| Total HpCDF | 26000 | ----- | 16.0 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 30000 | ----- | 2.9 | E | | | |
| Total HpCDD | 52000 | ----- | 2.9 | E | | | |
| OCDF | 20000 | ----- | 6.7 | | | | |
| OCDD | 250000 | ----- | 4.1 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range

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Minneapolis, MN 55414

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-18-3.5 | | | |
| Lab Sample ID | 255663018 | | | |
| Filename | P101119A_14 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 13.1 | Dilution | NA | |
| Dry Weight Extracted | 10.8 g | Collected | 11/09/2010 | 09:35 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 17:55 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDF-13C | 2.00 | 52 |
| Total TCDF | 0.560 | ----- | 0.140 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 56 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 77 |
| 2,3,7,8-TCDD | ND | ----- | 0.170 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 92 |
| Total TCDD | ND | ----- | 0.170 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 100 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.120 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 66 |
| 2,3,4,7,8-PeCDF | 0.098 | ----- | 0.089 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| Total PeCDF | 0.300 | ----- | 0.110 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 71 |
| Total PeCDD | ND | ----- | 0.140 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 66 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.17 | 0.056 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.21 | 0.072 | P | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.062 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.078 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.600 | ----- | 0.067 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.098 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 56 |
| 1,2,3,6,7,8-HxCDD | 0.120 | ----- | 0.100 | J | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.079 | | | | |
| Total HxCDD | 0.900 | ----- | 0.093 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.550 | ----- | 0.110 | BJ | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.120 | | Equivalence: 0.25 ng/Kg | | |
| Total HpCDF | 1.600 | ----- | 0.110 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.600 | ----- | 0.100 | J | | | |
| Total HpCDD | 3.100 | ----- | 0.100 | J | | | |
| OCDF | 1.200 | ----- | 0.150 | BJ | | | |
| OCDD | 17.000 | ----- | 0.170 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-19-7.5 | | | |
| Lab Sample ID | 255663019 | | | |
| Filename | F101119A_14 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.7 g | Matrix | Solid | |
| % Moisture | 20.8 | Dilution | NA | |
| Dry Weight Extracted | 12.5 g | Collected | 11/09/2010 | 09:50 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 13:31 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.64 | 0.41 | I | 2,3,7,8-TCDF-13C | 2.00 | 66 | |
| Total TCDF | ND | ----- | 0.41 | | 2,3,7,8-TCDD-13C | 2.00 | 88 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 128 | |
| 2,3,7,8-TCDD | ND | ----- | 0.35 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 132 | |
| Total TCDD | ND | ----- | 0.35 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 151 | R |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 51 | |
| 1,2,3,7,8-PeCDF | ----- | 37.00 | 0.22 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 59 | |
| 2,3,4,7,8-PeCDF | 3.80 | ----- | 0.16 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 55 | |
| Total PeCDF | 27.00 | ----- | 0.19 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 60 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 52 | |
| 1,2,3,7,8-PeCDD | ----- | 0.39 | 0.24 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 60 | |
| Total PeCDD | 0.35 | ----- | 0.24 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 54 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 56 | |
| 1,2,3,4,7,8-HxCDF | 12.00 | ----- | 0.49 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 61 | |
| 1,2,3,6,7,8-HxCDF | ----- | 2.10 | 0.37 | I | OCDD-13C | 4.00 | 47 | |
| 2,3,4,6,7,8-HxCDF | ----- | 1.10 | 0.35 | I | | | | |
| 1,2,3,7,8,9-HxCDF | 2.50 | ----- | 0.48 | J | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 110.00 | ----- | 0.42 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.38 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 98 | |
| 1,2,3,6,7,8-HxCDD | 4.30 | ----- | 0.34 | | | | | |
| 1,2,3,7,8,9-HxCDD | 0.95 | ----- | 0.31 | J | | | | |
| Total HxCDD | 17.00 | ----- | 0.34 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 44.00 | ----- | 0.59 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 4.10 | ----- | 1.10 | | Equivalence: 5.0 ng/Kg | | | |
| Total HpCDF | 170.00 | ----- | 0.83 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 90.00 | ----- | 0.55 | | | | | |
| Total HpCDD | 150.00 | ----- | 0.55 | | | | | |
| OCDF | 140.00 | ----- | 0.50 | | | | | |
| OCDD | 490.00 | ----- | 0.68 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-20-7.5 | | | |
| Lab Sample ID | 255663020 | | | |
| Filename | F101119A_03 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.4 g | Matrix | Solid | |
| % Moisture | 21.5 | Dilution | NA | |
| Dry Weight Extracted | 12.1 g | Collected | 11/09/2010 | 09:58 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 05:06 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.27 | | 2,3,7,8-TCDF-13C | 2.00 | 50 |
| Total TCDF | 0.60 | ----- | 0.27 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 54 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 62 |
| 2,3,7,8-TCDD | ND | ----- | 0.28 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | ND | ----- | 0.28 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 56 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.35 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 55 |
| 2,3,4,7,8-PeCDF | ----- | 0.28 | 0.18 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 54 |
| Total PeCDF | 1.40 | ----- | 0.26 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 57 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 52 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.22 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 64 |
| Total PeCDD | ND | ----- | 0.22 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 47 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 47 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.75 | 0.18 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 52 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.21 | 0.14 | I | OCDD-13C | 4.00 | 39 R |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.15 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.23 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.20 | ----- | 0.17 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.22 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 66 |
| 1,2,3,6,7,8-HxCDD | 0.28 | ----- | 0.18 | J | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.18 | | | | |
| Total HxCDD | 1.90 | ----- | 0.19 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.30 | ----- | 0.16 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.21 | | Equivalence: 0.47 ng/Kg | | |
| Total HpCDF | 1.30 | ----- | 0.19 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 4.70 | ----- | 0.25 | | | | |
| Total HpCDD | 12.00 | ----- | 0.25 | | | | |
| OCDF | 4.70 | ----- | 0.30 | J | | | |
| OCDD | 87.00 | ----- | 0.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
R = Recovery outside target range
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-21-7.5 | | | |
| Lab Sample ID | 255663021 | | | |
| Filename | F101119A_04 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 16.2 g | Matrix | Solid | |
| % Moisture | 20.3 | Dilution | NA | |
| Dry Weight Extracted | 12.9 g | Collected | 11/09/2010 | 10:10 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 05:52 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.210 | | 2,3,7,8-TCDF-13C | 2.00 | 40 |
| Total TCDF | ND | ----- | 0.210 | | 2,3,7,8-TCDD-13C | 2.00 | 45 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 57 |
| 2,3,7,8-TCDD | ND | ----- | 0.190 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | ND | ----- | 0.190 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 53 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 61 |
| 2,3,4,7,8-PeCDF | ----- | 0.12 | 0.110 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 58 |
| Total PeCDF | ND | ----- | 0.150 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 53 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.110 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 71 |
| Total PeCDD | ND | ----- | 0.110 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 48 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.12 | 0.100 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 56 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.096 | | OCDD-13C | 4.00 | 43 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.097 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.160 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.120 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.120 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 50 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.100 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.088 | | | | |
| Total HxCDD | 0.13 | ----- | 0.100 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.18 | ----- | 0.130 | BJ | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.200 | | Equivalence: 0.23 ng/Kg | | |
| Total HpCDF | 0.18 | ----- | 0.170 | BJ | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.89 | ----- | 0.280 | J | | | |
| Total HpCDD | 2.30 | ----- | 0.280 | J | | | |
| OCDF | 0.61 | ----- | 0.280 | BJ | | | |
| OCDD | 6.60 | ----- | 0.390 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-22-7.5 | | | |
| Lab Sample ID | 255663022 | | | |
| Filename | F101119A_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.8 g | Matrix | Solid | |
| % Moisture | 15.9 | Dilution | NA | |
| Dry Weight Extracted | 13.3 g | Collected | 11/09/2010 | 10:20 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 06:38 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDF-13C | 2.00 | 57 |
| Total TCDF | 0.340 | ----- | 0.140 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 62 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | ND | ----- | 0.160 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.150 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.081 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 65 |
| Total PeCDF | ND | ----- | 0.110 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.110 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | ND | ----- | 0.110 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 58 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 |
| 1,2,3,4,7,8-HxCDF | 0.110 | ----- | 0.059 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 64 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.063 | | OCDD-13C | 4.00 | 48 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.047 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.088 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.110 | ----- | 0.064 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.089 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 67 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.068 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.074 | | | | |
| Total HxCDD | 0.120 | ----- | 0.077 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.052 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.110 | | Equivalence: 0.19 ng/Kg | | |
| Total HpCDF | 0.094 | ----- | 0.079 | BJ | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ----- | 0.12 | 0.091 | I | | | |
| Total HpCDD | 0.250 | ----- | 0.091 | BJ | | | |
| OCDF | 0.150 | ----- | 0.110 | BJ | | | |
| OCDD | ----- | 0.85 | 0.210 | I | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-23-7.5 | | | |
| Lab Sample ID | 255663023 | | | |
| Filename | F101119A_15 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 16.0 g | Matrix | Solid | |
| % Moisture | 22.0 | Dilution | NA | |
| Dry Weight Extracted | 12.5 g | Collected | 11/09/2010 | 10:30 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 14:18 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.10 | ----- | 0.46 | | 2,3,7,8-TCDF-13C | 2.00 | 69 | |
| Total TCDF | 6.20 | ----- | 0.46 | | 2,3,7,8-TCDD-13C | 2.00 | 96 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 138 | R |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 139 | R |
| Total TCDD | 1.30 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 158 | R |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 60 | |
| 1,2,3,7,8-PeCDF | ----- | 73.00 | 0.16 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 63 | |
| 2,3,4,7,8-PeCDF | ----- | 17.00 | 0.22 | P | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 58 | |
| Total PeCDF | 83.00 | ----- | 0.19 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 59 | |
| 1,2,3,7,8-PeCDD | 0.35 | ----- | 0.22 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 62 | |
| Total PeCDD | 3.30 | ----- | 0.22 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 56 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 | |
| 1,2,3,4,7,8-HxCDF | 44.00 | ----- | 0.27 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 | |
| 1,2,3,6,7,8-HxCDF | 7.50 | ----- | 0.24 | | OCDD-13C | 4.00 | 54 | |
| 2,3,4,6,7,8-HxCDF | 3.80 | ----- | 0.27 | J | | | | |
| 1,2,3,7,8,9-HxCDF | 9.00 | ----- | 0.37 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 390.00 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ----- | 0.36 | 0.26 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 107 | |
| 1,2,3,6,7,8-HxCDD | 12.00 | ----- | 0.21 | | | | | |
| 1,2,3,7,8,9-HxCDD | 1.50 | ----- | 0.25 | J | | | | |
| Total HxCDD | 42.00 | ----- | 0.24 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 130.00 | ----- | 0.63 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 10.00 | ----- | 0.86 | | Equivalence: 13 ng/Kg | | | |
| Total HpCDF | 430.00 | ----- | 0.74 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 260.00 | ----- | 1.10 | | | | | |
| Total HpCDD | 440.00 | ----- | 1.10 | | | | | |
| OCDF | 530.00 | ----- | 0.45 | | | | | |
| OCDD | 2300.00 | ----- | 0.40 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-24-7.4 | | | |
| Lab Sample ID | 255663024 | | | |
| Filename | F101119A_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 16.4 g | Matrix | Solid | |
| % Moisture | 24.4 | Dilution | NA | |
| Dry Weight Extracted | 12.4 g | Collected | 11/09/2010 | 10:40 |
| ICAL ID | F101012 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | F101118B_12 & F101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 07:24 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.20 | | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 1.10 | ----- | 0.20 | B | 2,3,7,8-TCDD-13C | 2.00 | 73 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.14 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 89 |
| Total TCDD | 0.50 | ----- | 0.14 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 92 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 63 |
| 1,2,3,7,8-PeCDF | 0.64 | ----- | 0.16 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 1.80 | ----- | 0.16 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 |
| Total PeCDF | 11.00 | ----- | 0.16 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 60 |
| 1,2,3,7,8-PeCDD | 0.33 | ----- | 0.16 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 70 |
| Total PeCDD | 5.00 | ----- | 0.16 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 59 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 |
| 1,2,3,4,7,8-HxCDF | ----- | 7.1 | 0.18 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 |
| 1,2,3,6,7,8-HxCDF | ----- | 1.6 | 0.21 | P | OCDD-13C | 4.00 | 55 |
| 2,3,4,6,7,8-HxCDF | 1.10 | ----- | 0.19 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.61 | ----- | 0.32 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 11.00 | ----- | 0.22 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.71 | ----- | 0.18 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 72 |
| 1,2,3,6,7,8-HxCDD | 1.30 | ----- | 0.17 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.75 | ----- | 0.21 | J | | | |
| Total HxCDD | 22.00 | ----- | 0.19 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 8.10 | ----- | 0.25 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.94 | ----- | 0.39 | J | Equivalence: 2.2 ng/Kg | | |
| Total HpCDF | 9.00 | ----- | 0.32 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 41.00 | ----- | 0.91 | | | | |
| Total HpCDD | 160.00 | ----- | 0.91 | | | | |
| OCDF | 28.00 | ----- | 0.45 | | | | |
| OCDD | 830.00 | ----- | 2.00 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | CNF-3-25-10 | | | |
| Lab Sample ID | 255663025 | | | |
| Filename | P101119A_13 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.5 g | Matrix | Solid | |
| % Moisture | 20.7 | Dilution | NA | |
| Dry Weight Extracted | 12.3 g | Collected | 11/09/2010 | 09:48 |
| ICAL ID | P100312 | Received | 11/10/2010 | 10:00 |
| CCal Filename(s) | P101118B_17 & P101119A_17 | Extracted | 11/16/2010 | 18:30 |
| Method Blank ID | BLANK-26974 | Analyzed | 11/19/2010 | 17:09 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDF-13C | 2.00 | 33 R |
| Total TCDF | 0.30 | ----- | 0.140 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 37 R |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 39 R |
| 2,3,7,8-TCDD | ND | ----- | 0.170 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 45 |
| Total TCDD | ND | ----- | 0.170 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 50 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 46 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.160 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 46 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.094 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 46 |
| Total PeCDF | ND | ----- | 0.130 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 45 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 48 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 52 |
| Total PeCDD | ND | ----- | 0.130 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 45 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 43 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.11 | 0.099 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 50 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.100 | | OCDD-13C | 4.00 | 34 R |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.081 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.110 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.097 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.100 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 52 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.086 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.098 | | | | |
| Total HxCDD | ND | ----- | 0.094 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.19 | 0.085 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.110 | | Equivalence: 0.21 ng/Kg | | |
| Total HpCDF | 0.26 | ----- | 0.096 | BJ | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.51 | ----- | 0.120 | J | | | |
| Total HpCDD | 1.00 | ----- | 0.120 | BJ | | | |
| OCDF | 0.41 | ----- | 0.160 | BJ | | | |
| OCDD | 3.60 | ----- | 0.210 | BJ | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
R = Recovery outside target range
I = Interference present

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-26969 | Matrix | Solid |
| Filename | F101117B_09 | Dilution | NA |
| Total Amount Extracted | 10.4 g | Extracted | 11/15/2010 15:45 |
| ICAL ID | F101012 | Analyzed | 11/17/2010 20:06 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | ----- | 0.140 | J | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | 1.40 | ----- | 0.140 | | 2,3,7,8-TCDD-13C | 2.00 | 60 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 81 |
| Total TCDD | ND | ----- | 0.160 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 63 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ----- | 0.13 | 0.120 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 0.22 | ----- | 0.160 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 59 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.092 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | ND | ----- | 0.092 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | 0.17 | ----- | 0.098 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 55 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.095 | | OCDD-13C | 4.00 | 54 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.078 | | | | |
| 1,2,3,7,8,9-HxCDF | 0.12 | ----- | 0.110 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.41 | ----- | 0.095 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.071 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 57 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.069 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.088 | | | | |
| Total HxCDD | ND | ----- | 0.076 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.11 | 0.077 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.120 | | Equivalence: 0.22 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.097 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.15 | ----- | 0.140 | J | | | |
| Total HpCDD | 0.15 | ----- | 0.140 | J | | | |
| OCDF | ----- | 0.42 | 0.120 | I | | | |
| OCDD | ----- | 0.74 | 0.090 | I | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-26974 | Matrix | Solid |
| Filename | P101118B_06 | Dilution | NA |
| Total Amount Extracted | 10.1 g | Extracted | 11/16/2010 18:30 |
| ICAL ID | P100312 | Analyzed | 11/18/2010 22:50 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.095 | | 2,3,7,8-TCDF-13C | 2.00 | 52 |
| Total TCDF | 0.200 | ----- | 0.095 | J | 2,3,7,8-TCDD-13C | 2.00 | 58 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 57 |
| 2,3,7,8-TCDD | ND | ----- | 0.110 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | ND | ----- | 0.110 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.120 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.076 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 |
| Total PeCDF | ND | ----- | 0.099 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.084 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 73 |
| Total PeCDD | ND | ----- | 0.084 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.054 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 75 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.049 | | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.052 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.056 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.053 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.071 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 60 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.073 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.063 | | | | |
| Total HxCDD | ND | ----- | 0.069 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.071 | ----- | 0.041 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.059 | | Equivalence: 0.14 ng/Kg | | |
| Total HpCDF | 0.071 | ----- | 0.050 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ----- | 0.11 | 0.062 | I | | | |
| Total HpCDD | 0.140 | ----- | 0.062 | J | | | |
| OCDF | 0.170 | ----- | 0.063 | J | | | |
| OCDD | 0.560 | ----- | 0.130 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-26970 | | |
| Filename | F101118A_16 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | F101012 | Extracted | 11/15/2010 15:45 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Analyzed | 11/18/2010 16:01 |
| Method Blank ID | BLANK-26969 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.26 | 128 | 2,3,7,8-TCDF-13C | 2.0 | 61 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 66 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 74 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 100 | 2,3,4,7,8-PeCDF-13C | 2.0 | 85 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 97 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.2 | 117 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 68 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 111 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 67 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 72 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDD | 1.0 | 1.1 | 106 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 58 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 61 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 62 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 115 | OCDD-13C | 4.0 | 53 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 112 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 111 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 109 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 111 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.3 | 128 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 111 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 108 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 101 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.5 | 125 | | | |
| OCDD | 2.0 | 2.5 | 123 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-26975 | | |
| Filename | P101118B_02 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | P100312 | Extracted | 11/16/2010 18:30 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Analyzed | 11/18/2010 19:48 |
| Method Blank ID | BLANK-26974 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 113 | 2,3,7,8-TCDF-13C | 2.0 | 33 R |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 39 R |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 52 |
| 2,3,7,8-TCDD | 0.20 | 0.22 | 108 | 2,3,4,7,8-PeCDF-13C | 2.0 | 64 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 69 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 71 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 112 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 73 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 107 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 73 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 76 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 76 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 79 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 75 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 78 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 113 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 89 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 112 | OCDD-13C | 4.0 | 67 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 113 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 115 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 108 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 41 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 107 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.1 | 113 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 112 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 109 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 104 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.3 | 114 | | | |
| OCDD | 2.0 | 2.3 | 113 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | CNF-3-6-1-MS | | |
| Lab Sample ID | 255663006-MS | | |
| Filename | P101118B_14 | Matrix | Solid |
| Total Amount Extracted | 13.5 g | Dilution | NA |
| ICAL ID | P100312 | Extracted | 11/16/2010 18:30 |
| CCal Filename(s) | P101118B_01 & P101118B_17 | Analyzed | 11/19/2010 04:56 |
| Method Blank ID | BLANK-26974 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 118 | 2,3,7,8-TCDF-13C | 2.00 | 76 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 86 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 74 |
| 2,3,7,8-TCDD | 0.20 | 0.22 | 109 | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.14 | 114 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.09 | 109 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 77 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.00 | 100 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 73 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.14 | 114 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.19 | 119 | OCDD-13C | 4.00 | 59 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.16 | 116 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.16 | 116 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.06 | 106 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 89 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.10 | 110 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.11 | 111 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.14 | 114 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.09 | 109 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.11 | 111 | | | |
| OCDF | 2.00 | 2.22 | 111 | | | |
| OCDD | 2.00 | 2.85 | 143 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | CNF-3-6-1-MSD | | |
| Lab Sample ID | 255663006-MSD | | |
| Filename | P101118B_15 | Matrix | Solid |
| Total Amount Extracted | 13.4 g | Dilution | NA |
| ICAL ID | P100312 | Extracted | 11/16/2010 18:30 |
| CCal Filename(s) | P101118B_01 & P101119B_17 | Analyzed | 11/19/2010 05:42 |
| Method Blank ID | BLANK-26974 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 120 | 2,3,7,8-TCDF-13C | 2.00 | 74 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 72 |
| 2,3,7,8-TCDD | 0.20 | 0.22 | 112 | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.19 | 119 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.13 | 113 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.02 | 102 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.15 | 115 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.22 | 122 | OCDD-13C | 4.00 | 33 R |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.18 | 118 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.16 | 116 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.08 | 108 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 90 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.12 | 112 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.13 | 113 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.19 | 119 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.14 | 114 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.21 | 121 | | | |
| OCDF | 2.00 | 2.48 | 124 | | | |
| OCDD | 2.00 | 3.30 | 165 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range

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Tel: 612-607-1700
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# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | CNF-3-6-1 | | | Dry Weights | |
| Lab Sample ID | 255663006 | Sample Filename | P101118B_13 | Sample Amount | 12.8 g |
| MS ID | 255663006-MS | MS Filename | P101118B_14 | MS Amount | 12.5 g |
| MSD ID | 255663006-MSD | MSD Filename | P101118B_15 | MSD Amount | 12.4 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.122 | 0.20 | 0.24 | 0.24 | 1.5 | 118 | 119 | 1.5 |
| 2,3,7,8-TCDD | 0.000 | 0.20 | 0.22 | 0.22 | 3.3 | 109 | 112 | 3.3 |
| 1,2,3,7,8-PeCDF | 0.000 | 1.00 | 1.14 | 1.19 | 3.9 | 114 | 119 | 3.9 |
| 2,3,4,7,8-PeCDF | 0.182 | 1.00 | 1.09 | 1.13 | 3.5 | 109 | 113 | 3.5 |
| 1,2,3,7,8-PeCDD | 0.000 | 1.00 | 1.00 | 1.02 | 2.1 | 100 | 102 | 2.1 |
| 1,2,3,4,7,8-HxCDF | 0.310 | 1.00 | 1.14 | 1.15 | 1.0 | 113 | 114 | 1.0 |
| 1,2,3,6,7,8-HxCDF | 0.000 | 1.00 | 1.19 | 1.22 | 1.9 | 118 | 121 | 1.9 |
| 2,3,4,6,7,8-HxCDF | 0.179 | 1.00 | 1.16 | 1.18 | 1.5 | 116 | 118 | 1.5 |
| 1,2,3,7,8,9-HxCDF | 0.096 | 1.00 | 1.16 | 1.16 | 0.4 | 115 | 116 | 0.4 |
| 1,2,3,4,7,8-HxCDD | 0.120 | 1.00 | 1.06 | 1.08 | 1.4 | 106 | 108 | 1.4 |
| 1,2,3,6,7,8-HxCDD | 0.416 | 1.00 | 1.10 | 1.12 | 1.7 | 110 | 112 | 1.7 |
| 1,2,3,7,8,9-HxCDD | 0.194 | 1.00 | 1.11 | 1.13 | 1.9 | 110 | 112 | 1.9 |
| 1,2,3,4,6,7,8-HpCDF | 2.190 | 1.00 | 1.14 | 1.19 | 4.1 | 112 | 117 | 4.2 |
| 1,2,3,4,7,8,9-HpCDF | 0.202 | 1.00 | 1.09 | 1.14 | 3.7 | 109 | 113 | 3.7 |
| 1,2,3,4,6,7,8-HpCDD | 7.970 | 1.00 | 1.11 | 1.21 | 8.4 | 101 | 111 | 9.2 |
| OCDF | 5.800 | 2.00 | 2.22 | 2.48 | 10.7 | 108 | 120 | 11.1 |
| OCDD | 63.400 | 2.00 | 2.85 | 3.30 | 14.4 | 103 | 126 | 19.5 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

# Sample Condition Upon Receipt

Pace Analytical

Client Name: B & C

Project # 255663

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.5 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NB 11/9

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes ☑No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Josh Date/Time: 11/9/10

Comments/ Resolution:

Dioxins need 10-day TAT! + 20% markup. GG.

Project Manager Review: JENNI GROSS Date: 11/9/10

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

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www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

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



1391158

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW Ste 420 Olympia, WA
Email To: jturke@brwncald.com
Phone: 360-534-1206 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

**SAMPLE ID** (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Dioxins/Furans | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3-1-1.5 | SL | G | | | 11/9/10 | 8:05 | | 1 | X | | | | | | | | X | | 255663 |
| 2 | CNF-3-2-1.5 | ↓ | ↓ | | | ↓ | 8:10 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 3 | CNF-3-3-1.5 | ↓ | ↓ | | | ↓ | 8:15 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 4 | CNF-3-4-1.5 | ↓ | ↓ | | | ↓ | 8:25 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 5 | CNF-3-5-1 | ↓ | ↓ | | | ↓ | 8:28 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 6 | CNF-3-6-1 | ↓ | ↓ | | | ↓ | 8:32 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 7 | CNF-3-7-2.5 | ↓ | ↓ | | | ↓ | 8:35 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 8 | CNF-3-8-2.5 | ↓ | ↓ | | | ↓ | 8:40 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 9 | CNF-3-9-2.5 | ↓ | ↓ | | | ↓ | 8:43 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 10 | CNF-3-10-2.5 | ↓ | ↓ | | | ↓ | 8:48 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 11 | CNF-3-11-2.5 | ↓ | ↓ | | | ↓ | 8:52 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 12 | CNF-3-12-2.5 | ↓ | ↓ | | | ↓ | 8:55 | | ↓ | ↓ | | | | | | | | ↓ | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (BC) | 11/9/10 | 14:05 | K. Cottright | 11/9/10 | 1405 | | | | |
| | K. Cottright PCS | 11/9/10 | 1520 | Jyothi Sway | 11/9/10 | 1520 | 5.5 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: Jon Turk

DATE Signed (MM/DD/YY): 11/9/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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



1391157

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW, Ste 420 Olympia WA
Email To: jturk@browncald.com
Phone: 360-534-1206 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

**SAMPLE ID** (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Dioxins/Furans | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. 255663 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3-13-3.5 | SL | G | | | 11/9/10 | 8:58 | | 1 | X | | | | | | | | X | | |
| 2 | CNF-3-14-3.5 | ↓ | ↓ | | | ↓ | 9:05 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 3 | CNF-3-15-3.5 | ↓ | ↓ | | | ↓ | 9:10 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 4 | CNF-3-16-3.5 | ↓ | ↓ | | | ↓ | 9:15 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 5 | CNF-3-17-3.5 | ↓ | ↓ | | | ↓ | 9:25 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 6 | CNF-3-18-3.5 | ↓ | ↓ | | | ↓ | 9:35 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 7 | CNF-3-19-7.5 | ↓ | ↓ | | | ↓ | 9:50 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 8 | CNF-3-20-7.5 | ↓ | ↓ | | | ↓ | 9:58 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 9 | CNF-3-21-7.5 | ↓ | ↓ | | | ↓ | 10:10 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 10 | CNF-3-22-7.5 | ↓ | ↓ | | | ↓ | 10:20 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 11 | CNF-3-23-7.5 | ↓ | ↓ | | | ↓ | 10:30 | | ↓ | ↓ | | | | | | | | ↓ | | |
| 12 | CNF-3-24-7.5 | ↓ | ↓ | | | ↓ | 10:40 | | ↓ | ↓ | | | | | | | | ↓ | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS: Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] (BC) | 11/9/10 | 14:05 | K. Cottright | 11/9/10 | 1405 | | | | |
| | K. Cottright PCS | 11/9/10 | 1520 | Jyothi Suay | 11/9/10 | 1520 | 5.5 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/9/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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



1391156

**Section A** Required Client Information:

Company: Brown+Caldwell
Address: 724 Columbia St NW Ste 420 Olympia WA
Email To: jturk@bowncald.com
Phone: 360-534-1206 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia St NW
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE:

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Dioxins/Furans | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-3-25-10 | SL | G | | | 11/9/10 | 9:40 | | 1 | X | | | | | | | | X | | 255663 |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jon Turk (BC) | 11/9/10 | 14:05 | K. Cottright | 11/9/10 | 1405 | | | | |
| | K. Cottright PCS | 11/9/10 | 1520 | Jyothi Swamy | 11/9/10 | 1520 | 5.5 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/9/10

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

# Sample Container Count

CLIENT: B&C

COC PAGE 1 of 3
COC ID# 1391158

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| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Container Count

CLIENT: Bat C

COC PAGE 2 of 3
COC ID# 1391157

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| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Container Count

CLIENT: Por C

COC PAGE 3 of 3
COC ID# 1391156

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| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 1 | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

January 26, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: HOCM 138130
Pace Project No.: 256348

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on January 22, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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without the written consent of Pace Analytical Services, Inc..

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## CERTIFICATIONS

Project: HOCM 138130
Pace Project No.: 256348

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: HOCM 138130
Pace Project No.: 256348

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256348001** | **CNF 2-1A-2** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348002** | **CNF 2-2A-1.75** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348003** | **CNF 2-3A-1.75** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348004** | **CNF 2-4A-10** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348005** | **CNF 2-6A-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348006** | **CNF 2-7A-9** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348007** | **CNF 2-8A-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348008** | **CNF 2-9A-9.5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348009** | **CNF 2-10A-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348010** | **DUP** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256348011** | **CNF-2-5A-9** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: HOCM 138130
Pace Project No.: 256348

**Sample: CNF 2-1A-2** **Lab ID: 256348001** Collected: 01/21/11 10:53 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.9** | mg/kg | 0.46 | 20 | 01/24/11 08:53 | 01/25/11 02:28 | 7440-38-2 | |
| Copper | **17.5** | mg/kg | 0.46 | 20 | 01/24/11 08:53 | 01/25/11 02:28 | 7440-50-8 | |
| Lead | **3.6** | mg/kg | 0.46 | 20 | 01/24/11 08:53 | 01/25/11 02:28 | 7439-92-1 | |
| Nickel | **18.4** | mg/kg | 0.46 | 20 | 01/24/11 08:53 | 01/25/11 02:28 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **8.9** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF 2-2A-1.75** **Lab ID: 256348002** Collected: 01/21/11 10:57 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.9** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 03:12 | 7440-38-2 | |
| Copper | **17.6** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 03:12 | 7440-50-8 | |
| Lead | **6.4** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 03:12 | 7439-92-1 | |
| Nickel | **29.9** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 03:12 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **14.4** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF 2-3A-1.75** **Lab ID: 256348003** Collected: 01/21/11 11:02 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.8** | mg/kg | 0.42 | 20 | 01/24/11 08:53 | 01/25/11 03:17 | 7440-38-2 | |
| Copper | **20.2** | mg/kg | 0.42 | 20 | 01/24/11 08:53 | 01/25/11 03:17 | 7440-50-8 | |
| Lead | **3.6** | mg/kg | 0.42 | 20 | 01/24/11 08:53 | 01/25/11 03:17 | 7439-92-1 | |
| Nickel | **25.5** | mg/kg | 0.42 | 20 | 01/24/11 08:53 | 01/25/11 03:17 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **7.9** | % | 0.10 | 1 | | 01/24/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: HOCM 138130
Pace Project No.: 256348

**Sample: CNF 2-4A-10** **Lab ID: 256348004** Collected: 01/21/11 11:57 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.8** | mg/kg | 2.3 | 20 | 01/24/11 08:53 | 01/25/11 03:21 | 7440-38-2 | |
| Copper | **10.7** | mg/kg | 2.3 | 20 | 01/24/11 08:53 | 01/25/11 03:21 | 7440-50-8 | |
| Lead | **4.0** | mg/kg | 2.3 | 20 | 01/24/11 08:53 | 01/25/11 03:21 | 7439-92-1 | |
| Nickel | **7.3** | mg/kg | 2.3 | 20 | 01/24/11 08:53 | 01/25/11 03:21 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **83.1** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF 2-6A-5** **Lab ID: 256348005** Collected: 01/21/11 12:31 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.4** | mg/kg | 0.61 | 20 | 01/24/11 08:53 | 01/25/11 03:26 | 7440-38-2 | |
| Copper | **28.7** | mg/kg | 0.61 | 20 | 01/24/11 08:53 | 01/25/11 03:26 | 7440-50-8 | |
| Lead | **4.2** | mg/kg | 0.61 | 20 | 01/24/11 08:53 | 01/25/11 03:26 | 7439-92-1 | |
| Nickel | **38.4** | mg/kg | 0.61 | 20 | 01/24/11 08:53 | 01/25/11 03:26 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **20.6** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF 2-7A-9** **Lab ID: 256348006** Collected: 01/21/11 12:35 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.3** | mg/kg | 2.2 | 20 | 01/24/11 08:53 | 01/25/11 03:30 | 7440-38-2 | |
| Copper | **4.7** | mg/kg | 2.2 | 20 | 01/24/11 08:53 | 01/25/11 03:30 | 7440-50-8 | |
| Lead | **4.8** | mg/kg | 2.2 | 20 | 01/24/11 08:53 | 01/25/11 03:30 | 7439-92-1 | |
| Nickel | **4.0** | mg/kg | 2.2 | 20 | 01/24/11 08:53 | 01/25/11 03:30 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **79.4** | % | 0.10 | 1 | | 01/24/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: HOCM 138130
Pace Project No.: 256348

**Sample: CNF 2-8A-5** **Lab ID: 256348007** Collected: 01/21/11 12:37 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.3** | mg/kg | 0.49 | 20 | 01/24/11 08:53 | 01/25/11 03:34 | 7440-38-2 | |
| Copper | **28.8** | mg/kg | 0.49 | 20 | 01/24/11 08:53 | 01/25/11 03:34 | 7440-50-8 | |
| Lead | **4.5** | mg/kg | 0.49 | 20 | 01/24/11 08:53 | 01/25/11 03:34 | 7439-92-1 | |
| Nickel | **41.6** | mg/kg | 0.49 | 20 | 01/24/11 08:53 | 01/25/11 03:34 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **20.1** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF 2-9A-9.5** **Lab ID: 256348008** Collected: 01/21/11 12:40 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.8** | mg/kg | 2.1 | 20 | 01/24/11 08:53 | 01/25/11 04:05 | 7440-38-2 | |
| Copper | **9.2** | mg/kg | 2.1 | 20 | 01/24/11 08:53 | 01/25/11 04:05 | 7440-50-8 | |
| Lead | **6.5** | mg/kg | 2.1 | 20 | 01/24/11 08:53 | 01/25/11 04:05 | 7439-92-1 | |
| Nickel | **5.2** | mg/kg | 2.1 | 20 | 01/24/11 08:53 | 01/25/11 04:05 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **82.4** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF 2-10A-5** **Lab ID: 256348009** Collected: 01/21/11 12:42 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.5** | mg/kg | 0.54 | 20 | 01/24/11 08:53 | 01/25/11 04:10 | 7440-38-2 | |
| Copper | **25.8** | mg/kg | 0.54 | 20 | 01/24/11 08:53 | 01/25/11 04:10 | 7440-50-8 | |
| Lead | **4.1** | mg/kg | 0.54 | 20 | 01/24/11 08:53 | 01/25/11 04:10 | 7439-92-1 | |
| Nickel | **38.0** | mg/kg | 0.54 | 20 | 01/24/11 08:53 | 01/25/11 04:10 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **22.6** | % | 0.10 | 1 | | 01/24/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: HOCM 138130
Pace Project No.: 256348

**Sample: DUP** **Lab ID: 256348010** Collected: 01/21/11 00:00 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.3** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 04:14 | 7440-38-2 | |
| Copper | **21.5** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 04:14 | 7440-50-8 | |
| Lead | **4.1** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 04:14 | 7439-92-1 | |
| Nickel | **25.7** | mg/kg | 0.43 | 20 | 01/24/11 08:53 | 01/25/11 04:14 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.9** | % | 0.10 | 1 | | 01/24/11 00:00 | | |

**Sample: CNF-2-5A-9** **Lab ID: 256348011** Collected: 01/21/11 12:22 Received: 01/22/11 11:33 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **10.6** | mg/kg | 2.4 | 20 | 01/24/11 08:53 | 01/25/11 04:19 | 7440-38-2 | |
| Copper | **14.0** | mg/kg | 2.4 | 20 | 01/24/11 08:53 | 01/25/11 04:19 | 7440-50-8 | |
| Lead | **5.4** | mg/kg | 2.4 | 20 | 01/24/11 08:53 | 01/25/11 04:19 | 7439-92-1 | |
| Nickel | **9.4** | mg/kg | 2.4 | 20 | 01/24/11 08:53 | 01/25/11 04:19 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **80.7** | % | 0.10 | 1 | | 01/24/11 00:00 | | |



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# QUALITY CONTROL DATA

Project: HOCM 138130
Pace Project No.: 256348

QC Batch: ICPM/24442 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256348001, 256348002, 256348003, 256348004, 256348005, 256348006, 256348007, 256348008, 256348009, 256348010, 256348011

METHOD BLANK: 922100 Matrix: Solid
Associated Lab Samples: 256348001, 256348002, 256348003, 256348004, 256348005, 256348006, 256348007, 256348008, 256348009, 256348010, 256348011

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.45 | 01/25/11 02:19 | |
| Copper | mg/kg | ND | 0.45 | 01/25/11 02:19 | |
| Lead | mg/kg | ND | 0.45 | 01/25/11 02:19 | |
| Nickel | mg/kg | ND | 0.45 | 01/25/11 02:19 | |

LABORATORY CONTROL SAMPLE: 922101

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.2 | 19.3 | 101 | 75-125 | |
| Copper | mg/kg | 19.2 | 18.7 | 97 | 75-125 | |
| Lead | mg/kg | 19.2 | 19.6 | 102 | 75-125 | |
| Nickel | mg/kg | 19.2 | 19.8 | 103 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922102 922103

| Parameter | Units | 256348001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.9 | 19.4 | 18.8 | 23.1 | 21.9 | 99 | 96 | 75-125 | 5 | |
| Copper | mg/kg | 17.5 | 19.4 | 18.8 | 39.8 | 38.9 | 115 | 114 | 75-125 | 2 | |
| Lead | mg/kg | 3.6 | 19.4 | 18.8 | 23.6 | 22.6 | 103 | 101 | 75-125 | 4 | |
| Nickel | mg/kg | 18.4 | 19.4 | 18.8 | 38.8 | 39.8 | 105 | 114 | 75-125 | 3 | |

MATRIX SPIKE SAMPLE: 922104

| Parameter | Units | 256348011 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 10.6 | 97.1 | 105 | 98 | 75-125 | |
| Copper | mg/kg | 14.0 | 97.1 | 129 | 119 | 75-125 | |
| Lead | mg/kg | 5.4 | 97.1 | 106 | 104 | 75-125 | |
| Nickel | mg/kg | 9.4 | 97.1 | 107 | 101 | 75-125 | |



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# QUALITY CONTROL DATA

Project: HOCM 138130
Pace Project No.: 256348

QC Batch: MPRP/24448 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256348001, 256348002, 256348003, 256348004, 256348005, 256348006, 256348007, 256348008, 256348009, 256348010, 256348011

SAMPLE DUPLICATE: 922140

| Parameter | Units | 10147825001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 13.4 | 13.9 | 4 | |

SAMPLE DUPLICATE: 922141

| Parameter | Units | 256323005 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.6 | 9.9 | 6 | |



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# QUALIFIERS

Project: HOCM 138130
Pace Project No.: 256348

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

PASI-M Pace Analytical Services - Minneapolis



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HOCM 138130
Pace Project No.: 256348

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256348001** | **CNF 2-1A-2** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348002** | **CNF 2-2A-1.75** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348003** | **CNF 2-3A-1.75** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348004** | **CNF 2-4A-10** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348005** | **CNF 2-6A-5** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348006** | **CNF 2-7A-9** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348007** | **CNF 2-8A-5** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348008** | **CNF 2-9A-9.5** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348009** | **CNF 2-10A-5** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348010** | **DUP** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348011** | **CNF-2-5A-9** | EPA 6020 | ICPM/24442 | EPA 6020 | ICPM/9926 |
| **256348001** | **CNF 2-1A-2** | % Moisture | MPRP/24448 | | |
| **256348002** | **CNF 2-2A-1.75** | % Moisture | MPRP/24448 | | |
| **256348003** | **CNF 2-3A-1.75** | % Moisture | MPRP/24448 | | |
| **256348004** | **CNF 2-4A-10** | % Moisture | MPRP/24448 | | |
| **256348005** | **CNF 2-6A-5** | % Moisture | MPRP/24448 | | |
| **256348006** | **CNF 2-7A-9** | % Moisture | MPRP/24448 | | |
| **256348007** | **CNF 2-8A-5** | % Moisture | MPRP/24448 | | |
| **256348008** | **CNF 2-9A-9.5** | % Moisture | MPRP/24448 | | |
| **256348009** | **CNF 2-10A-5** | % Moisture | MPRP/24448 | | |
| **256348010** | **DUP** | % Moisture | MPRP/24448 | | |
| **256348011** | **CNF-2-5A-9** | % Moisture | MPRP/24448 | | |



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# Chain of Custody

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**Workorder:** 256348 **Workorder Name:** HOCM **Owner Received Date:** 1/21/2011 **Results Requested By:** ~~2/4/2011~~ ASAP

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | | | | | | Requested Analysis: As, Pb, Cu, Ni by 6020 | | Dry Weights | | | | | | | | | | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF 2-1A-2 | PS | 1/21/2011 10:53 | 256348001 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 2 | CNF 2-2A-1.75 | PS | 1/21/2011 10:57 | 256348002 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 3 | CNF 2-3A-1.76 | PS | 1/21/2011 11:02 | 256348003 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 4 | CNF 2-4A-10 | PS | 1/21/2011 11:57 | 256348004 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 5 | CNF 2-6A-5 | PS | 1/21/2011 12:31 | 256348005 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 6 | CNF 2-7A-9 | PS | 1/21/2011 12:35 | 256348006 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 7 | CNF 2-8A-5 | PS | 1/21/2011 12:37 | 256348007 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 8 | CNF 2-9A-9.5 | PS | 1/21/2011 12:40 | 256348008 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 9 | CNF 2-10A-5 | PS | 1/21/2011 12:42 | 256348009 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 10 | DUP | PS | 1/21/2011 00:00 | 256348010 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |
| 11 | CNF-2-5A-9 | PS | 1/21/2011 12:22 | 256348011 | Solid | 1 | | | | | | X | | X | | | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | | | pace | 1/22/11 1133 |
| 2 | | | | |
| 3 | | | | |

**Comments**

RUSH ASAP

**Cooler Temperature on Receipt** 3.6 °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

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

**INTER_LABORATORY WORK ORDER # 256348**
(To be completed by sending lab)

| | |
|---|---|
| Sending Project No: | 256348 |
| Receiving Project No: | 10147885 |
| Check Box for Consolidated Invoice: | ☐ |
| Date Prepared: | 01/21/11 |
| **REQUESTED COMPLETION DATE:** | **2/4/2011** |

| | | | |
|---|---|---|---|
| Sending Region | IR25-Seattle | Sending Project Mgr. | Jennifer Gross |
| Receiving Region | IR10-Minnesota | External Client | Brown & Caldwell |
| State of Sample Origin | WA | QC Deliverable | STD REPORT |

**All questions should be addressed to sending project manager.**

Requested Reportable Units _____ Report Wet or Dry Weight? Dry Weight

**WORK REQUESTED**

| Method Description | Container Type | Quantity of containers | Preservative | Quantity of Samples | Unit Price | Amount |
|---|---|---|---|---|---|---|
| 6020 As, Pb, Cu, Ni/Dry Weight | WGFU | 11 | Unpreserved | 11 | $36.00 | $396.00 |
| | | | | | TOTAL | $396.00 |

**Special Requirements:** Please run dry weight. GG 1/21/11

| Receiving Region Department | Acctg. Code | Totals from above | Revenue Allocation | |
|---|---|---|---|---|
| | | | Receiving Region (80%) | Client Services Dept. Sending Region (20%) |
| Other | 22 | $396.00 | $316.80 | $79.20 |
| * Custom Revenue Allocation | TOTAL | $396.00 | $316.80 | $79.20 |

**FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO**

Chain of Custody Included: ☑ Yes ☐ No Return Samples to Sending Region: ☐ Yes ☑ No

Matrix: ☑ Soil ☐ Water ☐ Air ☐ Other (Identify) _____

**CONFIRMATION OF WORK COMPLETED**

Date Completed: _____ Receiving Project Manager: _____

**DISPOSITION of FORM**

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Pace Analytical®
www.pacelabs.com

# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

1446269

**Section A** Required Client Information:

Company: BROWN & CALDWELL
Address: 724 COLUMBIA ST NW STE 420
OLYMPIA, WA 98501
Email To: JJOHNSON@BROWNCALD.COM
Phone: 360-534-1209 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JOSH JOHNSON
Copy To: JON TURK
Purchase Order No.: 138130
Project Name: HOCM
Project Number: 138130

**Section C** Invoice Information:

Attention: JOSH JOHNSON
Company Name: BROWN & CALDWELL
Address: 724 COLUMBIA ST NW STE 420
Pace Quote Reference:
Pace Project Manager: JENNI GROSS
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECOLOGY

Site Location STATE:

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) Arsenic | Lead | Copper | Nickel | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF 2-1A-2 | SL | G | ~~1/21/11~~ | | 1/21/11 | 10:53 | 2F | 1 | X | | | | | | | | X | X | X | X | | 001 |
| 2 | CNF 2-2A-1.75 | ↓ | ↓ | | | ↓ | 10:57 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 002 |
| 3 | CNF 2-3A-1.75 | ↓ | ↓ | | | ↓ | 11:02 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 003 |
| 4 | CNF 2-4A-10 | ↓ | ↓ | | | ↓ | 11:57 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 004 |
| 5 | CNF 2-6A-5 | ↓ | ↓ | | | ↓ | 12:31 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 005 |
| 6 | CNF 2-7A-9 | ↓ | ↓ | | | ↓ | 12:35 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 006 |
| 7 | CNF 2-8A-5 | ↓ | ↓ | | | ↓ | 12:37 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 007 |
| 8 | CNF 2-9A-9.5 | ↓ | ↓ | | | ↓ | 12:40 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 008 |
| 9 | CNF 2-10A-5 | ↓ | ↓ | | | ↓ | 12:42 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 009 |
| 10 | DUP | ↓ | ↓ | | | ↓ | | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 010 |
| 11 | CNF-2-5A-9 | ↓ | ↓ | | | ↓ | 12:22 | ↓ | ↓ | ↓ | | | | | | | | ↓ | ↓ | ↓ | ↓ | | 011 |
| 12 | | | | | | | | | | | | | | | | | | | | | | | 012 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | [signature] / BC | 1/21/11 | 3:00 pm | [signature] / Pace | 1/21/11 | 1133 | 3.6 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JOSHUA JOHNSON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/21/11

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

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

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Brown + Caldwell **Project #** 10147889

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

**Tracking #:** 8738 8211 4969

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

Optional
Proj. Due Date:
Proj. Name:

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No X

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 3.6 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and initials of person examining contents:** 1/23/11

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. 2 day |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes | ☐No | ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes | ☑No | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blank Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** _____ **Date:** 1/24/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical
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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256348

Page: of

1446269

**Section A** Required Client Information:

Company: BROWN & CALDWELL
Address: 724 COLUMBIA ST NW STE 420
OLYMPIA, WA 98501
Email To: JJOHNSON@BROWNCALD.COM
Phone: 360-534-1209 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JOSH JOHNSON
Copy To: JON TURK
Purchase Order No.: 138130
Project Name: HOCM
Project Number: 138130

**Section C** Invoice Information:

Attention: JOSH JOHNSON
Company Name: BROWN & CALDWELL
Address: 724 COLUMBIA ST NW STE 420
Pace Quote Reference:
Pace Project Manager: JENNI GOSS
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECOLOGY

Site Location STATE:

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Arsenic | Lead | Copper | Nickel | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF 2-1A-2 | SL | G | 1/20/11 | | 1/21/11 | 10:53 | 27 | 1 | X | | | | | | | | | X | X | X | X | | |
| 2 | CNF 2-2A-1.75 | ↓ | ↓ | | | ↓ | 10:57 | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 3 | CNF 2-3A-1.75 | ↓ | ↓ | | | ↓ | 11:02 | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 4 | CNF 2-4A-10 | ↓ | ↓ | | | ↓ | 11:57 | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 5 | CNF 2-6A-5 | ↓ | ↓ | | | ↓ | 12:[illegible] | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 6 | CNF 2-7A-9 | ↓ | ↓ | | | ↓ | 12:[illegible] | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 7 | CNF 2-8A-5 | ↓ | ↓ | | | ↓ | 12:[illegible] | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 8 | CNF 2-9A-9.5 | ↓ | ↓ | | | ↓ | 12:40 | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 9 | CNF 2-10A-5 | ↓ | ↓ | | | ↓ | 12:42 | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 10 | DUP | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | CNF-2-5A-9 | ↓ | ↓ | | | ↓ | 12:22 | ↓ | ↓ | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| | [signature] / BC | 1/21/11 | 3:00 pm | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JOSHUA JOHNSON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/21/11

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

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

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 256348

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace (Other) Direct ship to Pace MN.

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ____ No ____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature _____ Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 012111 CW

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. ASAP |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☐Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☐Yes ☐No ☐N/A | |
| Containers Intact: | ☐Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☐N/A | 11. |
| Sample Labels match COC: | ☐Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed ____ Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes ☐No ☐N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☐N/A | 15. |
| Trip Blanks Present: | ☐Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Samples were shipped to MN by client directly. 06 1/24/11

**Project Manager Review:** JENNI GROSS **Date:** 1/24/11

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

January 15, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256210

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on January 11, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

## CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970



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Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256210001** | **CNF-2-1-10** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210002** | **CNF-2-2-7** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210003** | **CNF-2-3-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210004** | **CNF-2-4-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210005** | **CNF-2-5-1.75** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210006** | **CNF-2-6-7** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210007** | **CNF-2-7-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210008** | **CNF-2-8-1.75** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210009** | **CNF-2-9-1.75** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210010** | **CNF-2-10-7** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210011** | **CNF-2-11-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210012** | **CNF-2-12-1.5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210013** | **CNF-2-13-7** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210014** | **CNF-2-14-5** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |
| **256210015** | **CNF-2-15-1.75** | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | CCL | 1 | PASI-M |



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Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

**Sample: CNF-2-1-10** **Lab ID: 256210001** Collected: 01/10/11 10:45 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.5** | mg/kg | 2.8 | 20 | 01/11/11 16:02 | 01/13/11 12:52 | 7440-38-2 | |
| Copper | **18.9** | mg/kg | 2.8 | 20 | 01/11/11 16:02 | 01/13/11 12:52 | 7440-50-8 | |
| Lead | **5.5** | mg/kg | 2.8 | 20 | 01/11/11 16:02 | 01/13/11 12:52 | 7439-92-1 | |
| Nickel | **7.8** | mg/kg | 2.8 | 20 | 01/11/11 16:02 | 01/13/11 12:52 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **84.9** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-2-7** **Lab ID: 256210002** Collected: 01/10/11 10:55 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | ND | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 14:13 | 7440-38-2 | |
| Copper | **13.8** | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 14:13 | 7440-50-8 | |
| Lead | **4.6** | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 14:13 | 7439-92-1 | |
| Nickel | **9.4** | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 14:13 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **83.1** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-3-5** **Lab ID: 256210003** Collected: 01/10/11 11:00 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.8** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 14:09 | 7440-38-2 | |
| Copper | **25.1** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 14:09 | 7440-50-8 | |
| Lead | **4.0** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 14:09 | 7439-92-1 | |
| Nickel | **35.6** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 14:09 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **18.1** | % | 0.10 | 1 | | 01/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

**Sample: CNF-2-4-5** **Lab ID: 256210004** Collected: 01/10/11 11:00 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 14:31 | 7440-38-2 | |
| Copper | **29.1** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 14:31 | 7440-50-8 | |
| Lead | **4.6** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 14:31 | 7439-92-1 | |
| Nickel | **38.0** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 14:31 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **21.5** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-5-1.75** **Lab ID: 256210005** Collected: 01/10/11 11:03 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **159** | mg/kg | 2.0 | 100 | 01/11/11 16:02 | 01/13/11 10:21 | 7440-38-2 | |
| Copper | **26.3** | mg/kg | 2.0 | 100 | 01/11/11 16:02 | 01/13/11 10:21 | 7440-50-8 | |
| Lead | **6.8** | mg/kg | 2.0 | 100 | 01/11/11 16:02 | 01/13/11 10:21 | 7439-92-1 | |
| Nickel | **30.4** | mg/kg | 2.0 | 100 | 01/11/11 16:02 | 01/13/11 10:21 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.5** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-6-7** **Lab ID: 256210006** Collected: 01/10/11 11:05 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | ND | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 10:26 | 7440-38-2 | |
| Copper | **20.5** | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 10:26 | 7440-50-8 | |
| Lead | **4.5** | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 10:26 | 7439-92-1 | |
| Nickel | **3.9** | mg/kg | 2.7 | 20 | 01/11/11 16:02 | 01/13/11 10:26 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **83.3** | % | 0.10 | 1 | | 01/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

**Sample: CNF-2-7-5** **Lab ID: 256210007** Collected: 01/10/11 11:08 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.0** | mg/kg | 3.2 | 100 | 01/11/11 16:02 | 01/13/11 10:35 | 7440-38-2 | |
| Copper | **41.1** | mg/kg | 3.2 | 100 | 01/11/11 16:02 | 01/13/11 10:35 | 7440-50-8 | |
| Lead | **6.0** | mg/kg | 3.2 | 100 | 01/11/11 16:02 | 01/13/11 10:35 | 7439-92-1 | |
| Nickel | **58.3** | mg/kg | 3.2 | 100 | 01/11/11 16:02 | 01/13/11 10:35 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **22.7** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-8-1.75** **Lab ID: 256210008** Collected: 01/10/11 11:10 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.6** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 10:39 | 7440-38-2 | |
| Copper | **40.3** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 10:39 | 7440-50-8 | |
| Lead | **7.7** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 10:39 | 7439-92-1 | |
| Nickel | **37.9** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 10:39 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **4.6** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-9-1.75** **Lab ID: 256210009** Collected: 01/10/11 11:10 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **9.1** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 10:58 | 7440-38-2 | |
| Copper | **47.8** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 10:58 | 7440-50-8 | |
| Lead | **10.8** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 10:58 | 7439-92-1 | |
| Nickel | **35.7** | mg/kg | 2.6 | 100 | 01/11/11 16:02 | 01/13/11 10:58 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **5.8** | % | 0.10 | 1 | | 01/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

**Sample: CNF-2-10-7** **Lab ID: 256210010** Collected: 01/10/11 11:15 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.4** | mg/kg | 2.4 | 20 | 01/11/11 16:02 | 01/13/11 10:49 | 7440-38-2 | |
| Copper | **19.9** | mg/kg | 2.4 | 20 | 01/11/11 16:02 | 01/13/11 10:49 | 7440-50-8 | |
| Lead | **4.8** | mg/kg | 2.4 | 20 | 01/11/11 16:02 | 01/13/11 10:49 | 7439-92-1 | |
| Nickel | **9.8** | mg/kg | 2.4 | 20 | 01/11/11 16:02 | 01/13/11 10:49 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **82.4** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-11-5** **Lab ID: 256210011** Collected: 01/10/11 11:16 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.5** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 11:39 | 7440-38-2 | |
| Copper | **41.1** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 11:39 | 7440-50-8 | M6 |
| Lead | **6.2** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 11:39 | 7439-92-1 | |
| Nickel | **59.1** | mg/kg | 2.8 | 100 | 01/11/11 16:02 | 01/13/11 11:39 | 7440-02-0 | M6 |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **22.4** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-12-1.5** **Lab ID: 256210012** Collected: 01/10/11 11:17 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **11.2** | mg/kg | 2.4 | 100 | 01/11/11 16:02 | 01/13/11 11:48 | 7440-38-2 | |
| Copper | **44.3** | mg/kg | 2.4 | 100 | 01/11/11 16:02 | 01/13/11 11:48 | 7440-50-8 | |
| Lead | **28.4** | mg/kg | 2.4 | 100 | 01/11/11 16:02 | 01/13/11 11:48 | 7439-92-1 | |
| Nickel | **39.7** | mg/kg | 2.4 | 100 | 01/11/11 16:02 | 01/13/11 11:48 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **14.6** | % | 0.10 | 1 | | 01/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

**Sample: CNF-2-13-7** **Lab ID: 256210013** Collected: 01/10/11 11:20 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.8** | mg/kg | 3.0 | 40 | 01/11/11 16:02 | 01/13/11 11:58 | 7440-38-2 | |
| Copper | **48.1** | mg/kg | 3.0 | 40 | 01/11/11 16:02 | 01/13/11 11:58 | 7440-50-8 | |
| Lead | **7.6** | mg/kg | 3.0 | 40 | 01/11/11 16:02 | 01/13/11 11:58 | 7439-92-1 | |
| Nickel | **46.5** | mg/kg | 3.0 | 40 | 01/11/11 16:02 | 01/13/11 11:58 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **72.7** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-14-5** **Lab ID: 256210014** Collected: 01/10/11 11:23 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **8.1** | mg/kg | 3.0 | 100 | 01/11/11 16:02 | 01/13/11 12:02 | 7440-38-2 | |
| Copper | **39.0** | mg/kg | 3.0 | 100 | 01/11/11 16:02 | 01/13/11 12:02 | 7440-50-8 | |
| Lead | **6.1** | mg/kg | 3.0 | 100 | 01/11/11 16:02 | 01/13/11 12:02 | 7439-92-1 | |
| Nickel | **50.4** | mg/kg | 3.0 | 100 | 01/11/11 16:02 | 01/13/11 12:02 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **23.9** | % | 0.10 | 1 | | 01/14/11 00:00 | | |

**Sample: CNF-2-15-1.75** **Lab ID: 256210015** Collected: 01/10/11 11:25 Received: 01/11/11 10:12 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.0** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 12:07 | 7440-38-2 | |
| Copper | **30.3** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 12:07 | 7440-50-8 | |
| Lead | **19.4** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 12:07 | 7439-92-1 | |
| Nickel | **34.8** | mg/kg | 2.2 | 100 | 01/11/11 16:02 | 01/13/11 12:07 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.3** | % | 0.10 | 1 | | 01/14/11 00:00 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

QC Batch: ICPM/24308 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256210001, 256210002, 256210003, 256210004, 256210005, 256210006, 256210007, 256210008, 256210009, 256210010, 256210011, 256210012, 256210013, 256210014, 256210015

METHOD BLANK: 917376 Matrix: Solid
Associated Lab Samples: 256210001, 256210002, 256210003, 256210004, 256210005, 256210006, 256210007, 256210008, 256210009, 256210010, 256210011, 256210012, 256210013, 256210014, 256210015

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.44 | 01/13/11 12:43 | |
| Copper | mg/kg | ND | 0.44 | 01/13/11 12:43 | |
| Lead | mg/kg | ND | 0.44 | 01/13/11 12:43 | |
| Nickel | mg/kg | ND | 0.44 | 01/13/11 12:43 | |

LABORATORY CONTROL SAMPLE: 917377

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 16.3 | 17.2 | 106 | 75-125 | |
| Copper | mg/kg | 16.3 | 17.5 | 108 | 75-125 | |
| Lead | mg/kg | 16.3 | 18.6 | 115 | 75-125 | |
| Nickel | mg/kg | 16.3 | 17.7 | 109 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 917378 917379

| Parameter | Units | 256210001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.5 | 109 | 117 | 96.5 | 108 | 85 | 89 | 75-125 | 11 | |
| Copper | mg/kg | 18.9 | 109 | 117 | 116 | 131 | 89 | 96 | 75-125 | 12 | |
| Lead | mg/kg | 5.5 | 109 | 117 | 110 | 123 | 95 | 100 | 75-125 | 11 | |
| Nickel | mg/kg | 7.8 | 109 | 117 | 102 | 116 | 86 | 92 | 75-125 | 13 | |

MATRIX SPIKE SAMPLE: 917380

| Parameter | Units | 256210011 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 6.5 | 23.1 | 28.7 | 96 | 75-125 | |
| Copper | mg/kg | 41.1 | 23.1 | 51.7 | 46 | 75-125 | M6 |
| Lead | mg/kg | 6.2 | 23.1 | 30.0 | 103 | 75-125 | |
| Nickel | mg/kg | 59.1 | 23.1 | 65.1 | 26 | 75-125 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

QC Batch: MPRP/24358 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256210001, 256210002, 256210003, 256210004, 256210005, 256210006, 256210007, 256210008, 256210009, 256210010, 256210011, 256210012, 256210013, 256210014, 256210015

METHOD BLANK: 919250 | Matrix: Solid
Associated Lab Samples: 256210001, 256210002, 256210003, 256210004, 256210005, 256210006, 256210007, 256210008, 256210009, 256210010, 256210011, 256210012, 256210013, 256210014, 256210015

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | ND | 0.10 | 01/14/11 00:00 | |

SAMPLE DUPLICATE: 919251

| Parameter | Units | 256210001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 84.9 | 85.5 | .7 | |

SAMPLE DUPLICATE: 919252

| Parameter | Units | 256210010 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 82.4 | 81.6 | .9 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256210

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256210001** | **CNF-2-1-10** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210002** | **CNF-2-2-7** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210003** | **CNF-2-3-5** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210004** | **CNF-2-4-5** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210005** | **CNF-2-5-1.75** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210006** | **CNF-2-6-7** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210007** | **CNF-2-7-5** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210008** | **CNF-2-8-1.75** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210009** | **CNF-2-9-1.75** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210010** | **CNF-2-10-7** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210011** | **CNF-2-11-5** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210012** | **CNF-2-12-1.5** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210013** | **CNF-2-13-7** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210014** | **CNF-2-14-5** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210015** | **CNF-2-15-1.75** | EPA 6020 | ICPM/24308 | EPA 6020 | ICPM/9866 |
| **256210001** | **CNF-2-1-10** | % Moisture | MPRP/24358 | | |
| **256210002** | **CNF-2-2-7** | % Moisture | MPRP/24358 | | |
| **256210003** | **CNF-2-3-5** | % Moisture | MPRP/24358 | | |
| **256210004** | **CNF-2-4-5** | % Moisture | MPRP/24358 | | |
| **256210005** | **CNF-2-5-1.75** | % Moisture | MPRP/24358 | | |
| **256210006** | **CNF-2-6-7** | % Moisture | MPRP/24358 | | |
| **256210007** | **CNF-2-7-5** | % Moisture | MPRP/24358 | | |
| **256210008** | **CNF-2-8-1.75** | % Moisture | MPRP/24358 | | |
| **256210009** | **CNF-2-9-1.75** | % Moisture | MPRP/24358 | | |
| **256210010** | **CNF-2-10-7** | % Moisture | MPRP/24358 | | |
| **256210011** | **CNF-2-11-5** | % Moisture | MPRP/24358 | | |
| **256210012** | **CNF-2-12-1.5** | % Moisture | MPRP/24358 | | |
| **256210013** | **CNF-2-13-7** | % Moisture | MPRP/24358 | | |
| **256210014** | **CNF-2-14-5** | % Moisture | MPRP/24358 | | |
| **256210015** | **CNF-2-15-1.75** | % Moisture | MPRP/24358 | | |



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# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell  Project # 256210

**Courier:** ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other Direct ship to Pace MN from client

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☐ No  Seals intact: ☐ Yes ☐ No

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ____ No ____

**Thermometer Used** 132013 or 101731962 or 226099 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** _____ **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** _____

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. 3 day TAT or ASAP per 1/11/11 |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☐Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☐N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: SL | ☐Yes | ☐No | ☐N/A | 12. |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed ____ Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Jon @ Brown+Caldwell Date/Time: 1/11/11 8:04

Comments/ Resolution:

Per Jon, Cd is not needed on this project Re 1/11/11 10:12A.

**Project Manager Review:** JENNI GROSS **Date:** 1/11/11

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

Pace Analytical
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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256210

Page: 1 of 2

1318905

**Section A** Required Client Information:

Company: R+C
Address: 224 Columbia St NW Suite 120
Olympia WA 98501
Email To: [illegible]
Phone: 360 534 1700 Fax: 360 943 3513
Requested Due Date/TAT: Rush ASAP

**Section B** Required Project Information:

Report To: Jon Tuck
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:

Attention: Jon Tuck
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Pb, As, Hg, Cu

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Pb, As, Hg, Cu | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-2-1-10 | SL | G | 1/10/11 | | 1/10/11 | 10:45 | | | 1 | | | | | | | | | | | |
| 2 | CNF-2-2-7 | | | | | | 10:55 | | | | | | | | | | | | | | |
| 3 | CNF-2-3-5 | | | | | | 11:00 | | | | | | | | | | | | | | |
| 4 | CNF-2-4-5 | | | | | | 11:00 | | | | | | | | | | | | | | |
| 5 | CNF-2-5-1.75 | | | | | | 11:03 | | | | | | | | | | | | | | |
| 6 | CNF-2-6-3 | | | | | | 11:05 | | | | | | | | | | | | | | |
| 7 | CNF-2-7-5 | | | | | | 11:08 | | | | | | | | | | | | | | |
| 8 | CNF-2-8-1.75 | | | | | | 11:10 | | | | | | | | | | | | | | |
| 9 | CNF-2-9-1.75 | | | | | | 11:10 | | | | | | | | | | | | | | |
| 10 | CNF-2-10-7 | | | | | | 11:15 | | | | | | | | | | | | | | |
| 11 | CNF-2-11-5 | | | | | | 11:16 | | | | | | | | | | | | | | |
| 12 | CNF-2-12-1.5 | | | | | | 11:17 | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| Temp Blank Included | Jon Tuck | 1/10/11 | 14:45 | Courtney Scott / Pace | 1/10/11 | 14:45 | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Tuck

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 1/10/11

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

4

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

F-ALL-Q-020rev.07, 15-May-2007

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256210

Page: of

1318974

**Section A** Required Client Information:

Company: B+C
Address: 724 Columbia St NW Ste 420
Olympia WA 98501
Email To: jturk@brownrowld.com
Phone: 3605341206 Fax: 3609433513
Requested Due Date/TAT: Rush ASAP

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 130130

**Section C** Invoice Information:

Attention: Jon Turk
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | As, Pb, Ni, Cu | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-2-13-7 | SL | G | | | 1/10/11 | 11:20 | | | 1 | | | | | | | | | X | | |
| 2 | CNF-2-14-5 | ↓ | ↓ | | | ↓ | 11:23 | | | ↓ | | | | | | | | | ↓ | | |
| 3 | CNF-2-15-1.75 | ↓ | ↓ | | | ↓ | 11:25 | | | ↓ | | | | | | | | | ↓ | | |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| | Jon Turk | 1/10/11 | 14:45 | Custody Seal / Fed Ex | 1/10/11 | 14:45 | |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/10/11

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

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

256210

CLIENT: Brown & Caldwell

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COC PAGE 1 of 2
COC ID# 1318905

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? NO |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Container Count

256210

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CLIENT: Brown & Caldwell

COC PAGE 2 of 2
COC ID# 1318974

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 1 | | | | | |
| 2 | | | | | | | | | | ↓ | | | | | |
| 3 | | | | | | | | | | ↓ | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

November 17, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255583

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Client added Diesel with Silica Gel cleanup to 255583 005 (CNF-1-5-9) on 11/10/10.

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

Sincerely,

Regina Ste. Marie

Regina SteMarie for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures



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940 South Harney
Seattle, WA 98108
(206)767-5060

## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 255583 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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940 South Harney
Seattle, WA 98108
(206)767-5060

## SAMPLE SUMMARY

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **255583001** | **CNF-1-1-9** | Solid | 11/03/10 12:04 | 11/03/10 19:30 |
| **255583002** | **CNF-1-2-9** | Solid | 11/03/10 12:07 | 11/03/10 19:30 |
| **255583003** | **CNF-1-3-9** | Solid | 11/03/10 12:10 | 11/03/10 19:30 |
| **255583004** | **CNF-1-4-9** | Solid | 11/03/10 12:20 | 11/03/10 19:30 |
| **255583005** | **CNF-1-5-9** | Solid | 11/03/10 12:16 | 11/03/10 19:30 |
| **255583006** | **CNF-1-6-4** | Solid | 11/03/10 13:50 | 11/03/10 19:30 |
| **255583007** | **CNF-1-7-5** | Solid | 11/03/10 14:00 | 11/03/10 19:30 |
| **255583008** | **CNF-1-8-3** | Solid | 11/03/10 14:05 | 11/03/10 19:30 |
| **255583009** | **CNF-1-9-1.5** | Solid | 11/03/10 14:09 | 11/03/10 19:30 |
| **255583010** | **CNF-1-10-3.5** | Solid | 11/03/10 14:15 | 11/03/10 19:30 |
| **255583011** | **CNF-1-11-1** | Solid | 11/03/10 14:18 | 11/03/10 19:30 |
| **255583012** | **CNF-1-12-3** | Solid | 11/03/10 14:24 | 11/03/10 19:30 |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255583001** | **CNF-1-1-9** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583002** | **CNF-1-2-9** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583003** | **CNF-1-3-9** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583004** | **CNF-1-4-9** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583005** | **CNF-1-5-9** | NWTPH-Dx | DMT | 8 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583006** | **CNF-1-6-4** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583007** | **CNF-1-7-5** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583008** | **CNF-1-8-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583009** | **CNF-1-9-1.5** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583010** | **CNF-1-10-3.5** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583011** | **CNF-1-11-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255583012** | **CNF-1-12-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6010 | BGA | 4 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

**Sample: CNF-1-1-9** **Lab ID: 255583001** Collected: 11/03/10 12:04 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **<4.7** | mg/kg | 23.1 | 4.7 | 1 | 11/05/10 09:50 | 11/08/10 23:35 | | |
| Motor Oil Range | **<16.4** | mg/kg | 92.4 | 16.4 | 1 | 11/05/10 09:50 | 11/08/10 23:35 | 64742-65-0 | |
| n-Octacosane (S) | 114 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/08/10 23:35 | 630-02-4 | |
| o-Terphenyl (S) | 105 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/08/10 23:35 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **2.7J** | mg/kg | 11.8 | 1.8 | 5 | 11/04/10 07:16 | 11/04/10 16:15 | 7440-38-2 | |
| Copper | **14.8** | mg/kg | 14.8 | 2.0 | 5 | 11/04/10 07:16 | 11/04/10 16:15 | 7440-50-8 | |
| Lead | **6.4** | mg/kg | 1.2 | 0.075 | 1 | 11/04/10 07:16 | 11/04/10 15:14 | 7439-92-1 | |
| Nickel | **29.8** | mg/kg | 23.7 | 0.19 | 5 | 11/04/10 07:16 | 11/04/10 16:15 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **18.0** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:53 | | |

**Sample: CNF-1-2-9** **Lab ID: 255583002** Collected: 11/03/10 12:07 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **<5.1** | mg/kg | 25.0 | 5.1 | 1 | 11/05/10 09:50 | 11/09/10 00:21 | | |
| Motor Oil Range | **<17.8** | mg/kg | 100 | 17.8 | 1 | 11/05/10 09:50 | 11/09/10 00:21 | 64742-65-0 | |
| n-Octacosane (S) | 109 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 00:21 | 630-02-4 | |
| o-Terphenyl (S) | 102 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 00:21 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **2.6** | mg/kg | 2.5 | 0.37 | 1 | 11/04/10 07:16 | 11/04/10 16:24 | 7440-38-2 | |
| Copper | **11.8** | mg/kg | 3.1 | 0.41 | 1 | 11/04/10 07:16 | 11/04/10 16:24 | 7440-50-8 | |
| Lead | **3.2** | mg/kg | 1.2 | 0.077 | 1 | 11/04/10 07:16 | 11/04/10 16:24 | 7439-92-1 | |
| Nickel | **27.7** | mg/kg | 4.9 | 0.039 | 1 | 11/04/10 07:16 | 11/04/10 16:24 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **22.4** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:55 | | |

**Sample: CNF-1-3-9** **Lab ID: 255583003** Collected: 11/03/10 12:10 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **793** | mg/kg | 120 | 24.3 | 1 | 11/05/10 09:50 | 11/09/10 01:31 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

**Sample: CNF-1-3-9** **Lab ID: 255583003** Collected: 11/03/10 12:10 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Motor Oil Range | **1560** | mg/kg | 481 | 85.7 | 1 | 11/05/10 09:50 | 11/09/10 01:31 | 64742-65-0 | |
| n-Octacosane (S) | 93 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 01:31 | 630-02-4 | |
| o-Terphenyl (S) | 58 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 01:31 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **4.1J** | mg/kg | 12.9 | 1.9 | 1 | 11/04/10 07:16 | 11/04/10 15:32 | 7440-38-2 | |
| Copper | **27.8** | mg/kg | 16.1 | 2.1 | 1 | 11/04/10 07:16 | 11/04/10 15:32 | 7440-50-8 | |
| Lead | **153** | mg/kg | 6.5 | 0.41 | 1 | 11/04/10 07:16 | 11/04/10 15:32 | 7439-92-1 | |
| Nickel | **4.3J** | mg/kg | 25.8 | 0.21 | 1 | 11/04/10 07:16 | 11/04/10 15:32 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **84.7** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:56 | | |

**Sample: CNF-1-4-9** **Lab ID: 255583004** Collected: 11/03/10 12:20 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **160** | mg/kg | 67.0 | 13.5 | 1 | 11/05/10 09:50 | 11/09/10 02:17 | | |
| Motor Oil Range | **683** | mg/kg | 268 | 47.7 | 1 | 11/05/10 09:50 | 11/09/10 02:17 | 64742-65-0 | |
| n-Octacosane (S) | 121 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 02:17 | 630-02-4 | |
| o-Terphenyl (S) | 105 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 02:17 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **9.3** | mg/kg | 6.9 | 1.0 | 1 | 11/04/10 07:16 | 11/04/10 15:35 | 7440-38-2 | |
| Copper | **25.6** | mg/kg | 8.6 | 1.1 | 1 | 11/04/10 07:16 | 11/04/10 15:35 | 7440-50-8 | |
| Lead | **123** | mg/kg | 3.4 | 0.22 | 1 | 11/04/10 07:16 | 11/04/10 15:35 | 7439-92-1 | |
| Nickel | **28.2** | mg/kg | 13.7 | 0.11 | 1 | 11/04/10 07:16 | 11/04/10 15:35 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **71.5** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:56 | | |

**Sample: CNF-1-5-9** **Lab ID: 255583005** Collected: 11/03/10 12:16 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **607** | mg/kg | 116 | 23.5 | 1 | 11/05/10 09:50 | 11/09/10 03:03 | | |
| Diesel Range SG | **263** | mg/kg | 116 | 18.5 | 1 | 11/05/10 09:50 | 11/16/10 05:33 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

**Sample: CNF-1-5-9** **Lab ID: 255583005** Collected: 11/03/10 12:16 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Motor Oil Range | **3500** | mg/kg | 465 | 82.9 | 1 | 11/05/10 09:50 | 11/09/10 03:03 | 64742-65-0 | |
| Motor Oil Range SG | **1250** | mg/kg | 465 | 125 | 1 | 11/05/10 09:50 | 11/16/10 05:33 | 64742-65-0 | |
| n-Octacosane (S) SG | 143 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/16/10 05:33 | 630-02-4 | |
| o-Terphenyl (S) SG | 105 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/16/10 05:33 | 84-15-1 | |
| n-Octacosane (S) | 100 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 03:03 | 630-02-4 | |
| o-Terphenyl (S) | 71 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 03:03 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **7.1J** | mg/kg | 11.7 | 1.7 | 1 | 11/04/10 07:16 | 11/04/10 15:38 | 7440-38-2 | |
| Copper | **27.5** | mg/kg | 14.7 | 1.9 | 1 | 11/04/10 07:16 | 11/04/10 15:38 | 7440-50-8 | |
| Lead | **56.1** | mg/kg | 5.9 | 0.37 | 1 | 11/04/10 07:16 | 11/04/10 15:38 | 7439-92-1 | |
| Nickel | **4.5J** | mg/kg | 23.5 | 0.19 | 1 | 11/04/10 07:16 | 11/04/10 15:38 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **83.6** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:57 | | |

**Sample: CNF-1-6-4** **Lab ID: 255583006** Collected: 11/03/10 13:50 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **<4.7** | mg/kg | 23.0 | 4.7 | 1 | 11/05/10 09:50 | 11/09/10 03:50 | | |
| Motor Oil Range | **19.9J** | mg/kg | 92.1 | 16.4 | 1 | 11/05/10 09:50 | 11/09/10 03:50 | 64742-65-0 | |
| n-Octacosane (S) | 109 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 03:50 | 630-02-4 | |
| o-Terphenyl (S) | 101 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 03:50 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **5.8J** | mg/kg | 10.8 | 1.6 | 5 | 11/04/10 07:16 | 11/04/10 16:27 | 7440-38-2 | |
| Copper | **38.1** | mg/kg | 13.5 | 1.8 | 5 | 11/04/10 07:16 | 11/04/10 16:27 | 7440-50-8 | |
| Lead | **9.6** | mg/kg | 1.1 | 0.068 | 1 | 11/04/10 07:16 | 11/04/10 15:41 | 7439-92-1 | |
| Nickel | **45.7** | mg/kg | 21.6 | 0.17 | 5 | 11/04/10 07:16 | 11/04/10 16:27 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **17.3** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:58 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

**Sample: CNF-1-7-5** **Lab ID: 255583007** Collected: 11/03/10 14:00 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **493** | mg/kg | 86.1 | 17.4 | 1 | 11/05/10 09:50 | 11/09/10 05:22 | | |
| Motor Oil Range | **1540** | mg/kg | 344 | 61.3 | 1 | 11/05/10 09:50 | 11/09/10 05:22 | 64742-65-0 | |
| n-Octacosane (S) | 94 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 05:22 | 630-02-4 | |
| o-Terphenyl (S) | 83 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 05:22 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **6.8J** | mg/kg | 8.3 | 1.2 | 1 | 11/04/10 07:16 | 11/04/10 15:45 | 7440-38-2 | |
| Copper | **38.1** | mg/kg | 10.4 | 1.4 | 1 | 11/04/10 07:16 | 11/04/10 15:45 | 7440-50-8 | |
| Lead | **51.2** | mg/kg | 4.2 | 0.26 | 1 | 11/04/10 07:16 | 11/04/10 15:45 | 7439-92-1 | |
| Nickel | **6.0J** | mg/kg | 16.7 | 0.13 | 1 | 11/04/10 07:16 | 11/04/10 15:45 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **77.6** | % | 0.10 | 0.10 | 1 | | 11/03/10 21:59 | | |

**Sample: CNF-1-8-3** **Lab ID: 255583008** Collected: 11/03/10 14:05 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **5.3J** | mg/kg | 23.3 | 4.7 | 1 | 11/05/10 09:50 | 11/09/10 06:08 | | |
| Motor Oil Range | **25.6J** | mg/kg | 93.1 | 16.6 | 1 | 11/05/10 09:50 | 11/09/10 06:08 | 64742-65-0 | |
| n-Octacosane (S) | 114 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 06:08 | 630-02-4 | |
| o-Terphenyl (S) | 106 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 06:08 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **3.6J** | mg/kg | 10.3 | 1.5 | 5 | 11/04/10 07:16 | 11/04/10 16:30 | 7440-38-2 | |
| Copper | **19.4** | mg/kg | 12.9 | 1.7 | 5 | 11/04/10 07:16 | 11/04/10 16:30 | 7440-50-8 | |
| Lead | **4.9** | mg/kg | 1.0 | 0.065 | 1 | 11/04/10 07:16 | 11/04/10 15:48 | 7439-92-1 | |
| Nickel | **32.3** | mg/kg | 20.6 | 0.17 | 5 | 11/04/10 07:16 | 11/04/10 16:30 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **20.6** | % | 0.10 | 0.10 | 1 | | 11/03/10 22:00 | | |

**Sample: CNF-1-9-1.5** **Lab ID: 255583009** Collected: 11/03/10 14:09 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **111** | mg/kg | 20.7 | 4.2 | 1 | 11/05/10 09:50 | 11/09/10 06:54 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

**Sample: CNF-1-9-1.5** **Lab ID: 255583009** Collected: 11/03/10 14:09 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Motor Oil Range | **357** | mg/kg | 82.6 | 14.7 | 1 | 11/05/10 09:50 | 11/09/10 06:54 | 64742-65-0 | |
| n-Octacosane (S) | 145 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 06:54 | 630-02-4 | |
| o-Terphenyl (S) | 87 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 06:54 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **3.7J** | mg/kg | 10.3 | 1.5 | 5 | 11/04/10 07:16 | 11/04/10 16:33 | 7440-38-2 | |
| Copper | **19.6** | mg/kg | 12.9 | 1.7 | 5 | 11/04/10 07:16 | 11/04/10 16:33 | 7440-50-8 | |
| Lead | **7.6** | mg/kg | 1.0 | 0.065 | 1 | 11/04/10 07:16 | 11/04/10 15:51 | 7439-92-1 | |
| Nickel | **28.6** | mg/kg | 20.6 | 0.16 | 5 | 11/04/10 07:16 | 11/04/10 16:33 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **7.4** | % | 0.10 | 0.10 | 1 | | 11/03/10 22:01 | | |

**Sample: CNF-1-10-3.5** **Lab ID: 255583010** Collected: 11/03/10 14:15 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **36.7** | mg/kg | 22.7 | 4.6 | 1 | 11/05/10 09:50 | 11/09/10 07:40 | | |
| Motor Oil Range | **143** | mg/kg | 90.7 | 16.1 | 1 | 11/05/10 09:50 | 11/09/10 07:40 | 64742-65-0 | |
| n-Octacosane (S) | 112 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 07:40 | 630-02-4 | |
| o-Terphenyl (S) | 107 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 07:40 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **2.5** | mg/kg | 2.2 | 0.33 | 1 | 11/04/10 07:16 | 11/04/10 15:54 | 7440-38-2 | |
| Copper | **21.0** | mg/kg | 2.8 | 0.37 | 1 | 11/04/10 07:16 | 11/04/10 15:54 | 7440-50-8 | |
| Lead | **108** | mg/kg | 1.1 | 0.070 | 1 | 11/04/10 07:16 | 11/04/10 15:54 | 7439-92-1 | |
| Nickel | **19.2** | mg/kg | 4.5 | 0.036 | 1 | 11/04/10 07:16 | 11/04/10 15:54 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **13.9** | % | 0.10 | 0.10 | 1 | | 11/03/10 22:02 | | |

**Sample: CNF-1-11-1** **Lab ID: 255583011** Collected: 11/03/10 14:18 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **5.9J** | mg/kg | 21.6 | 4.4 | 1 | 11/05/10 09:50 | 11/09/10 09:13 | | |
| Motor Oil Range | **18.5J** | mg/kg | 86.4 | 15.4 | 1 | 11/05/10 09:50 | 11/09/10 09:13 | 64742-65-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

**Sample: CNF-1-11-1** **Lab ID: 255583011** Collected: 11/03/10 14:18 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| n-Octacosane (S) | 114 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 09:13 | 630-02-4 | |
| o-Terphenyl (S) | 105 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 09:13 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **2.1J** | mg/kg | 11.2 | 1.7 | 5 | 11/04/10 07:16 | 11/04/10 16:36 | 7440-38-2 | |
| Copper | **15.1** | mg/kg | 14.0 | 1.8 | 5 | 11/04/10 07:16 | 11/04/10 16:36 | 7440-50-8 | |
| Lead | **4.6** | mg/kg | 1.1 | 0.070 | 1 | 11/04/10 07:16 | 11/04/10 15:57 | 7439-92-1 | |
| Nickel | **28.2** | mg/kg | 22.3 | 0.18 | 5 | 11/04/10 07:16 | 11/04/10 16:36 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **13.9** | % | 0.10 | 0.10 | 1 | | 11/03/10 22:03 | | |

**Sample: CNF-1-12-3** **Lab ID: 255583012** Collected: 11/03/10 14:24 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | | |
| Diesel Range | **6.0J** | mg/kg | 24.1 | 4.9 | 1 | 11/05/10 09:50 | 11/09/10 09:59 | | |
| Motor Oil Range | **20.3J** | mg/kg | 96.2 | 17.1 | 1 | 11/05/10 09:50 | 11/09/10 09:59 | 64742-65-0 | |
| n-Octacosane (S) | 111 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 09:59 | 630-02-4 | |
| o-Terphenyl (S) | 102 | % | 50-150 | | 1 | 11/05/10 09:50 | 11/09/10 09:59 | 84-15-1 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3050 | | | | | | | | |
| Arsenic | **3.6J** | mg/kg | 9.7 | 1.5 | 5 | 11/04/10 07:16 | 11/04/10 16:46 | 7440-38-2 | |
| Copper | **22.1** | mg/kg | 12.2 | 1.6 | 5 | 11/04/10 07:16 | 11/04/10 16:46 | 7440-50-8 | |
| Lead | **8.9** | mg/kg | 0.97 | 0.061 | 1 | 11/04/10 07:16 | 11/04/10 16:00 | 7439-92-1 | |
| Nickel | **35.7** | mg/kg | 19.5 | 0.16 | 5 | 11/04/10 07:16 | 11/04/10 16:46 | 7440-02-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | | |
| Percent Moisture | **17.3** | % | 0.10 | 0.10 | 1 | | 11/03/10 22:04 | | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

QC Batch: OEXT/2931 | Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 | Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255583001, 255583002, 255583003, 255583004, 255583005, 255583006, 255583007, 255583008, 255583009, 255583010, 255583011, 255583012

METHOD BLANK: 48335 | Matrix: Solid
Associated Lab Samples: 255583001, 255583002, 255583003, 255583004, 255583005, 255583006, 255583007, 255583008, 255583009, 255583010, 255583011, 255583012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range | mg/kg | <4.0 | 20.0 | 11/08/10 22:49 | |
| Diesel Range SG | mg/kg | 9.0J | 20.0 | 11/08/10 17:48 | |
| Motor Oil Range | mg/kg | <14.2 | 80.0 | 11/08/10 22:49 | |
| Motor Oil Range SG | mg/kg | <21.5 | 80.0 | 11/08/10 17:48 | |
| n-Octacosane (S) | % | 106 | 50-150 | 11/08/10 22:49 | |
| n-Octacosane (S) SG | % | 112 | 50-150 | 11/08/10 17:48 | |
| o-Terphenyl (S) | % | 99 | 50-150 | 11/08/10 22:49 | |
| o-Terphenyl (S) SG | % | 101 | 50-150 | 11/08/10 17:48 | |

LABORATORY CONTROL SAMPLE: 48336

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range | mg/kg | 500 | 448 | 90 | 56-124 | |
| Diesel Range SG | mg/kg | 500 | 446 | 89 | 56-124 | |
| Motor Oil Range | mg/kg | 500 | 476 | 95 | 50-150 | |
| Motor Oil Range SG | mg/kg | 500 | 487 | 97 | 50-150 | |
| n-Octacosane (S) | % | | | 104 | 50-150 | |
| n-Octacosane (S) SG | % | | | 110 | 50-150 | |
| o-Terphenyl (S) | % | | | 108 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 85 | 50-150 | |

SAMPLE DUPLICATE: 48337

| Parameter | Units | 255583001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range | mg/kg | <4.7 | <4.8 | | 50 | |
| Motor Oil Range | mg/kg | <16.4 | <17.0 | | 50 | |
| n-Octacosane (S) | % | 114 | 108 | 2 | | |
| o-Terphenyl (S) | % | 105 | 99 | 2 | | |

SAMPLE DUPLICATE: 48338

| Parameter | Units | 255562001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 38.7 | 34.4 | 12 | 50 | |
| Motor Oil Range SG | mg/kg | ND | 55.7J | | 50 | |
| n-Octacosane (S) SG | % | 105 | 108 | .3 | | |
| o-Terphenyl (S) SG | % | 97 | 98 | 2 | | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

QC Batch: MPRP/1865 | Analysis Method: EPA 6010
QC Batch Method: EPA 3050 | Analysis Description: 6010 MET
Associated Lab Samples: 255583001, 255583002, 255583003, 255583004, 255583005, 255583006, 255583007, 255583008, 255583009, 255583010, 255583011, 255583012

METHOD BLANK: 48156 | Matrix: Solid
Associated Lab Samples: 255583001, 255583002, 255583003, 255583004, 255583005, 255583006, 255583007, 255583008, 255583009, 255583010, 255583011, 255583012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | <0.30 | 2.0 | 11/04/10 16:09 | |
| Copper | mg/kg | <0.33 | 2.5 | 11/04/10 16:09 | |
| Lead | mg/kg | <0.063 | 1.0 | 11/04/10 16:09 | |
| Nickel | mg/kg | <0.032 | 4.0 | 11/04/10 16:09 | |

LABORATORY CONTROL SAMPLE: 48157

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 25 | 25.3 | 101 | 80-120 | |
| Copper | mg/kg | 25 | 23.2 | 93 | 80-120 | |
| Lead | mg/kg | 25 | 26.0 | 104 | 80-120 | |
| Nickel | mg/kg | 25 | 25.4 | 102 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 48158 48159

| Parameter | Units | 255583001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 2.7J | 25.6 | 26.3 | 27.8 | 28.3 | 98 | 97 | 75-125 | 2 | 20 | |
| Copper | mg/kg | 14.8 | 25.6 | 26.3 | 35.0 | 35.8 | 79 | 80 | 75-125 | 2 | 20 | |
| Lead | mg/kg | 6.4 | 25.6 | 26.3 | 30.3 | 30.5 | 93 | 92 | 75-125 | .5 | 20 | |
| Nickel | mg/kg | 29.8 | 25.6 | 26.3 | 55.2 | 53.3 | 99 | 89 | 75-125 | 3 | 20 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

QC Batch: PMST/1409 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255583001, 255583002, 255583003, 255583004, 255583005, 255583006, 255583007, 255583008, 255583009, 255583010, 255583011, 255583012

SAMPLE DUPLICATE: 48150

| Parameter | Units | 255526021 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 33.0 | 32.4 | 2 | 30 | |

SAMPLE DUPLICATE: 48151

| Parameter | Units | 255583001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Percent Moisture | % | 18.0 | 20.0 | 11 | 30 | |



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Seattle, WA 98108
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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

PASI-S Pace Analytical Services - Seattle



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255583

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255583001** | **CNF-1-1-9** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583002** | **CNF-1-2-9** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583003** | **CNF-1-3-9** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583004** | **CNF-1-4-9** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583006** | **CNF-1-6-4** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583007** | **CNF-1-7-5** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583008** | **CNF-1-8-3** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583009** | **CNF-1-9-1.5** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583010** | **CNF-1-10-3.5** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583011** | **CNF-1-11-1** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583012** | **CNF-1-12-3** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583005** | **CNF-1-5-9** | EPA 3546 | OEXT/2931 | NWTPH-Dx | GCSV/2052 |
| **255583001** | **CNF-1-1-9** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583002** | **CNF-1-2-9** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583003** | **CNF-1-3-9** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583004** | **CNF-1-4-9** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583005** | **CNF-1-5-9** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583006** | **CNF-1-6-4** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583007** | **CNF-1-7-5** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583008** | **CNF-1-8-3** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583009** | **CNF-1-9-1.5** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583010** | **CNF-1-10-3.5** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583011** | **CNF-1-11-1** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583012** | **CNF-1-12-3** | EPA 3050 | MPRP/1865 | EPA 6010 | ICP/1780 |
| **255583001** | **CNF-1-1-9** | ASTM D2974-87 | PMST/1409 | | |
| **255583002** | **CNF-1-2-9** | ASTM D2974-87 | PMST/1409 | | |
| **255583003** | **CNF-1-3-9** | ASTM D2974-87 | PMST/1409 | | |
| **255583004** | **CNF-1-4-9** | ASTM D2974-87 | PMST/1409 | | |
| **255583005** | **CNF-1-5-9** | ASTM D2974-87 | PMST/1409 | | |
| **255583006** | **CNF-1-6-4** | ASTM D2974-87 | PMST/1409 | | |
| **255583007** | **CNF-1-7-5** | ASTM D2974-87 | PMST/1409 | | |
| **255583008** | **CNF-1-8-3** | ASTM D2974-87 | PMST/1409 | | |
| **255583009** | **CNF-1-9-1.5** | ASTM D2974-87 | PMST/1409 | | |
| **255583010** | **CNF-1-10-3.5** | ASTM D2974-87 | PMST/1409 | | |
| **255583011** | **CNF-1-11-1** | ASTM D2974-87 | PMST/1409 | | |
| **255583012** | **CNF-1-12-3** | ASTM D2974-87 | PMST/1409 | | |



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## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 2555583

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ____ No ____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.2 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 11/03/10

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑ Yes ☐ No ☐ N/A | 1. COC not received with samples. |
| Chain of Custody Filled Out: | ☐ Yes ☐ No ☑ N/A | 2. |
| Chain of Custody Relinquished: | ☐ Yes ☐ No ☑ N/A | 3. |
| Sampler Name & Signature on COC: | ☐ Yes ☐ No ☑ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes ☐ No ☐ N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐ Yes ☑ No ☐ N/A | 6. |
| Rush Turn Around Time Requested: | ☑ Yes ☐ No ☐ N/A | 7. Rush metals |
| Sufficient Volume: | ☑ Yes ☐ No ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes ☐ No ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes ☐ No ☐ N/A | |
| Containers Intact: | ☑ Yes ☐ No ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes ☐ No ☑ N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: Soil | ☐ Yes ☐ No ☑ N/A | 12. ~~COC written out at Pace~~ NJS 11/3/10 NJS |
| All containers needing preservation have been checked. | ☐ Yes ☐ No ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes ☐ No ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes ☐ No ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes ☐ No ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes ☑ No ☐ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes ☐ No ☑ N/A | |
| Pace Trip Blank Lot # (if purchased): | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Josh Johnson Date/Time: 11/04/10 08:10

Comments/ Resolution:

Needs Dx as soon as possible. Gx is not needed per Client. RSM

COC was delivered by PCS 11/04/10 08:15

Project Manager Review: RSM Date: 11/04/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255583

Page: 1 of 1

1391149

**Section A** Required Client Information:

Company: Brown and Caldwell
Address: 724 Columbia St. NW #420
Olympia, WA 98501
Email To: jturk@brownceld.com
Phone: 360-943-7525 Fax: 360-943-7513
Requested Due Date/TAT: *1 Day TAT*

**Section B** Required Project Information:

Report To: Jon Turk
Copy To:
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:

Attention: Same as client
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

**Section D** Required Client Information

**SAMPLE ID** (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): Metals (CO10 *) | TPH - D, G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CNF-1-1-9 | SL | G | | | 11/3 | 1204 | | 1 | X | | | | | | | | X | X | | |
| 2 | CNF-1-2-9 | | | | | | 1207 | | 1 | X | | | | | | | | X | X | | |
| 3 | CNF-1-3-9 | | | | | | 1210 | | 1 | X | | | | | | | | X | X | | |
| 4 | CNF-1-4-9 | | | | | | 1220 | | 1 | X | | | | | | | | X | X | | |
| 5 | CNF-1-5-9 | | | | | | 1216 | | 1 | X | | | | | | | | X | X | | |
| 6 | CNF-1-6-4 | | | | | | 1350 | | 1 | X | | | | | | | | X | X | | |
| 7 | CNF-1-7-5 | | | | | | 1400 | | 1 | X | | | | | | | | X | X | | |
| 8 | CNF-1-8-3 | | | | | | 1405 | | 1 | X | | | | | | | | X | X | | |
| 9 | CNF-1-9-1.5 | | | | | | 1409 | | 1 | X | | | | | | | | X | X | | |
| 10 | CNF-1-10-3.5 | | | | | | 1415 | | 1 | X | | | | | | | | X | X | | |
| 11 | CNF-1-11-1 | | | | | | 1418 | | 1 | X | | | | | | | | X | X | | |
| 12 | CNF-1-12-3 | | | | | | 1424 | | 1 | X | | | | | | | | X | X | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Metals for Arsenic, Lead | [signature] | 11/3/10 | 1525 | K. Cottright PCS | 11/3/10 | 1520 | | | | |
| Copper, Nickel | X | | | Reginste Marie | 11/3/10 | 19:30 | 5.2 | Y | N | Y |
| | PCS driver | | | Pace Analytical | | | | | | |
| *1 DAY TAT RUSH* | | | | | | | | | | |

ORIGINAL

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Meredith Smith

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/3/10

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

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

F-ALL-Q-020rev.07, 15-May-2007

255583

# Sample Container Count

Pace Analytical
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CLIENT: Brown & Caldwell

COC PAGE 1 of 1

COC ID#

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 1 | | | | | CNF-1-9 11/3/10 | 1204 |
| 2 | | | | | | | | | | | | | | | CNF-1-2-9 11/3/10 | 1207 |
| 3 | | | | | | | | | | | | | | | CNF-1-3-9 11/3/10 | 1210 |
| 4 | | | | | | | | | | | | | | | CNF-1-4-9 | 1220 |
| 5 | | | | | | | | | | | | | | | CNF-1-5-9 | 1216 |
| 6 | | | | | | | | | | | | | | | CNF-1-6-4 | 1350 |
| 7 | | | | | | | | | | | | | | | CNF-1-7-5 | 1400 |
| 8 | | | | | | | | | | | | | | | CNF-1-8-3 | 1405 |
| 9 | | | | | | | | | | | | | | | CNF-1-9-1.5 | 1409 |
| 10 | | | | | | | | | | | | | | | CNF-1-10-3.5 | 1415 |
| 11 | | | | | | | | | | | | | | | CNF-1-11-1 | 1418 |
| 12 | | | | | | | | | | | | | | | Trip Blank? No | 1424 CNF-1-12-3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Stockpile Samples

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

November 18, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255574

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 02, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Melanie Miller for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255574001** | **SPL-1-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255574002** | **SPL-1-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255574003** | **SPL-1-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255574004** | **SPL-2-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255574005** | **SPL-2-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255574006** | **SPL-2-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255574007** | **Trip Blank** | NWTPH-Gx | AY1 | 3 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-1-1** **Lab ID: 255574001** Collected: 11/02/10 12:45 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 22.4 | 1 | 11/07/10 14:15 | 11/08/10 20:27 | | |
| Motor Oil Range | ND | mg/kg | 89.6 | 1 | 11/07/10 14:15 | 11/08/10 20:27 | 64742-65-0 | |
| n-Octacosane (S) | 123 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 20:27 | 630-02-4 | |
| o-Terphenyl (S) | 116 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 20:27 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.6 | 1 | 11/06/10 17:00 | 11/07/10 16:33 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 16:33 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 16:33 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.1** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 18:03 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.065 | 20 | 11/10/10 10:20 | 11/11/10 18:03 | 7440-43-9 | |
| Copper | **11.8** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 18:03 | 7440-50-8 | |
| Lead | **3.3** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 18:03 | 7439-92-1 | |
| Nickel | **24.0** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 18:03 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 208-96-8 | |
| Anthracene | **11.9** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 120-12-7 | |
| Benzo(a)anthracene | **34.7** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 56-55-3 | |
| Benzo(a)pyrene | **40.7** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 50-32-8 | |
| Benzo(b)fluoranthene | **24.2** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 205-99-2 | |
| Benzo(g,h,i)perylene | **23.6** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 191-24-2 | |
| Benzo(k)fluoranthene | **26.2** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 207-08-9 | |
| Chrysene | **40.4** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 218-01-9 | |
| Dibenz(a,h)anthracene | **8.6** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 53-70-3 | |
| Fluoranthene | **70.3** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 206-44-0 | |
| Fluorene | **7.6** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **18.6** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 193-39-5 | |
| 1-Methylnaphthalene | **7.5** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 90-12-0 | |
| 2-Methylnaphthalene | **14.8** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 91-57-6 | |
| Naphthalene | **20.5** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 91-20-3 | |
| Phenanthrene | **56.6** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 85-01-8 | |
| Pyrene | **90.6** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 80 | % | 31-131 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 321-60-8 | |
| Terphenyl-d14 (S) | 80 | % | 30-133 | 1 | 11/12/10 16:30 | 11/16/10 19:48 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.6 | 1 | | 11/05/10 14:08 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.6 | 1 | | 11/05/10 14:08 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.6 | 1 | | 11/05/10 14:08 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.8 | 1 | | 11/05/10 14:08 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 11/05/10 14:08 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-1-1** **Lab ID: 255574001** Collected: 11/02/10 12:45 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 98 | % | 80-120 | 1 | | 11/05/10 14:08 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 114 | % | 72-122 | 1 | | 11/05/10 14:08 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 11/05/10 14:08 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.3** | % | 0.10 | 1 | | 11/07/10 20:41 | | |

**Sample: SPL-1-2** **Lab ID: 255574002** Collected: 11/02/10 12:50 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 21.2 | 1 | 11/07/10 14:15 | 11/08/10 20:43 | | |
| Motor Oil Range | **96.2** | mg/kg | 84.7 | 1 | 11/07/10 14:15 | 11/08/10 20:43 | 64742-65-0 | |
| n-Octacosane (S) | 115 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 20:43 | 630-02-4 | |
| o-Terphenyl (S) | 107 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 20:43 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.4 | 1 | 11/06/10 17:00 | 11/07/10 16:57 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 16:57 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 16:57 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.5** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/11/10 18:07 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.086 | 20 | 11/10/10 10:20 | 11/11/10 18:07 | 7440-43-9 | |
| Copper | **19.9** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/11/10 18:07 | 7440-50-8 | |
| Lead | **7.5** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/11/10 18:07 | 7439-92-1 | |
| Nickel | **35.8** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/15/10 12:37 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 83-32-9 | |
| Acenaphthylene | **18.0** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 208-96-8 | |
| Anthracene | **39.5** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 120-12-7 | |
| Benzo(a)anthracene | **69.8** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 56-55-3 | |
| Benzo(a)pyrene | **87.2** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 50-32-8 | |
| Benzo(b)fluoranthene | **58.9** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 205-99-2 | |
| Benzo(g,h,i)perylene | **48.4** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 191-24-2 | |
| Benzo(k)fluoranthene | **45.3** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 207-08-9 | |
| Chrysene | **79.1** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 218-01-9 | |
| Dibenz(a,h)anthracene | **17.6** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 53-70-3 | |
| Fluoranthene | **144** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 206-44-0 | |
| Fluorene | **25.5** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **38.9** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-1-2** **Lab ID: 255574002** Collected: 11/02/10 12:50 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **10.3** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 90-12-0 | |
| 2-Methylnaphthalene | **13.5** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 91-57-6 | |
| Naphthalene | **22.9** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 91-20-3 | |
| Phenanthrene | **172** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 85-01-8 | |
| Pyrene | **199** | ug/kg | 7.6 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 73 | % | 31-131 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 321-60-8 | |
| Terphenyl-d14 (S) | 76 | % | 30-133 | 1 | 11/12/10 16:30 | 11/16/10 22:35 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/11/10 19:08 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/11/10 19:08 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/11/10 19:08 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.3 | 1 | | 11/11/10 19:08 | 1330-20-7 | |
| Dibromofluoromethane (S) | 102 | % | 80-136 | 1 | | 11/11/10 19:08 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 11/11/10 19:08 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 107 | % | 72-122 | 1 | | 11/11/10 19:08 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 80-143 | 1 | | 11/11/10 19:08 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **13.1** | % | 0.10 | 1 | | 11/07/10 20:42 | | |

**Sample: SPL-1-3** **Lab ID: 255574003** Collected: 11/02/10 12:55 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 21.2 | 1 | 11/07/10 14:15 | 11/08/10 20:59 | | |
| Motor Oil Range | ND | mg/kg | 84.7 | 1 | 11/07/10 14:15 | 11/08/10 20:59 | 64742-65-0 | |
| n-Octacosane (S) | 117 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 20:59 | 630-02-4 | |
| o-Terphenyl (S) | 110 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 20:59 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.2 | 1 | 11/06/10 17:00 | 11/07/10 18:58 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 18:58 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 88 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 18:58 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.2** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/11/10 18:38 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.071 | 20 | 11/10/10 10:20 | 11/11/10 18:38 | 7440-43-9 | |
| Copper | **11.6** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/11/10 18:38 | 7440-50-8 | |
| Lead | **3.4** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/11/10 18:38 | 7439-92-1 | |
| Nickel | **27.2** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/15/10 12:42 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-1-3** **Lab ID: 255574003** Collected: 11/02/10 12:55 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 83-32-9 | |
| Acenaphthylene | **7.6** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 208-96-8 | |
| Anthracene | **12.7** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 120-12-7 | |
| Benzo(a)anthracene | **29.5** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 56-55-3 | |
| Benzo(a)pyrene | **34.4** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 50-32-8 | |
| Benzo(b)fluoranthene | **21.6** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 205-99-2 | |
| Benzo(g,h,i)perylene | **19.8** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 191-24-2 | |
| Benzo(k)fluoranthene | **22.1** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 207-08-9 | |
| Chrysene | **34.3** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 53-70-3 | |
| Fluoranthene | **66.5** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 206-44-0 | |
| Fluorene | **8.0** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **16.6** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 193-39-5 | |
| 1-Methylnaphthalene | **8.2** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 90-12-0 | |
| 2-Methylnaphthalene | **15.5** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 91-57-6 | |
| Naphthalene | **21.1** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 91-20-3 | |
| Phenanthrene | **57.8** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 85-01-8 | |
| Pyrene | **88.9** | ug/kg | 7.5 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 76 | % | 31-131 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 321-60-8 | |
| Terphenyl-d14 (S) | 88 | % | 30-133 | 1 | 11/12/10 16:30 | 11/16/10 20:44 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 11/05/10 15:25 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 11/05/10 15:25 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 11/05/10 15:25 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.8 | 1 | | 11/05/10 15:25 | 1330-20-7 | |
| Dibromofluoromethane (S) | 97 | % | 80-136 | 1 | | 11/05/10 15:25 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 11/05/10 15:25 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 110 | % | 72-122 | 1 | | 11/05/10 15:25 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 11/05/10 15:25 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.6** | % | 0.10 | 1 | | 11/07/10 20:42 | | |

**Sample: SPL-2-1** **Lab ID: 255574004** Collected: 11/02/10 13:25 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 20.5 | 1 | 11/07/10 14:15 | 11/08/10 21:16 | | |
| Motor Oil Range | ND | mg/kg | 82.0 | 1 | 11/07/10 14:15 | 11/08/10 21:16 | 64742-65-0 | |
| n-Octacosane (S) | 114 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 21:16 | 630-02-4 | |
| o-Terphenyl (S) | 105 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 21:16 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-2-1** **Lab ID: 255574004** Collected: 11/02/10 13:25 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 4.5 | 1 | 11/06/10 17:00 | 11/07/10 19:22 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 19:22 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 95 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 19:22 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.6** | mg/kg | 0.47 | 20 | 11/10/10 10:20 | 11/11/10 18:42 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.075 | 20 | 11/10/10 10:20 | 11/11/10 18:42 | 7440-43-9 | |
| Copper | **17.0** | mg/kg | 0.47 | 20 | 11/10/10 10:20 | 11/11/10 18:42 | 7440-50-8 | |
| Lead | **4.5** | mg/kg | 0.47 | 20 | 11/10/10 10:20 | 11/11/10 18:42 | 7439-92-1 | |
| Nickel | **26.6** | mg/kg | 0.47 | 20 | 11/10/10 10:20 | 11/15/10 12:46 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **92.7** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 83-32-9 | |
| Acenaphthylene | **18.9** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 208-96-8 | |
| Anthracene | **160** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 120-12-7 | |
| Benzo(a)anthracene | **237** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 56-55-3 | |
| Benzo(a)pyrene | **312** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 50-32-8 | |
| Benzo(b)fluoranthene | **153** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 205-99-2 | |
| Benzo(g,h,i)perylene | **179** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 191-24-2 | |
| Benzo(k)fluoranthene | **194** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 207-08-9 | |
| Chrysene | **255** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 218-01-9 | |
| Dibenz(a,h)anthracene | **72.5** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 53-70-3 | |
| Fluoranthene | **427** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 206-44-0 | |
| Fluorene | **125** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **148** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 193-39-5 | |
| 1-Methylnaphthalene | **91.7** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 90-12-0 | |
| 2-Methylnaphthalene | **133** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 91-57-6 | |
| Naphthalene | **240** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 91-20-3 | |
| Phenanthrene | **701** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 85-01-8 | |
| Pyrene | **621** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 78 | % | 31-131 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 321-60-8 | |
| Terphenyl-d14 (S) | 86 | % | 30-133 | 1 | 11/12/10 16:30 | 11/16/10 21:02 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.7 | 1 | | 11/11/10 19:27 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.7 | 1 | | 11/11/10 19:27 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.7 | 1 | | 11/11/10 19:27 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 11.1 | 1 | | 11/11/10 19:27 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 11/11/10 19:27 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 11/11/10 19:27 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 113 | % | 72-122 | 1 | | 11/11/10 19:27 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 11/11/10 19:27 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.1** | % | 0.10 | 1 | | 11/07/10 20:44 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-2-2** **Lab ID: 255574005** Collected: 11/02/10 13:30 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 20.7 | 1 | 11/07/10 14:15 | 11/08/10 21:32 | | |
| Motor Oil Range | ND | mg/kg | 82.9 | 1 | 11/07/10 14:15 | 11/08/10 21:32 | 64742-65-0 | |
| n-Octacosane (S) | 116 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 21:32 | 630-02-4 | |
| o-Terphenyl (S) | 108 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 21:32 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 11/06/10 17:00 | 11/10/10 18:40 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 11/06/10 17:00 | 11/10/10 18:40 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 11/06/10 17:00 | 11/10/10 18:40 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.4** | mg/kg | 0.51 | 20 | 11/10/10 10:20 | 11/11/10 18:47 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.082 | 20 | 11/10/10 10:20 | 11/11/10 18:47 | 7440-43-9 | |
| Copper | **22.9** | mg/kg | 0.51 | 20 | 11/10/10 10:20 | 11/11/10 18:47 | 7440-50-8 | |
| Lead | **7.9** | mg/kg | 0.51 | 20 | 11/10/10 10:20 | 11/11/10 18:47 | 7439-92-1 | |
| Nickel | **32.5** | mg/kg | 0.51 | 20 | 11/10/10 10:20 | 11/15/10 12:50 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **18.5** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 208-96-8 | |
| Anthracene | **17.8** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 120-12-7 | |
| Benzo(a)anthracene | **30.7** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 56-55-3 | |
| Benzo(a)pyrene | **40.6** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 50-32-8 | |
| Benzo(b)fluoranthene | **23.5** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 205-99-2 | |
| Benzo(g,h,i)perylene | **25.1** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 191-24-2 | |
| Benzo(k)fluoranthene | **23.9** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 207-08-9 | |
| Chrysene | **35.7** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 218-01-9 | |
| Dibenz(a,h)anthracene | **9.0** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 53-70-3 | |
| Fluoranthene | **67.6** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 206-44-0 | |
| Fluorene | **20.7** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **19.8** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 193-39-5 | |
| 1-Methylnaphthalene | **44.5** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 90-12-0 | |
| 2-Methylnaphthalene | **49.0** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 91-57-6 | |
| Naphthalene | **104** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 91-20-3 | |
| Phenanthrene | **92.0** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 85-01-8 | |
| Pyrene | **95.3** | ug/kg | 7.3 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 78 | % | 31-131 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 321-60-8 | |
| Terphenyl-d14 (S) | 96 | % | 30-133 | 1 | 11/12/10 16:30 | 11/16/10 21:21 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.2 | 1 | | 11/05/10 16:04 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.2 | 1 | | 11/05/10 16:04 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.2 | 1 | | 11/05/10 16:04 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.7 | 1 | | 11/05/10 16:04 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 11/05/10 16:04 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-2-2** **Lab ID: 255574005** Collected: 11/02/10 13:30 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 11/05/10 16:04 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 114 | % | 72-122 | 1 | | 11/05/10 16:04 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 11/05/10 16:04 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.3** | % | 0.10 | 1 | | 11/07/10 20:44 | | |

**Sample: SPL-2-3** **Lab ID: 255574006** Collected: 11/02/10 13:40 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | **63.5** | mg/kg | 22.0 | 1 | 11/07/10 14:15 | 11/08/10 21:48 | | |
| Motor Oil Range | **151** | mg/kg | 88.0 | 1 | 11/07/10 14:15 | 11/08/10 21:48 | 64742-65-0 | |
| n-Octacosane (S) | 113 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 21:48 | 630-02-4 | |
| o-Terphenyl (S) | 111 | % | 50-150 | 1 | 11/07/10 14:15 | 11/08/10 21:48 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.0 | 1 | 11/06/10 17:00 | 11/10/10 19:12 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 11/06/10 17:00 | 11/10/10 19:12 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 11/06/10 17:00 | 11/10/10 19:12 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.9** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/11/10 18:51 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.072 | 20 | 11/10/10 10:20 | 11/11/10 18:51 | 7440-43-9 | |
| Copper | **21.8** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/11/10 18:51 | 7440-50-8 | |
| Lead | **11.6** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/11/10 18:51 | 7439-92-1 | |
| Nickel | **23.5** | mg/kg | 0.45 | 20 | 11/10/10 10:20 | 11/15/10 12:55 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **92.3** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 83-32-9 | |
| Acenaphthylene | **126** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 208-96-8 | |
| Anthracene | **341** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 120-12-7 | |
| Benzo(a)anthracene | **517** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 56-55-3 | |
| Benzo(a)pyrene | **601** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 50-32-8 | |
| Benzo(b)fluoranthene | **319** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 205-99-2 | |
| Benzo(g,h,i)perylene | **327** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 191-24-2 | |
| Benzo(k)fluoranthene | **365** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 207-08-9 | |
| Chrysene | **560** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 218-01-9 | |
| Dibenz(a,h)anthracene | **131** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 53-70-3 | |
| Fluoranthene | **1160** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 206-44-0 | |
| Fluorene | **280** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **273** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

**Sample: SPL-2-3** **Lab ID: 255574006** Collected: 11/02/10 13:40 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **138** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 90-12-0 | |
| 2-Methylnaphthalene | **179** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 91-57-6 | |
| Naphthalene | **311** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 91-20-3 | |
| Phenanthrene | **1550** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 85-01-8 | |
| Pyrene | **1490** | ug/kg | 7.4 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 71 | % | 31-131 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 321-60-8 | |
| Terphenyl-d14 (S) | 79 | % | 30-133 | 1 | 11/12/10 16:30 | 11/16/10 22:17 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.4 | 1 | | 11/05/10 16:22 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.4 | 1 | | 11/05/10 16:22 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.4 | 1 | | 11/05/10 16:22 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.1 | 1 | | 11/05/10 16:22 | 1330-20-7 | |
| Dibromofluoromethane (S) | 97 | % | 80-136 | 1 | | 11/05/10 16:22 | 1868-53-7 | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 11/05/10 16:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 72-122 | 1 | | 11/05/10 16:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/05/10 16:22 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.1** | % | 0.10 | 1 | | 11/07/10 20:45 | | |

**Sample: Trip Blank** **Lab ID: 255574007** Collected: 11/02/10 00:00 Received: 11/02/10 16:45 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 11/06/10 17:00 | 11/07/10 16:09 | | |
| a,a,a-Trifluorotoluene (S) | 111 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 16:09 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 109 | % | 50-150 | 1 | 11/06/10 17:00 | 11/07/10 16:09 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/05/10 13:48 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/05/10 13:48 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/05/10 13:48 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 11/05/10 13:48 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 11/05/10 13:48 | 1868-53-7 | |
| Toluene-d8 (S) | 97 | % | 80-120 | 1 | | 11/05/10 13:48 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 109 | % | 72-122 | 1 | | 11/05/10 13:48 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/05/10 13:48 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: OEXT/2936 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

METHOD BLANK: 48641 Matrix: Solid
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range | mg/kg | ND | 20.0 | 11/08/10 13:53 | |
| Motor Oil Range | mg/kg | ND | 80.0 | 11/08/10 13:53 | |
| n-Octacosane (S) | % | 112 | 50-150 | 11/08/10 13:53 | |
| o-Terphenyl (S) | % | 102 | 50-150 | 11/08/10 13:53 | |

LABORATORY CONTROL SAMPLE: 48642

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range | mg/kg | 500 | 460 | 92 | 56-124 | |
| Motor Oil Range | mg/kg | 500 | 534 | 107 | 50-150 | |
| n-Octacosane (S) | % | | | 116 | 50-150 | |
| o-Terphenyl (S) | % | | | 130 | 50-150 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: GCV/2002 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574007

METHOD BLANK: 48549 Matrix: Solid
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/07/10 15:45 | |
| 4-Bromofluorobenzene (S) | % | 120 | 50-150 | 11/07/10 15:45 | |
| a,a,a-Trifluorotoluene (S) | % | 126 | 50-150 | 11/07/10 15:45 | |

LABORATORY CONTROL SAMPLE: 48550

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.1 | 105 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 91 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 98 | 50-150 | |

SAMPLE DUPLICATE: 48886

| Parameter | Units | 255574002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.5J | | |
| 4-Bromofluorobenzene (S) | % | 92 | 59 | 43 | |
| a,a,a-Trifluorotoluene (S) | % | 98 | 80 | 20 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: GCV/2007 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255574005, 255574006

METHOD BLANK: 48890 | Matrix: Solid
Associated Lab Samples: 255574005, 255574006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/09/10 19:53 | |
| 4-Bromofluorobenzene (S) | % | 93 | 50-150 | 11/09/10 19:53 | |
| a,a,a-Trifluorotoluene (S) | % | 100 | 50-150 | 11/09/10 19:53 | |

LABORATORY CONTROL SAMPLE: 48891

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 11.3 | 90 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 65 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 66 | 50-150 | |

SAMPLE DUPLICATE: 49180

| Parameter | Units | 255590004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.3J | | |
| 4-Bromofluorobenzene (S) | % | 96 | 93 | 3 | |
| a,a,a-Trifluorotoluene (S) | % | 107 | 108 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: ICPM/23408 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

METHOD BLANK: 888630 Matrix: Solid
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.49 | 11/11/10 17:41 | |
| Cadmium | mg/kg | ND | 0.078 | 11/11/10 17:41 | |
| Copper | mg/kg | ND | 0.49 | 11/11/10 17:41 | |
| Lead | mg/kg | ND | 0.49 | 11/11/10 17:41 | |
| Nickel | mg/kg | ND | 0.49 | 11/11/10 17:41 | |

LABORATORY CONTROL SAMPLE: 888631

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.6 | 17.4 | 89 | 75-125 | |
| Cadmium | mg/kg | 19.6 | 17.2 | 88 | 75-125 | |
| Copper | mg/kg | 19.6 | 19.5 | 100 | 75-125 | |
| Lead | mg/kg | 19.6 | 18.8 | 96 | 75-125 | |
| Nickel | mg/kg | 19.6 | 19.7 | 100 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 888632 888633

| Parameter | Units | 5043000010 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 6.6 | 20.7 | 21.1 | 22.5 | 22.7 | 77 | 76 | 75-125 | .8 | |
| Cadmium | mg/kg | 0.19 | 20.7 | 21.1 | 16.8 | 18.8 | 80 | 88 | 75-125 | 11 | |
| Copper | mg/kg | 10.9 | 20.7 | 21.1 | 29.9 | 29.8 | 92 | 89 | 75-125 | .4 | |
| Lead | mg/kg | 5.5 | 20.7 | 21.1 | 22.7 | 23.7 | 83 | 86 | 75-125 | 4 | |
| Nickel | mg/kg | 11.2 | 20.7 | 21.1 | 31.2 | 29.3 | 97 | 86 | 75-125 | 6 | |

MATRIX SPIKE SAMPLE: 888634

| Parameter | Units | 5043055001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 0.87 | 21.4 | 19.4 | 85 | 75-125 | |
| Cadmium | mg/kg | 0.058 | 21.4 | 16.6 | 77 | 75-125 | |
| Copper | mg/kg | 1.9 | 21.4 | 21.0 | 86 | 75-125 | |
| Lead | mg/kg | 0.61 | 21.4 | 17.3 | 77 | 75-125 | |
| Nickel | mg/kg | 1.7 | 21.4 | 30.0 | 129 | 75-125 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: OEXT/2978 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

METHOD BLANK: 49322 Matrix: Solid
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Acenaphthene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Anthracene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Chrysene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Fluoranthene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Fluorene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Naphthalene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Phenanthrene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| Pyrene | ug/kg | ND | 6.7 | 11/16/10 17:57 | |
| 2-Fluorobiphenyl (S) | % | 71 | 31-131 | 11/16/10 17:57 | |
| Terphenyl-d14 (S) | % | 83 | 30-133 | 11/16/10 17:57 | |

LABORATORY CONTROL SAMPLE: 49323

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 94.9 | 71 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 96.4 | 72 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 96.7 | 73 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 91.4 | 69 | 31-134 | |
| Anthracene | ug/kg | 133 | 91.2 | 68 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 102 | 76 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 110 | 82 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 110 | 82 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 107 | 80 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 101 | 76 | 45-147 | |
| Chrysene | ug/kg | 133 | 106 | 79 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 108 | 81 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 99.8 | 75 | 44-143 | |
| Fluorene | ug/kg | 133 | 99.3 | 74 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 109 | 81 | 47-140 | |
| Naphthalene | ug/kg | 133 | 92.3 | 69 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 103 | 77 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

LABORATORY CONTROL SAMPLE: 49323

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 107 | 80 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 72 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 83 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 49336 49337

| Parameter | Units | 255574001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 7.5 | 152 | 151 | 127 | 135 | 79 | 84 | 31-123 | 6 | |
| 2-Methylnaphthalene | ug/kg | 14.8 | 152 | 151 | 132 | 142 | 77 | 84 | 15-146 | 7 | |
| Acenaphthene | ug/kg | ND | 152 | 151 | 131 | 119 | 85 | 77 | 19-141 | 9 | |
| Acenaphthylene | ug/kg | ND | 152 | 151 | 132 | 118 | 82 | 73 | 30-142 | 11 | |
| Anthracene | ug/kg | 11.9 | 152 | 151 | 167 | 122 | 102 | 73 | 38-137 | 31 | R1 |
| Benzo(a)anthracene | ug/kg | 34.7 | 152 | 151 | 222 | 139 | 124 | 69 | 37-143 | 46 | R1 |
| Benzo(a)pyrene | ug/kg | 40.7 | 152 | 151 | 238 | 145 | 130 | 69 | 33-147 | 48 | R1 |
| Benzo(b)fluoranthene | ug/kg | 24.2 | 152 | 151 | 188 | 134 | 109 | 73 | 25-156 | 34 | R1 |
| Benzo(g,h,i)perylene | ug/kg | 23.6 | 152 | 151 | 181 | 133 | 104 | 73 | 26-142 | 30 | R1 |
| Benzo(k)fluoranthene | ug/kg | 26.2 | 152 | 151 | 189 | 121 | 108 | 63 | 35-142 | 44 | R1 |
| Chrysene | ug/kg | 40.4 | 152 | 151 | 234 | 144 | 128 | 69 | 23-150 | 48 | R1 |
| Dibenz(a,h)anthracene | ug/kg | 8.6 | 152 | 151 | 144 | 122 | 90 | 75 | 41-140 | 17 | |
| Fluoranthene | ug/kg | 70.3 | 152 | 151 | 375 | 163 | 201 | 62 | 25-155 | 79 | M1,R1 |
| Fluorene | ug/kg | 7.6 | 152 | 151 | 165 | 126 | 104 | 78 | 33-152 | 27 | R1 |
| Indeno(1,2,3-cd)pyrene | ug/kg | 18.6 | 152 | 151 | 171 | 128 | 101 | 72 | 36-139 | 29 | R1 |
| Naphthalene | ug/kg | 20.5 | 152 | 151 | 133 | 134 | 74 | 75 | 25-121 | .9 | |
| Phenanthrene | ug/kg | 56.6 | 152 | 151 | 431 | 169 | 247 | 75 | 29-141 | 87 | M1,R1 |
| Pyrene | ug/kg | 90.6 | 152 | 151 | 432 | 188 | 226 | 65 | 36-145 | 79 | M1,R1 |
| 2-Fluorobiphenyl (S) | % | | | | | | 77 | 76 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 83 | 82 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: MSV/3395 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255574001, 255574003, 255574005, 255574006, 255574007

METHOD BLANK: 48409 Matrix: Solid
Associated Lab Samples: 255574001, 255574003, 255574005, 255574006, 255574007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/05/10 10:30 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/05/10 10:30 | |
| Toluene | ug/kg | ND | 3.0 | 11/05/10 10:30 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/05/10 10:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 100 | 80-143 | 11/05/10 10:30 | |
| 4-Bromofluorobenzene (S) | % | 101 | 72-122 | 11/05/10 10:30 | |
| Dibromofluoromethane (S) | % | 99 | 80-136 | 11/05/10 10:30 | |
| Toluene-d8 (S) | % | 107 | 80-120 | 11/05/10 10:30 | |

LABORATORY CONTROL SAMPLE & LCSD: 48410 48411

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 39.1 | 39.7 | 78 | 79 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 43.0 | 41.5 | 86 | 83 | 68-131 | 4 | 30 | |
| Toluene | ug/kg | 50 | 43.6 | 39.6 | 87 | 79 | 73-124 | 10 | 30 | |
| Xylene (Total) | ug/kg | 150 | 127 | 126 | 84 | 84 | 68-130 | .4 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 99 | 101 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 110 | 105 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 97 | 107 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 105 | 100 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: MSV/3429 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255574002, 255574004

METHOD BLANK: 49263 | Matrix: Solid
Associated Lab Samples: 255574002, 255574004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Toluene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/11/10 18:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 101 | 80-143 | 11/11/10 18:30 | |
| 4-Bromofluorobenzene (S) | % | 106 | 72-122 | 11/11/10 18:30 | |
| Dibromofluoromethane (S) | % | 105 | 80-136 | 11/11/10 18:30 | |
| Toluene-d8 (S) | % | 106 | 80-120 | 11/11/10 18:30 | |

LABORATORY CONTROL SAMPLE & LCSD: 49264 49265

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 43.5 | 42.5 | 87 | 85 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 38.5 | 37.6 | 77 | 75 | 68-131 | 2 | 30 | |
| Toluene | ug/kg | 50 | 41.6 | 40.7 | 83 | 81 | 73-124 | 2 | 30 | |
| Xylene (Total) | ug/kg | 150 | 124 | 120 | 82 | 80 | 68-130 | 3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 104 | 102 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 104 | 106 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 112 | 111 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 109 | 108 | 80-120 | | | |



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

QC Batch: PMST/1416 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255574001, 255574002, 255574003, 255574004, 255574005, 255574006

SAMPLE DUPLICATE: 48654

| Parameter | Units | 255574001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 12.3 | 13.5 | 9 | |

SAMPLE DUPLICATE: 48655

| Parameter | Units | 255604001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 8.0 | 9.3 | 15 | |



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Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |



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Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255574

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255574001** | **SPL-1-1** | EPA 3546 | OEXT/2936 | NWTPH-Dx | GCSV/2051 |
| **255574002** | **SPL-1-2** | EPA 3546 | OEXT/2936 | NWTPH-Dx | GCSV/2051 |
| **255574003** | **SPL-1-3** | EPA 3546 | OEXT/2936 | NWTPH-Dx | GCSV/2051 |
| **255574004** | **SPL-2-1** | EPA 3546 | OEXT/2936 | NWTPH-Dx | GCSV/2051 |
| **255574005** | **SPL-2-2** | EPA 3546 | OEXT/2936 | NWTPH-Dx | GCSV/2051 |
| **255574006** | **SPL-2-3** | EPA 3546 | OEXT/2936 | NWTPH-Dx | GCSV/2051 |
| **255574001** | **SPL-1-1** | NWTPH-Gx | GCV/2002 | NWTPH-Gx | GCV/2005 |
| **255574002** | **SPL-1-2** | NWTPH-Gx | GCV/2002 | NWTPH-Gx | GCV/2005 |
| **255574003** | **SPL-1-3** | NWTPH-Gx | GCV/2002 | NWTPH-Gx | GCV/2005 |
| **255574004** | **SPL-2-1** | NWTPH-Gx | GCV/2002 | NWTPH-Gx | GCV/2005 |
| **255574005** | **SPL-2-2** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255574006** | **SPL-2-3** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255574007** | **Trip Blank** | NWTPH-Gx | GCV/2002 | NWTPH-Gx | GCV/2005 |
| **255574001** | **SPL-1-1** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255574002** | **SPL-1-2** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255574003** | **SPL-1-3** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255574004** | **SPL-2-1** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255574005** | **SPL-2-2** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255574006** | **SPL-2-3** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255574001** | **SPL-1-1** | EPA 3546 | OEXT/2978 | EPA 8270 by SIM | MSSV/1436 |
| **255574002** | **SPL-1-2** | EPA 3546 | OEXT/2978 | EPA 8270 by SIM | MSSV/1436 |
| **255574003** | **SPL-1-3** | EPA 3546 | OEXT/2978 | EPA 8270 by SIM | MSSV/1436 |
| **255574004** | **SPL-2-1** | EPA 3546 | OEXT/2978 | EPA 8270 by SIM | MSSV/1436 |
| **255574005** | **SPL-2-2** | EPA 3546 | OEXT/2978 | EPA 8270 by SIM | MSSV/1436 |
| **255574006** | **SPL-2-3** | EPA 3546 | OEXT/2978 | EPA 8270 by SIM | MSSV/1436 |
| **255574001** | **SPL-1-1** | EPA 8260 | MSV/3395 | | |
| **255574002** | **SPL-1-2** | EPA 8260 | MSV/3429 | | |
| **255574003** | **SPL-1-3** | EPA 8260 | MSV/3395 | | |
| **255574004** | **SPL-2-1** | EPA 8260 | MSV/3429 | | |
| **255574005** | **SPL-2-2** | EPA 8260 | MSV/3395 | | |
| **255574006** | **SPL-2-3** | EPA 8260 | MSV/3395 | | |
| **255574007** | **Trip Blank** | EPA 8260 | MSV/3395 | | |
| **255574001** | **SPL-1-1** | ASTM D2974-87 | PMST/1416 | | |
| **255574002** | **SPL-1-2** | ASTM D2974-87 | PMST/1416 | | |
| **255574003** | **SPL-1-3** | ASTM D2974-87 | PMST/1416 | | |
| **255574004** | **SPL-2-1** | ASTM D2974-87 | PMST/1416 | | |
| **255574005** | **SPL-2-2** | ASTM D2974-87 | PMST/1416 | | |
| **255574006** | **SPL-2-3** | ASTM D2974-87 | PMST/1416 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255574

Page: of

1391140

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St. NW #420
Olympia, WA. 98501
Email To:
Phone: 360-943-7525 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: John Turk
Copy To:
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:

Attention: Same as Client
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 22238/21

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED DATE | COLLECTED TIME | COMPOSITE START DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Metals EPA 6020A* | cPAH EPA 8270C | Dioxins/Furans 8290 | BTEX 8260B | TPH-D, HO, G | Total Naphthalenes | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-1-1 | SL | G | ~~11/2~~ | ~~1245~~ | 11/2 | 1245 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 2 | SPL-1-2 | SL | G | | | | 1250 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 3 | SPL-1-3 | SL | G | | | | 1255 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 4 | SPL-2-1 | SL | G | | | | 1325 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 5 | SPL-2-2 | SL | G | | | | 1330 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 6 | SPL-2-3 | SL | G | | | | 1340 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 7 | Trip Blank | — | — | | | | — | | 3 | | | | | | | X | | | | | X | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

Y/N ↓ Analysis Test ↓

* Dioxins to report as separate job
RSM 11/03/10

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|---|
| * Metals for Arsenic, | Meredith Smith /BC | 11/2/10 | 1515 | Kerry Cottright PCS | 11/2/10 | 1515 |
| Cadmium, lead, copper, Nickel | Kerry Cottright | 11/2/10 | 1635 | Jyothi Swamy | 11/2/10 | 1645 |

| SAMPLE CONDITIONS | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|
| | 0.7°C | Y | N | Y |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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

# Sample Container Count

CLIENT: Brown & Caldwell

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COC PAGE 1 of 1
COC ID# 139/140

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 3 | | 1 | 2 | | |
| 2 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 3 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 4 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 5 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 6 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 7 | | | | | | | | | | | | 1 | 2 | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? Yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell  Project # 255574

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other PCS

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No  Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank Yes ✓ No _____

Thermometer Used 132013 or 101731962 or 226099  Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7°C  Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 110210CW

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐Yes ☑No ☐N/A | 6. |
| Rush Turn Around Time Requested: | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: _____ | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☑Yes ☐No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: RSM  Date: 11/03/10

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Client Services
PASI Seattle
940 South Harney
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

November 19, 2010

## Report Information:

**Pace Project #: 10142530**
**Sample Receipt Date: 11/05/2010**
**Client Project #: 255572 Brown & Caldwell**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

November 19, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on six samples submitted by a representative of Pace Analytical Services, Inc - Seattle. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The isotopically-labeled PCDD/PCDF internal standards in the sample extracts were recovered at 43-88%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native congeners was based on isotope dilution and internal standard methodology, the data were automatically corrected for recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected PCDD/PCDF congeners. With the exception of a non-2,3,7,8-substituted TCDF congener, these levels were below the calibration range of the method. The field sample extracts contained selected analytes at levels within ten times those seen in the method blank. The affected congeners were flagged "B" on the results tables and should be considered to have originated, at least partially, in the laboratory. In general, levels less than ten times the background are not considered statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample material that had been fortified with native standards. The results show that the spiked native compounds were recovered at 99-143%, with relative percent differences of 0.0-10.6%. These results indicate generally high degrees of accuracy and precision for these determinations. The laboratory spike exhibited an elevated recovery for OCDF and is flagged "R" on the results table. This could indicate a high bias for the OCDF results. While the method does not specify a recovery range for matrix spikes, several analytes in the matrix spikes were recovered at levels above the target range utilized by Pace Analytical. The affected analytes were flagged "R" on the matrix spike tables (based on the background subtracted results) and could indicate a high bias for these analytes.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10142530

# Chain of Custody

Pace Analytical®
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**Workorder:** 255572 **Workorder Name:** East Bay Redevelopment 13830 **Owner Received Date:** 11/2/2010 **Results Requested By:** 11/23/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Requested Analysis: 8290 Dioxins/Furans | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|
| 1 | SPL-1-1 | PS | 11/2/2010 12:45 | 255572001 | Solid | 1 | X | |
| 2 | SPL-1-2 | PS | 11/2/2010 12:50 | 255572002 | Solid | 1 | X | |
| 3 | SPL-1-3 | PS | 11/2/2010 12:55 | 255572003 | Solid | 1 | X | |
| 4 | SPL-2-1 | PS | 11/2/2010 13:25 | 255572004 | Solid | 1 | X | |
| 5 | SPL-2-2 | PS | 11/2/2010 13:30 | 255572005 | Solid | 1 | X | |
| 6 | SPL-2-3 | PS | 11/2/2010 13:40 | 255572006 | Solid | 1 | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Evan Dorman | 11/4/10 12:30 | [illegible] | 11/5/10 1025 |
| 2 | | | | |
| 3 | | | | |

Comments

**Cooler Temperature on Receipt** 3.8 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE SEATTLE **Project #** 10142530

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

**Tracking #:** 7964 1759 9115

Optional: Proj. Due Date: Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 3.8 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 11/5/10 NS

Temp should be above freezing to 6°C

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 11/9/10

Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-1-1 | | | |
| Lab Sample ID | 255572001 | | | |
| Filename | F101117B_10 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.9 g | Matrix | Solid | |
| % Moisture | 12.3 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 11/02/2010 | 12:45 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/17/2010 | 20:51 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.200 | | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 1.70 | ----- | 0.200 | B | 2,3,7,8-TCDD-13C | 2.00 | 66 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | ND | ----- | 0.150 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 60 |
| 1,2,3,7,8-PeCDF | 0.14 | ----- | 0.140 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 61 |
| 2,3,4,7,8-PeCDF | 0.18 | ----- | 0.110 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 60 |
| Total PeCDF | 0.50 | ----- | 0.120 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.120 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| Total PeCDD | ND | ----- | 0.120 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 51 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 51 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.17 | 0.110 | PI | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 51 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.11 | 0.087 | I | OCDD-13C | 4.00 | 47 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.094 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.095 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.10 | ----- | 0.097 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.095 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.093 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.094 | | | | |
| Total HxCDD | 0.26 | ----- | 0.094 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.56 | ----- | 0.140 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.190 | | Equivalence: 0.26 ng/Kg | | |
| Total HpCDF | 1.50 | ----- | 0.170 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.30 | ----- | 0.250 | BJ | | | |
| Total HpCDD | 3.00 | ----- | 0.250 | J | | | |
| OCDF | 1.80 | ----- | 0.210 | J | | | |
| OCDD | 12.00 | ----- | 0.570 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-1-2 | | | |
| Lab Sample ID | 255572002 | | | |
| Filename | F101117B_11 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 13.1 | Dilution | NA | |
| Dry Weight Extracted | 10.8 g | Collected | 11/02/2010 | 12:50 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/17/2010 | 21:37 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.18 | ----- | 0.14 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 2.50 | ----- | 0.14 | B | 2,3,7,8-TCDD-13C | 2.00 | 69 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | ND | ----- | 0.15 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 87 |
| Total TCDD | 0.36 | ----- | 0.15 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.28 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | 0.21 | ----- | 0.11 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 1.70 | ----- | 0.20 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 56 |
| 1,2,3,7,8-PeCDD | 0.15 | ----- | 0.14 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 66 |
| Total PeCDD | 0.72 | ----- | 0.14 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 52 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 51 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.99 | 0.26 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 51 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.31 | | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.31 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.15 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.70 | ----- | 0.26 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.18 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 71 |
| 1,2,3,6,7,8-HxCDD | 0.46 | ----- | 0.16 | J | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.24 | 0.17 | I | | | |
| Total HxCDD | 2.70 | ----- | 0.17 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.70 | ----- | 0.37 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.36 | | Equivalence: 0.62 ng/Kg | | |
| Total HpCDF | 7.70 | ----- | 0.37 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 12.00 | ----- | 0.49 | | | | |
| Total HpCDD | 25.00 | ----- | 0.49 | | | | |
| OCDF | 16.00 | ----- | 0.36 | | | | |
| OCDD | 120.00 | ----- | 0.20 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-1-3 | | | |
| Lab Sample ID | 255572003 | | | |
| Filename | F101117B_12 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.7 g | Matrix | Solid | |
| % Moisture | 11.6 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 11/02/2010 | 12:55 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/17/2010 | 22:23 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.25 | 0.200 | I | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 2.90 | ----- | 0.200 | B | 2,3,7,8-TCDD-13C | 2.00 | 64 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | ND | ----- | 0.180 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 86 |
| Total TCDD | 0.63 | ----- | 0.180 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 61 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.220 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 64 |
| 2,3,4,7,8-PeCDF | ----- | 0.13 | 0.120 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 0.70 | ----- | 0.170 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 60 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.160 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | 0.36 | ----- | 0.160 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 52 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 53 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.28 | 0.130 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 52 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.120 | | OCDD-13C | 4.00 | 49 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.087 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.130 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.16 | ----- | 0.120 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.130 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 68 |
| 1,2,3,6,7,8-HxCDD | 0.25 | ----- | 0.100 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.17 | ----- | 0.120 | J | | | |
| Total HxCDD | 2.20 | ----- | 0.120 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.93 | ----- | 0.170 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.250 | | Equivalence: 0.37 ng/Kg | | |
| Total HpCDF | 2.30 | ----- | 0.210 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 6.70 | ----- | 0.680 | | | | |
| Total HpCDD | 16.00 | ----- | 0.680 | | | | |
| OCDF | 4.10 | ----- | 0.290 | J | | | |
| OCDD | 49.00 | ----- | 0.470 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-2-1 | | | |
| Lab Sample ID | 255572004 | | | |
| Filename | F101117B_13 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.7 g | Matrix | Solid | |
| % Moisture | 10.1 | Dilution | NA | |
| Dry Weight Extracted | 10.5 g | Collected | 11/02/2010 | 13:25 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/17/2010 | 23:09 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.20 | 0.18 | I | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | 2.80 | ----- | 0.18 | B | 2,3,7,8-TCDD-13C | 2.00 | 73 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.14 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 88 |
| Total TCDD | 0.17 | ----- | 0.14 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 60 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.23 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.19 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| Total PeCDF | 1.80 | ----- | 0.21 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDD | 0.21 | ----- | 0.10 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 71 |
| Total PeCDD | 0.63 | ----- | 0.10 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 51 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.81 | 0.36 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 51 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.20 | | OCDD-13C | 4.00 | 49 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.23 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.27 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 2.10 | ----- | 0.27 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.26 | 0.19 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 0.49 | ----- | 0.19 | J | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.35 | 0.20 | I | | | |
| Total HxCDD | 3.90 | ----- | 0.19 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 4.70 | ----- | 0.31 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.24 | | Equivalence: 0.65 ng/Kg | | |
| Total HpCDF | 14.00 | ----- | 0.28 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 11.00 | ----- | 0.61 | | | | |
| Total HpCDD | 25.00 | ----- | 0.61 | | | | |
| OCDF | 26.00 | ----- | 0.36 | | | | |
| OCDD | 100.00 | ----- | 0.82 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-2-2 | | | |
| Lab Sample ID | 255572005 | | | |
| Filename | F101117B_14 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 11.3 | Dilution | NA | |
| Dry Weight Extracted | 11.0 g | Collected | 11/02/2010 | 13:30 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/17/2010 | 23:56 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.16 | 0.150 | I | 2,3,7,8-TCDF-13C | 2.00 | 62 |
| Total TCDF | 1.500 | ----- | 0.150 | B | 2,3,7,8-TCDD-13C | 2.00 | 62 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | ND | ----- | 0.120 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 |
| Total TCDD | 0.130 | ----- | 0.120 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.210 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 63 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.120 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 64 |
| Total PeCDF | 0.400 | ----- | 0.170 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | ND | ----- | 0.190 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 53 |
| 1,2,3,4,7,8-HxCDF | 0.220 | ----- | 0.088 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 52 |
| 1,2,3,6,7,8-HxCDF | 0.091 | ----- | 0.087 | J | OCDD-13C | 4.00 | 51 |
| 2,3,4,6,7,8-HxCDF | 0.089 | ----- | 0.070 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.120 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.500 | ----- | 0.092 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.12 | 0.110 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 65 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.120 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.120 | | | | |
| Total HxCDD | 1.400 | ----- | 0.120 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.40 | 0.140 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.140 | | Equivalence: 0.28 ng/Kg | | |
| Total HpCDF | 0.860 | ----- | 0.140 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 2.300 | ----- | 0.220 | J | | | |
| Total HpCDD | 5.500 | ----- | 0.220 | | | | |
| OCDF | 2.400 | ----- | 0.200 | J | | | |
| OCDD | 13.000 | ----- | 0.290 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-2-3 | | | |
| Lab Sample ID | 255572006 | | | |
| Filename | F101117B_15 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 10.1 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/02/2010 | 13:40 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 00:42 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.28 | ----- | 0.12 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 74 |
| Total TCDF | 10.00 | ----- | 0.12 | B | 2,3,7,8-TCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 78 |
| 2,3,7,8-TCDD | 0.80 | ----- | 0.26 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 88 |
| Total TCDD | 27.00 | ----- | 0.26 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | 0.38 | ----- | 0.22 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 0.48 | ----- | 0.25 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 8.60 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 65 |
| 1,2,3,7,8-PeCDD | 8.50 | ----- | 0.14 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 66 |
| Total PeCDD | 130.00 | ----- | 0.14 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | ----- | 3.1 | 0.20 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 55 |
| 1,2,3,6,7,8-HxCDF | 1.40 | ----- | 0.30 | J | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 0.78 | ----- | 0.25 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.82 | ----- | 0.28 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 16.00 | ----- | 0.26 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 41.00 | ----- | 0.96 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | 17.00 | ----- | 0.89 | | | | |
| 1,2,3,7,8,9-HxCDD | 32.00 | ----- | 0.82 | | | | |
| Total HxCDD | 530.00 | ----- | 0.89 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 31.00 | ----- | 0.72 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.10 | ----- | 0.83 | J | Equivalence: 24 ng/Kg | | |
| Total HpCDF | 53.00 | ----- | 0.77 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 410.00 | ----- | 3.30 | | | | |
| Total HpCDD | 1300.00 | ----- | 3.30 | | | | |
| OCDF | 87.00 | ----- | 0.28 | | | | |
| OCDD | 1300.00 | ----- | 0.35 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-26969 | Matrix | Solid |
| Filename | F101117B_09 | Dilution | NA |
| Total Amount Extracted | 10.4 g | Extracted | 11/15/2010 15:45 |
| ICAL ID | F101012 | Analyzed | 11/17/2010 20:06 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | ----- | 0.140 | J | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | 1.40 | ----- | 0.140 | | 2,3,7,8-TCDD-13C | 2.00 | 60 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 81 |
| Total TCDD | ND | ----- | 0.160 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 63 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ----- | 0.13 | 0.120 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 0.22 | ----- | 0.160 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 59 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.092 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | ND | ----- | 0.092 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | 0.17 | ----- | 0.098 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 55 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.095 | | OCDD-13C | 4.00 | 54 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.078 | | | | |
| 1,2,3,7,8,9-HxCDF | 0.12 | ----- | 0.110 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.41 | ----- | 0.095 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.071 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 57 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.069 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.088 | | | | |
| Total HxCDD | ND | ----- | 0.076 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.11 | 0.077 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.120 | | Equivalence: 0.22 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.097 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.15 | ----- | 0.140 | J | | | |
| Total HpCDD | 0.15 | ----- | 0.140 | J | | | |
| OCDF | ----- | 0.42 | 0.120 | I | | | |
| OCDD | ----- | 0.74 | 0.090 | I | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-26970 | | |
| Filename | F101117B_03 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | F101012 | Extracted | 11/15/2010 15:45 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Analyzed | 11/17/2010 15:28 |
| Method Blank ID | BLANK-26969 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 123 | 2,3,7,8-TCDF-13C | 2.0 | 58 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 60 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 69 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 99 | 2,3,4,7,8-PeCDF-13C | 2.0 | 80 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 84 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 64 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.2 | 115 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 65 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 108 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 65 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 71 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 66 |
| 1,2,3,7,8-PeCDD | 1.0 | 1.0 | 103 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 65 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 58 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 60 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 111 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 63 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 110 | OCDD-13C | 4.0 | 56 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 113 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 113 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 110 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 58 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 111 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.3 | 125 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.2 | 115 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 113 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 103 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.7 | 135 R | | | |
| OCDD | 2.0 | 2.4 | 122 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-1-1 | | |
| Lab Sample ID | 255572001-MS | | |
| Filename | F101117B_06 | Matrix | Solid |
| Total Amount Extracted | 12.5 g | Dilution | NA |
| ICAL ID | F101012 | Extracted | 11/15/2010 15:45 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Analyzed | 11/17/2010 17:47 |
| Method Blank ID | BLANK-26969 | Injected By | SMT |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 127 | 2,3,7,8-TCDF-13C | 2.00 | 56 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 61 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | 0.20 | 0.21 | 104 | 2,3,4,7,8-PeCDF-13C | 2.00 | 82 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 60 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.20 | 120 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 63 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.13 | 113 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.06 | 106 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 53 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 53 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.10 | 110 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 55 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.17 | 117 | OCDD-13C | 4.00 | 52 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.13 | 113 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.15 | 115 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.14 | 114 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 62 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.20 | 120 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.25 | 125 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.20 | 120 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.19 | 119 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.12 | 112 | | | |
| OCDF | 2.00 | 2.86 | 143 R | | | |
| OCDD | 2.00 | 2.69 | 135 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range

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Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-1-1 | | |
| Lab Sample ID | 255572001-MSD | | |
| Filename | F101117B_07 | Matrix | Solid |
| Total Amount Extracted | 13.2 g | Dilution | NA |
| ICAL ID | F101012 | Extracted | 11/15/2010 15:45 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Analyzed | 11/17/2010 18:33 |
| Method Blank ID | BLANK-26969 | Injected By | SMT |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 127 | 2,3,7,8-TCDF-13C | 2.00 | 52 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 54 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 58 |
| 2,3,7,8-TCDD | 0.20 | 0.21 | 105 | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 69 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 49 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.19 | 119 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 57 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.10 | 110 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 53 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 58 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 50 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.08 | 108 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 58 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 45 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 47 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.10 | 110 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 45 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.17 | 117 | OCDD-13C | 4.00 | 43 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.17 | 117 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.15 | 115 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.12 | 112 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 63 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.19 | 119 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.32 | 132 R | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.11 | 111 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.09 | 109 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.15 | 115 | | | |
| OCDF | 2.00 | 2.86 | 143 R | | | |
| OCDD | 2.00 | 2.99 | 150 R | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
R = Recovery outside target range

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-1-1 | | | Dry Weights | |
| Lab Sample ID | 255572001 | Sample Filename | F101117B_10 | Sample Amount | 10.4 g |
| MS ID | 255572001-MS | MS Filename | F101117B_06 | MS Amount | 11.0 g |
| MSD ID | 255572001-MSD | MSD Filename | F101117B_07 | MSD Amount | 11.6 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.000 | 0.20 | 0.25 | 0.25 | 0.0 | 126 | 126 | 0.1 |
| 2,3,7,8-TCDD | 0.000 | 0.20 | 0.21 | 0.21 | 1.4 | 104 | 105 | 1.4 |
| 1,2,3,7,8-PeCDF | 0.142 | 1.00 | 1.20 | 1.19 | 1.2 | 120 | 119 | 1.2 |
| 2,3,4,7,8-PeCDF | 0.182 | 1.00 | 1.13 | 1.10 | 2.1 | 112 | 110 | 2.1 |
| 1,2,3,7,8-PeCDD | 0.000 | 1.00 | 1.06 | 1.08 | 1.7 | 106 | 108 | 1.7 |
| 1,2,3,4,7,8-HxCDF | 0.000 | 1.00 | 1.10 | 1.10 | 0.2 | 110 | 110 | 0.2 |
| 1,2,3,6,7,8-HxCDF | 0.000 | 1.00 | 1.17 | 1.17 | 0.1 | 117 | 117 | 0.1 |
| 2,3,4,6,7,8-HxCDF | 0.000 | 1.00 | 1.13 | 1.17 | 3.4 | 113 | 117 | 3.4 |
| 1,2,3,7,8,9-HxCDF | 0.000 | 1.00 | 1.15 | 1.15 | 0.1 | 115 | 115 | 0.1 |
| 1,2,3,4,7,8-HxCDD | 0.000 | 1.00 | 1.14 | 1.12 | 1.7 | 113 | 112 | 1.7 |
| 1,2,3,6,7,8-HxCDD | 0.000 | 1.00 | 1.20 | 1.19 | 0.7 | 120 | 119 | 0.7 |
| 1,2,3,7,8,9-HxCDD | 0.000 | 1.00 | 1.25 | 1.32 | 5.3 | 125 | 132 | 5.3 |
| 1,2,3,4,6,7,8-HpCDF | 0.555 | 1.00 | 1.20 | 1.11 | 8.2 | 120 | 110 | 8.2 |
| 1,2,3,4,7,8,9-HpCDF | 0.000 | 1.00 | 1.19 | 1.09 | 8.6 | 119 | 109 | 8.6 |
| 1,2,3,4,6,7,8-HpCDD | 1.341 | 1.00 | 1.12 | 1.15 | 2.8 | 110 | 113 | 2.8 |
| OCDF | 1.831 | 2.00 | 2.86 | 2.86 | 0.0 | 142 | 142 | 0.0 |
| OCDD | 11.706 | 2.00 | 2.69 | 2.99 | 10.6 | 128 | 143 | 10.8 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

November 19, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255590

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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Seattle, WA 98108
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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255590001** | **SPL-4-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590002** | **SPL-4-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590003** | **SPL-4-3** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590004** | **SPL-5-1** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590005** | **SPL-5-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590006** | **SPL-5-3** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590007** | **SPL-3-1** | NWTPH-Dx | ERB | 4 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590008** | **SPL-3-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590009** | **SPL-3-3** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | CJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | CC | 1 | PASI-S |
| **255590010** | **Trip Blank** | EPA 5030B/8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-4-1** **Lab ID: 255590001** Collected: 11/03/10 10:25 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 21.1 | 1 | 11/12/10 12:35 | 11/14/10 06:13 | | |
| Motor Oil Range | ND | mg/kg | 84.4 | 1 | 11/12/10 12:35 | 11/14/10 06:13 | 64742-65-0 | |
| n-Octacosane (S) | 116 | % | 50-150 | 1 | 11/12/10 12:35 | 11/14/10 06:13 | 630-02-4 | |
| o-Terphenyl (S) | 110 | % | 50-150 | 1 | 11/12/10 12:35 | 11/14/10 06:13 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 11/09/10 12:00 | 11/10/10 19:36 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 19:36 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 90 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 19:36 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.8** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/11/10 19:18 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.086 | 20 | 11/10/10 10:20 | 11/11/10 19:18 | 7440-43-9 | |
| Copper | **16.1** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/11/10 19:18 | 7440-50-8 | |
| Lead | **5.1** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/11/10 19:18 | 7439-92-1 | |
| Nickel | **30.7** | mg/kg | 0.54 | 20 | 11/10/10 10:20 | 11/15/10 15:04 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 83-32-9 | |
| Acenaphthylene | **8.3** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 208-96-8 | |
| Anthracene | **8.6** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 120-12-7 | |
| Benzo(a)anthracene | **26.1** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 56-55-3 | |
| Benzo(a)pyrene | **28.9** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 50-32-8 | |
| Benzo(b)fluoranthene | **15.5** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 205-99-2 | |
| Benzo(g,h,i)perylene | **24.7** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 191-24-2 | |
| Benzo(k)fluoranthene | **24.2** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 207-08-9 | |
| Chrysene | **31.8** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 53-70-3 | |
| Fluoranthene | **51.2** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **16.2** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 91-57-6 | |
| Naphthalene | **14.3** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 91-20-3 | |
| Phenanthrene | **33.9** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 85-01-8 | |
| Pyrene | **78.0** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 71 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 321-60-8 | |
| Terphenyl-d14 (S) | 78 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 15:46 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/05/10 17:20 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/05/10 17:20 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/05/10 17:20 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.4 | 1 | | 11/05/10 17:20 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 11/05/10 17:20 | 1868-53-7 | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-4-1** **Lab ID: 255590001** Collected: 11/03/10 10:25 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 11/05/10 17:20 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 115 | % | 72-122 | 1 | | 11/05/10 17:20 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 11/05/10 17:20 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.4** | % | 0.10 | 1 | | 11/10/10 17:16 | | |

**Sample: SPL-4-2** **Lab ID: 255590002** Collected: 11/03/10 10:30 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | **33.6** | mg/kg | 20.8 | 1 | 11/15/10 16:05 | 11/16/10 22:29 | | |
| Motor Oil Range | **253** | mg/kg | 83.1 | 1 | 11/15/10 16:05 | 11/16/10 22:29 | 64742-65-0 | |
| n-Octacosane (S) | 109 | % | 50-150 | 1 | 11/15/10 16:05 | 11/16/10 22:29 | 630-02-4 | |
| o-Terphenyl (S) | 101 | % | 50-150 | 1 | 11/15/10 16:05 | 11/16/10 22:29 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.9 | 1 | 11/09/10 12:00 | 11/10/10 20:00 | | |
| a,a,a-Trifluorotoluene (S) | 110 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 20:00 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 20:00 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.6** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/11/10 19:44 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.062 | 20 | 11/10/10 10:20 | 11/11/10 19:44 | 7440-43-9 | |
| Copper | **12.9** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/11/10 19:44 | 7440-50-8 | |
| Lead | **3.8** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/11/10 19:44 | 7439-92-1 | |
| Nickel | **20.1** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/15/10 15:08 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 208-96-8 | |
| Anthracene | **8.1** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 120-12-7 | |
| Benzo(a)anthracene | **18.4** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 56-55-3 | |
| Benzo(a)pyrene | **20.7** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 50-32-8 | |
| Benzo(b)fluoranthene | **15.9** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 205-99-2 | |
| Benzo(g,h,i)perylene | **15.9** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 191-24-2 | |
| Benzo(k)fluoranthene | **13.8** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 207-08-9 | |
| Chrysene | **20.0** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 53-70-3 | |
| Fluoranthene | **36.5** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **11.5** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-4-2** **Lab ID: 255590002** Collected: 11/03/10 10:30 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 91-20-3 | |
| Phenanthrene | **43.4** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 85-01-8 | |
| Pyrene | **51.7** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 72 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 321-60-8 | |
| Terphenyl-d14 (S) | 79 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 17:55 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/05/10 17:39 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/05/10 17:39 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/05/10 17:39 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.1 | 1 | | 11/05/10 17:39 | 1330-20-7 | |
| Dibromofluoromethane (S) | 98 | % | 80-136 | 1 | | 11/05/10 17:39 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 11/05/10 17:39 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 112 | % | 72-122 | 1 | | 11/05/10 17:39 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/05/10 17:39 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.8** | % | 0.10 | 1 | | 11/10/10 17:18 | | |

**Sample: SPL-4-3** **Lab ID: 255590003** Collected: 11/03/10 10:40 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 21.4 | 1 | 11/15/10 16:05 | 11/17/10 00:03 | | |
| Motor Oil Range | **150** | mg/kg | 85.6 | 1 | 11/15/10 16:05 | 11/17/10 00:03 | 64742-65-0 | |
| n-Octacosane (S) | 104 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 00:03 | 630-02-4 | |
| o-Terphenyl (S) | 95 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 00:03 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.9 | 1 | 11/09/10 12:00 | 11/10/10 20:24 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 20:24 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 89 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 20:24 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.5** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 19:48 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.073 | 20 | 11/10/10 10:20 | 11/11/10 19:48 | 7440-43-9 | |
| Copper | **23.6** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 19:48 | 7440-50-8 | |
| Lead | **6.4** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 19:48 | 7439-92-1 | |
| Nickel | **31.4** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/15/10 15:13 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-4-3** **Lab ID: 255590003** Collected: 11/03/10 10:40 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 56-55-3 | |
| Benzo(a)pyrene | **8.2** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 205-99-2 | |
| Benzo(g,h,i)perylene | **8.4** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 207-08-9 | |
| Chrysene | **9.9** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 53-70-3 | |
| Fluoranthene | **13.0** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 91-20-3 | |
| Phenanthrene | **13.1** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 85-01-8 | |
| Pyrene | **20.0** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 321-60-8 | |
| Terphenyl-d14 (S) | 72 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 18:14 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/05/10 17:58 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/05/10 17:58 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/05/10 17:58 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.4 | 1 | | 11/05/10 17:58 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 11/05/10 17:58 | 1868-53-7 | |
| Toluene-d8 (S) | 98 | % | 80-120 | 1 | | 11/05/10 17:58 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 116 | % | 72-122 | 1 | | 11/05/10 17:58 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 11/05/10 17:58 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.4** | % | 0.10 | 1 | | 11/10/10 17:19 | | |

**Sample: SPL-5-1** **Lab ID: 255590004** Collected: 11/03/10 11:00 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 21.7 | 1 | 11/15/10 16:05 | 11/17/10 00:49 | | |
| Motor Oil Range | ND | mg/kg | 86.6 | 1 | 11/15/10 16:05 | 11/17/10 00:49 | 64742-65-0 | |
| n-Octacosane (S) | 107 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 00:49 | 630-02-4 | |
| o-Terphenyl (S) | 100 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 00:49 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-5-1** **Lab ID: 255590004** Collected: 11/03/10 11:00 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.0 | 1 | 11/09/10 12:00 | 11/10/10 20:48 | | |
| a,a,a-Trifluorotoluene (S) | 107 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 20:48 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 20:48 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.9** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/11/10 19:53 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.062 | 20 | 11/10/10 10:20 | 11/11/10 19:53 | 7440-43-9 | |
| Copper | **13.0** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/11/10 19:53 | 7440-50-8 | |
| Lead | **4.4** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/11/10 19:53 | 7439-92-1 | |
| Nickel | **29.6** | mg/kg | 0.39 | 20 | 11/10/10 10:20 | 11/12/10 16:15 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 207-08-9 | |
| Chrysene | **8.0** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 53-70-3 | |
| Fluoranthene | **10** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 91-20-3 | |
| Phenanthrene | **8.0** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 85-01-8 | |
| Pyrene | **14.5** | ug/kg | 7.3 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 75 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 321-60-8 | |
| Terphenyl-d14 (S) | 73 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 18:32 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/11/10 20:42 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/11/10 20:42 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/11/10 20:42 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.1 | 1 | | 11/11/10 20:42 | 1330-20-7 | |
| Dibromofluoromethane (S) | 102 | % | 80-136 | 1 | | 11/11/10 20:42 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 11/11/10 20:42 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 120 | % | 72-122 | 1 | | 11/11/10 20:42 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/11/10 20:42 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.1** | % | 0.10 | 1 | | 11/10/10 17:29 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-5-2** **Lab ID: 255590005** Collected: 11/03/10 11:05 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 21.8 | 1 | 11/15/10 16:05 | 11/17/10 02:22 | | |
| Motor Oil Range | ND | mg/kg | 87.2 | 1 | 11/15/10 16:05 | 11/17/10 02:22 | 64742-65-0 | |
| n-Octacosane (S) | 111 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 02:22 | 630-02-4 | |
| o-Terphenyl (S) | 104 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 02:22 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.8 | 1 | 11/09/10 12:00 | 11/10/10 21:36 | | |
| a,a,a-Trifluorotoluene (S) | 113 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 21:36 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 102 | % | 50-150 | 1 | 11/09/10 12:00 | 11/10/10 21:36 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 19:57 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.066 | 20 | 11/10/10 10:20 | 11/11/10 19:57 | 7440-43-9 | |
| Copper | **29.0** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 19:57 | 7440-50-8 | |
| Lead | **6.9** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/11/10 19:57 | 7439-92-1 | |
| Nickel | **28.8** | mg/kg | 0.41 | 20 | 11/10/10 10:20 | 11/12/10 16:19 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 120-12-7 | |
| Benzo(a)anthracene | **16.9** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 56-55-3 | |
| Benzo(a)pyrene | **19.3** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 50-32-8 | |
| Benzo(b)fluoranthene | **13.8** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 205-99-2 | |
| Benzo(g,h,i)perylene | **13.3** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 191-24-2 | |
| Benzo(k)fluoranthene | **12.5** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 207-08-9 | |
| Chrysene | **19.5** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 53-70-3 | |
| Fluoranthene | **31.0** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **9.9** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 91-20-3 | |
| Phenanthrene | **21.2** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 85-01-8 | |
| Pyrene | **46.3** | ug/kg | 7.5 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 73 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 321-60-8 | |
| Terphenyl-d14 (S) | 79 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 18:51 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 11/11/10 21:01 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 11/11/10 21:01 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 11/11/10 21:01 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.6 | 1 | | 11/11/10 21:01 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 11/11/10 21:01 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-5-2** **Lab ID: 255590005** Collected: 11/03/10 11:05 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 101 | % | 80-120 | 1 | | 11/11/10 21:01 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 11/11/10 21:01 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 80-143 | 1 | | 11/11/10 21:01 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.4** | % | 0.10 | 1 | | 11/10/10 17:31 | | |

**Sample: SPL-5-3** **Lab ID: 255590006** Collected: 11/03/10 11:10 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 20.4 | 1 | 11/15/10 16:05 | 11/17/10 03:09 | | |
| Motor Oil Range | ND | mg/kg | 81.4 | 1 | 11/15/10 16:05 | 11/17/10 03:09 | 64742-65-0 | |
| n-Octacosane (S) | 109 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 03:09 | 630-02-4 | |
| o-Terphenyl (S) | 103 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 03:09 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.6 | 1 | 11/12/10 17:00 | 11/13/10 04:56 | | |
| a,a,a-Trifluorotoluene (S) | 92 | % | 50-150 | 1 | 11/12/10 17:00 | 11/13/10 04:56 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 93 | % | 50-150 | 1 | 11/12/10 17:00 | 11/13/10 04:56 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.6** | mg/kg | 0.42 | 20 | 11/10/10 10:20 | 11/11/10 20:02 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.067 | 20 | 11/10/10 10:20 | 11/11/10 20:02 | 7440-43-9 | |
| Copper | **10.7** | mg/kg | 0.42 | 20 | 11/10/10 10:20 | 11/11/10 20:02 | 7440-50-8 | |
| Lead | **1.8** | mg/kg | 0.42 | 20 | 11/10/10 10:20 | 11/11/10 20:02 | 7439-92-1 | |
| Nickel | **34.4** | mg/kg | 0.42 | 20 | 11/10/10 10:20 | 11/12/10 16:24 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 207-08-9 | |
| Chrysene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-5-3** **Lab ID: 255590006** Collected: 11/03/10 11:10 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 85-01-8 | |
| Pyrene | ND | ug/kg | 7.2 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 78 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 321-60-8 | |
| Terphenyl-d14 (S) | 89 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 16:42 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.4 | 1 | | 11/11/10 21:20 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.4 | 1 | | 11/11/10 21:20 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.4 | 1 | | 11/11/10 21:20 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.1 | 1 | | 11/11/10 21:20 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 11/11/10 21:20 | 1868-53-7 | |
| Toluene-d8 (S) | 100 | % | 80-120 | 1 | | 11/11/10 21:20 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 72-122 | 1 | | 11/11/10 21:20 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/11/10 21:20 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.2** | % | 0.10 | 1 | | 11/10/10 17:32 | | |

**Sample: SPL-3-1** **Lab ID: 255590007** Collected: 11/03/10 12:40 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | **132** | mg/kg | 38.1 | 1 | 11/15/10 16:05 | 11/17/10 03:55 | | |
| Motor Oil Range | **358** | mg/kg | 152 | 1 | 11/15/10 16:05 | 11/17/10 03:55 | 64742-65-0 | |
| n-Octacosane (S) | 119 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 03:55 | 630-02-4 | |
| o-Terphenyl (S) | 102 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 03:55 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 13.2 | 1 | 11/12/10 18:00 | 11/13/10 05:20 | | |
| a,a,a-Trifluorotoluene (S) | 95 | % | 50-150 | 1 | 11/12/10 18:00 | 11/13/10 05:20 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 11/12/10 18:00 | 11/13/10 05:20 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.1** | mg/kg | 0.78 | 20 | 11/10/10 10:20 | 11/11/10 20:06 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.12 | 20 | 11/10/10 10:20 | 11/11/10 20:06 | 7440-43-9 | |
| Copper | **139** | mg/kg | 0.78 | 20 | 11/10/10 10:20 | 11/11/10 20:06 | 7440-50-8 | |
| Lead | **553** | mg/kg | 0.78 | 20 | 11/10/10 10:20 | 11/11/10 20:06 | 7439-92-1 | |
| Nickel | **23.5** | mg/kg | 0.78 | 20 | 11/10/10 10:20 | 11/12/10 16:28 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-3-1** **Lab ID: 255590007** Collected: 11/03/10 12:40 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **44.8** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 83-32-9 | |
| Acenaphthylene | **129** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 208-96-8 | |
| Anthracene | **212** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 120-12-7 | |
| Benzo(a)anthracene | **528** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 56-55-3 | |
| Benzo(a)pyrene | **571** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 50-32-8 | |
| Benzo(b)fluoranthene | **258** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 205-99-2 | |
| Benzo(g,h,i)perylene | **293** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 191-24-2 | |
| Benzo(k)fluoranthene | **448** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 207-08-9 | |
| Chrysene | **561** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 218-01-9 | |
| Dibenz(a,h)anthracene | **126** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 53-70-3 | |
| Fluoranthene | **993** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 206-44-0 | |
| Fluorene | **120** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **268** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 193-39-5 | |
| 1-Methylnaphthalene | **80.4** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 90-12-0 | |
| 2-Methylnaphthalene | **168** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 91-57-6 | |
| Naphthalene | **512** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 91-20-3 | |
| Phenanthrene | **1020** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 85-01-8 | |
| Pyrene | **1380** | ug/kg | 13.0 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 69 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 321-60-8 | |
| Terphenyl-d14 (S) | 57 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 17:00 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 4.7 | 1 | | 11/11/10 21:39 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 4.7 | 1 | | 11/11/10 21:39 | 100-41-4 | |
| Toluene | ND | ug/kg | 4.7 | 1 | | 11/11/10 21:39 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 14.2 | 1 | | 11/11/10 21:39 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 11/11/10 21:39 | 1868-53-7 | |
| Toluene-d8 (S) | 124 | % | 80-120 | 1 | | 11/11/10 21:39 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 144 | % | 72-122 | 1 | | 11/11/10 21:39 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 11/11/10 21:39 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **48.4** | % | 0.10 | 1 | | 11/10/10 17:34 | | |

**Sample: SPL-3-2** **Lab ID: 255590008** Collected: 11/03/10 12:45 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | ND | mg/kg | 25.2 | 1 | 11/15/10 16:05 | 11/17/10 04:42 | | |
| Motor Oil Range | ND | mg/kg | 101 | 1 | 11/15/10 16:05 | 11/17/10 04:42 | 64742-65-0 | |
| n-Octacosane (S) | 108 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 04:42 | 630-02-4 | |
| o-Terphenyl (S) | 101 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 04:42 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-3-2** **Lab ID: 255590008** Collected: 11/03/10 12:45 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.7 | 1 | 11/12/10 18:00 | 11/13/10 05:43 | | |
| a,a,a-Trifluorotoluene (S) | 89 | % | 50-150 | 1 | 11/12/10 18:00 | 11/13/10 05:43 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 89 | % | 50-150 | 1 | 11/12/10 18:00 | 11/13/10 05:43 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.4** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 20:11 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.073 | 20 | 11/10/10 10:20 | 11/11/10 20:11 | 7440-43-9 | |
| Copper | **46.8** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 20:11 | 7440-50-8 | |
| Lead | **56.3** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 20:11 | 7439-92-1 | |
| Nickel | **43.1** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/12/10 16:32 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | **15.8** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 83-32-9 | |
| Acenaphthylene | **30.9** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 208-96-8 | |
| Anthracene | **60.9** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 120-12-7 | |
| Benzo(a)anthracene | **188** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 56-55-3 | |
| Benzo(a)pyrene | **240** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 50-32-8 | |
| Benzo(b)fluoranthene | **156** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 205-99-2 | |
| Benzo(g,h,i)perylene | **139** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 191-24-2 | |
| Benzo(k)fluoranthene | **135** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 207-08-9 | |
| Chrysene | **202** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 218-01-9 | |
| Dibenz(a,h)anthracene | **53.1** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 53-70-3 | |
| Fluoranthene | **338** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 206-44-0 | |
| Fluorene | **32.9** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **118** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 193-39-5 | |
| 1-Methylnaphthalene | **17.1** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 90-12-0 | |
| 2-Methylnaphthalene | **23.7** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 91-57-6 | |
| Naphthalene | **69.0** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 91-20-3 | |
| Phenanthrene | **234** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 85-01-8 | |
| Pyrene | **457** | ug/kg | 8.6 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 321-60-8 | |
| Terphenyl-d14 (S) | 65 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 17:19 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 11/11/10 21:57 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 11/11/10 21:57 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 11/11/10 21:57 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.8 | 1 | | 11/11/10 21:57 | 1330-20-7 | |
| Dibromofluoromethane (S) | 87 | % | 80-136 | 1 | | 11/11/10 21:57 | 1868-53-7 | |
| Toluene-d8 (S) | 114 | % | 80-120 | 1 | | 11/11/10 21:57 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 133 | % | 72-122 | 1 | | 11/11/10 21:57 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 89 | % | 80-143 | 1 | | 11/11/10 21:57 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **23.3** | % | 0.10 | 1 | | 11/10/10 17:36 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-3-3** **Lab ID: 255590009** Collected: 11/03/10 12:50 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range | **36.4** | mg/kg | 25.6 | 1 | 11/15/10 16:05 | 11/17/10 06:15 | | |
| Motor Oil Range | ND | mg/kg | 102 | 1 | 11/15/10 16:05 | 11/17/10 06:15 | 64742-65-0 | |
| n-Octacosane (S) | 105 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 06:15 | 630-02-4 | |
| o-Terphenyl (S) | 97 | % | 50-150 | 1 | 11/15/10 16:05 | 11/17/10 06:15 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.4 | 1 | 11/12/10 18:00 | 11/13/10 06:06 | | |
| a,a,a-Trifluorotoluene (S) | 93 | % | 50-150 | 1 | 11/12/10 18:00 | 11/13/10 06:06 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 11/12/10 18:00 | 11/13/10 06:06 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.8** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 20:15 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.073 | 20 | 11/10/10 10:20 | 11/11/10 20:15 | 7440-43-9 | |
| Copper | **31.5** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 20:15 | 7440-50-8 | |
| Lead | **45.2** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/11/10 20:15 | 7439-92-1 | |
| Nickel | **41.5** | mg/kg | 0.46 | 20 | 11/10/10 10:20 | 11/12/10 16:37 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 208-96-8 | |
| Anthracene | **17.1** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 120-12-7 | |
| Benzo(a)anthracene | **29.6** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 56-55-3 | |
| Benzo(a)pyrene | **34.3** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 50-32-8 | |
| Benzo(b)fluoranthene | **22.6** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 205-99-2 | |
| Benzo(g,h,i)perylene | **19.6** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 191-24-2 | |
| Benzo(k)fluoranthene | **19.1** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 207-08-9 | |
| Chrysene | **32.2** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 53-70-3 | |
| Fluoranthene | **62.7** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 206-44-0 | |
| Fluorene | **16.3** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **16.2** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 193-39-5 | |
| 1-Methylnaphthalene | **12.6** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 90-12-0 | |
| 2-Methylnaphthalene | **18.1** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 91-57-6 | |
| Naphthalene | **51.9** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 91-20-3 | |
| Phenanthrene | **79.5** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 85-01-8 | |
| Pyrene | **91.3** | ug/kg | 8.7 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 321-60-8 | |
| Terphenyl-d14 (S) | 70 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 17:37 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/11/10 22:16 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/11/10 22:16 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/11/10 22:16 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 11/11/10 22:16 | 1330-20-7 | |
| Dibromofluoromethane (S) | 90 | % | 80-136 | 1 | | 11/11/10 22:16 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

**Sample: SPL-3-3** **Lab ID: 255590009** Collected: 11/03/10 12:50 Received: 11/03/10 19:30 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 112 | % | 80-120 | 1 | | 11/11/10 22:16 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 127 | % | 72-122 | 1 | | 11/11/10 22:16 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 92 | % | 80-143 | 1 | | 11/11/10 22:16 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **23.2** | % | 0.10 | 1 | | 11/10/10 17:38 | | |

**Sample: Trip Blank** **Lab ID: 255590010** Collected: 11/03/10 00:00 Received: 11/03/10 19:30 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260 MSV** | Analytical Method: EPA 5030B/8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/10/10 06:16 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/10/10 06:16 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/10/10 06:16 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/10/10 06:16 | 1330-20-7 | |
| 4-Bromofluorobenzene (S) | 93 | % | 80-120 | 1 | | 11/10/10 06:16 | 460-00-4 | |
| Dibromofluoromethane (S) | 95 | % | 80-122 | 1 | | 11/10/10 06:16 | 1868-53-7 | |
| 1,2-Dichloroethane-d4 (S) | 93 | % | 80-124 | 1 | | 11/10/10 06:16 | 17060-07-0 | |
| Toluene-d8 (S) | 93 | % | 80-123 | 1 | | 11/10/10 06:16 | 2037-26-5 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: OEXT/2979 | Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 | Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255590001

METHOD BLANK: 49421 | Matrix: Solid
Associated Lab Samples: 255590001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range | mg/kg | ND | 20.0 | 11/14/10 02:08 | |
| Motor Oil Range | mg/kg | ND | 80.0 | 11/14/10 02:08 | |
| n-Octacosane (S) | % | 115 | 50-150 | 11/14/10 02:08 | |
| o-Terphenyl (S) | % | 109 | 50-150 | 11/14/10 02:08 | |

LABORATORY CONTROL SAMPLE: 49422

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range | mg/kg | 500 | 472 | 94 | 56-124 | |
| Motor Oil Range | mg/kg | 500 | 550 | 110 | 50-150 | |
| n-Octacosane (S) | % | | | 111 | 50-150 | |
| o-Terphenyl (S) | % | | | 127 | 50-150 | |

SAMPLE DUPLICATE: 49423

| Parameter | Units | 255628001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range | mg/kg | ND | ND | | |
| Motor Oil Range | mg/kg | ND | ND | | |
| n-Octacosane (S) | % | 114 | 115 | .1 | |
| o-Terphenyl (S) | % | 109 | 110 | .3 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: OEXT/2986 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

METHOD BLANK: 49598 Matrix: Solid
Associated Lab Samples: 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range | mg/kg | ND | 20.0 | 11/16/10 20:56 | |
| Motor Oil Range | mg/kg | ND | 80.0 | 11/16/10 20:56 | |
| n-Octacosane (S) | % | 104 | 50-150 | 11/16/10 20:56 | |
| o-Terphenyl (S) | % | 96 | 50-150 | 11/16/10 20:56 | |

LABORATORY CONTROL SAMPLE: 49599

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range | mg/kg | 500 | 435 | 87 | 56-124 | |
| Motor Oil Range | mg/kg | 500 | 472 | 94 | 50-150 | |
| n-Octacosane (S) | % | | | 111 | 50-150 | |
| o-Terphenyl (S) | % | | | 145 | 50-150 | |

SAMPLE DUPLICATE: 49600

| Parameter | Units | 255590002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range | mg/kg | 33.6 | 19.2J | | |
| Motor Oil Range | mg/kg | 253 | 106 | 82 | R1 |
| n-Octacosane (S) | % | 109 | 110 | 1 | |
| o-Terphenyl (S) | % | 101 | 103 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: GCV/2007 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005

METHOD BLANK: 48890 Matrix: Solid
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/09/10 19:53 | |
| 4-Bromofluorobenzene (S) | % | 93 | 50-150 | 11/09/10 19:53 | |
| a,a,a-Trifluorotoluene (S) | % | 100 | 50-150 | 11/09/10 19:53 | |

LABORATORY CONTROL SAMPLE: 48891

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 11.3 | 90 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 65 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 66 | 50-150 | |

SAMPLE DUPLICATE: 49180

| Parameter | Units | 255590004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.3J | | |
| 4-Bromofluorobenzene (S) | % | 96 | 93 | 3 | |
| a,a,a-Trifluorotoluene (S) | % | 107 | 108 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: GCV/2016 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255590006, 255590007, 255590008, 255590009

METHOD BLANK: 49395 Matrix: Solid
Associated Lab Samples: 255590006, 255590007, 255590008, 255590009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/13/10 04:33 | |
| 4-Bromofluorobenzene (S) | % | 87 | 50-150 | 11/13/10 04:33 | |
| a,a,a-Trifluorotoluene (S) | % | 86 | 50-150 | 11/13/10 04:33 | |

LABORATORY CONTROL SAMPLE: 49396

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.4 | 100 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 103 | 50-150 | |

SAMPLE DUPLICATE: 49625

| Parameter | Units | 255605004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 2.9J | | |
| 4-Bromofluorobenzene (S) | % | 89 | 87 | 2 | |
| a,a,a-Trifluorotoluene (S) | % | 92 | 92 | .7 | |

SAMPLE DUPLICATE: 49626

| Parameter | Units | 255632002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.4J | | |
| 4-Bromofluorobenzene (S) | % | 91 | 84 | 8 | |
| a,a,a-Trifluorotoluene (S) | % | 91 | 85 | 7 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: ICPM/23408 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

METHOD BLANK: 888630 Matrix: Solid
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.49 | 11/11/10 17:41 | |
| Cadmium | mg/kg | ND | 0.078 | 11/11/10 17:41 | |
| Copper | mg/kg | ND | 0.49 | 11/11/10 17:41 | |
| Lead | mg/kg | ND | 0.49 | 11/11/10 17:41 | |
| Nickel | mg/kg | ND | 0.49 | 11/11/10 17:41 | |

LABORATORY CONTROL SAMPLE: 888631

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.6 | 17.4 | 89 | 75-125 | |
| Cadmium | mg/kg | 19.6 | 17.2 | 88 | 75-125 | |
| Copper | mg/kg | 19.6 | 19.5 | 100 | 75-125 | |
| Lead | mg/kg | 19.6 | 18.8 | 96 | 75-125 | |
| Nickel | mg/kg | 19.6 | 19.7 | 100 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 888632 888633

| Parameter | Units | 5043000010 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 6.6 | 20.7 | 21.1 | 22.5 | 22.7 | 77 | 76 | 75-125 | .8 | |
| Cadmium | mg/kg | 0.19 | 20.7 | 21.1 | 16.8 | 18.8 | 80 | 88 | 75-125 | 11 | |
| Copper | mg/kg | 10.9 | 20.7 | 21.1 | 29.9 | 29.8 | 92 | 89 | 75-125 | .4 | |
| Lead | mg/kg | 5.5 | 20.7 | 21.1 | 22.7 | 23.7 | 83 | 86 | 75-125 | 4 | |
| Nickel | mg/kg | 11.2 | 20.7 | 21.1 | 31.2 | 29.3 | 97 | 86 | 75-125 | 6 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: OEXT/2985 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

METHOD BLANK: 49594 Matrix: Solid
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Acenaphthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Anthracene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Chrysene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Fluoranthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Fluorene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Naphthalene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Phenanthrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Pyrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| 2-Fluorobiphenyl (S) | % | 68 | 31-131 | 11/17/10 12:42 | |
| Terphenyl-d14 (S) | % | 86 | 30-133 | 11/17/10 12:42 | |

LABORATORY CONTROL SAMPLE: 49595

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 104 | 78 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 106 | 79 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 101 | 76 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 99.0 | 74 | 31-134 | |
| Anthracene | ug/kg | 133 | 99.1 | 74 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 112 | 84 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 118 | 89 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 106 | 80 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 112 | 84 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 113 | 85 | 45-147 | |
| Chrysene | ug/kg | 133 | 109 | 82 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 113 | 85 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 104 | 78 | 44-143 | |
| Fluorene | ug/kg | 133 | 104 | 78 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 113 | 85 | 47-140 | |
| Naphthalene | ug/kg | 133 | 96.3 | 72 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 104 | 78 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

LABORATORY CONTROL SAMPLE: 49595

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 121 | 91 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 76 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 93 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 49596 49597

| Parameter | Units | 255590001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 146 | 145 | 111 | 127 | 75 | 85 | 31-123 | 13 | |
| 2-Methylnaphthalene | ug/kg | ND | 146 | 145 | 114 | 154 | 74 | 101 | 15-146 | 30 | R1 |
| Acenaphthene | ug/kg | ND | 146 | 145 | 109 | 109 | 74 | 74 | 19-141 | .1 | |
| Acenaphthylene | ug/kg | 8.3 | 146 | 145 | 110 | 110 | 70 | 70 | 30-142 | .2 | |
| Anthracene | ug/kg | 8.6 | 146 | 145 | 107 | 112 | 68 | 71 | 38-137 | 4 | |
| Benzo(a)anthracene | ug/kg | 26.1 | 146 | 145 | 120 | 129 | 65 | 71 | 37-143 | 7 | |
| Benzo(a)pyrene | ug/kg | 28.9 | 146 | 145 | 124 | 136 | 66 | 74 | 33-147 | 9 | |
| Benzo(b)fluoranthene | ug/kg | 15.5 | 146 | 145 | 121 | 122 | 72 | 73 | 25-156 | 1 | |
| Benzo(g,h,i)perylene | ug/kg | 24.7 | 146 | 145 | 113 | 118 | 60 | 64 | 26-142 | 5 | |
| Benzo(k)fluoranthene | ug/kg | 24.2 | 146 | 145 | 101 | 109 | 52 | 58 | 35-142 | 8 | |
| Chrysene | ug/kg | 31.8 | 146 | 145 | 122 | 133 | 62 | 70 | 23-150 | 9 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 146 | 145 | 106 | 108 | 68 | 70 | 41-140 | 2 | |
| Fluoranthene | ug/kg | 51.2 | 146 | 145 | 120 | 144 | 47 | 64 | 25-155 | 18 | |
| Fluorene | ug/kg | ND | 146 | 145 | 114 | 114 | 75 | 75 | 33-152 | .6 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 16.2 | 146 | 145 | 109 | 116 | 64 | 69 | 36-139 | 6 | |
| Naphthalene | ug/kg | 14.3 | 146 | 145 | 107 | 118 | 64 | 71 | 25-121 | 10 | |
| Phenanthrene | ug/kg | 33.9 | 146 | 145 | 133 | 148 | 68 | 79 | 29-141 | 11 | |
| Pyrene | ug/kg | 78.0 | 146 | 145 | 155 | 181 | 53 | 71 | 36-145 | 15 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 73 | 71 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 79 | 77 | 30-133 | | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: MSV/3414
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 255590010

METHOD BLANK: 48936
Matrix: Water
Associated Lab Samples: 255590010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/L | ND | 1.0 | 11/10/10 04:15 | |
| Ethylbenzene | ug/L | ND | 1.0 | 11/10/10 04:15 | |
| Toluene | ug/L | ND | 1.0 | 11/10/10 04:15 | |
| Xylene (Total) | ug/L | ND | 3.0 | 11/10/10 04:15 | |
| 1,2-Dichloroethane-d4 (S) | % | 90 | 80-124 | 11/10/10 04:15 | |
| 4-Bromofluorobenzene (S) | % | 90 | 80-120 | 11/10/10 04:15 | |
| Dibromofluoromethane (S) | % | 95 | 80-122 | 11/10/10 04:15 | |
| Toluene-d8 (S) | % | 95 | 80-123 | 11/10/10 04:15 | |

LABORATORY CONTROL SAMPLE & LCSD: 48937 48984

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/L | 20 | 18.5 | 15.3 | 92 | 77 | 76-127 | 18 | 30 | |
| Ethylbenzene | ug/L | 20 | 18.9 | 16.0 | 94 | 80 | 72-125 | 16 | 30 | |
| Toluene | ug/L | 20 | 18.3 | 15.4 | 91 | 77 | 69-125 | 17 | 30 | |
| Xylene (Total) | ug/L | 60 | 55.8 | 47.5 | 93 | 79 | 74-124 | 16 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 90 | 90 | 80-124 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 94 | 92 | 80-120 | | | |
| Dibromofluoromethane (S) | % | | | | 94 | 92 | 80-122 | | | |
| Toluene-d8 (S) | % | | | | 95 | 94 | 80-123 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: MSV/3395 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255590001, 255590002, 255590003

METHOD BLANK: 48409 | Matrix: Solid
Associated Lab Samples: 255590001, 255590002, 255590003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/05/10 10:30 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/05/10 10:30 | |
| Toluene | ug/kg | ND | 3.0 | 11/05/10 10:30 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/05/10 10:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 100 | 80-143 | 11/05/10 10:30 | |
| 4-Bromofluorobenzene (S) | % | 101 | 72-122 | 11/05/10 10:30 | |
| Dibromofluoromethane (S) | % | 99 | 80-136 | 11/05/10 10:30 | |
| Toluene-d8 (S) | % | 107 | 80-120 | 11/05/10 10:30 | |

LABORATORY CONTROL SAMPLE & LCSD: 48410 48411

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 39.1 | 39.7 | 78 | 79 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 43.0 | 41.5 | 86 | 83 | 68-131 | 4 | 30 | |
| Toluene | ug/kg | 50 | 43.6 | 39.6 | 87 | 79 | 73-124 | 10 | 30 | |
| Xylene (Total) | ug/kg | 150 | 127 | 126 | 84 | 84 | 68-130 | .4 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 99 | 101 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 110 | 105 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 97 | 107 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 105 | 100 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: MSV/3429 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

METHOD BLANK: 49263 Matrix: Solid
Associated Lab Samples: 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Toluene | ug/kg | ND | 3.0 | 11/11/10 18:30 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/11/10 18:30 | |
| 1,2-Dichloroethane-d4 (S) | % | 101 | 80-143 | 11/11/10 18:30 | |
| 4-Bromofluorobenzene (S) | % | 106 | 72-122 | 11/11/10 18:30 | |
| Dibromofluoromethane (S) | % | 105 | 80-136 | 11/11/10 18:30 | |
| Toluene-d8 (S) | % | 106 | 80-120 | 11/11/10 18:30 | |

LABORATORY CONTROL SAMPLE & LCSD: 49264 49265

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 43.5 | 42.5 | 87 | 85 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 38.5 | 37.6 | 77 | 75 | 68-131 | 2 | 30 | |
| Toluene | ug/kg | 50 | 41.6 | 40.7 | 83 | 81 | 73-124 | 2 | 30 | |
| Xylene (Total) | ug/kg | 150 | 124 | 120 | 82 | 80 | 68-130 | 3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 104 | 102 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 104 | 106 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 112 | 111 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 109 | 108 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

QC Batch: PMST/1417 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255590001, 255590002, 255590003, 255590004, 255590005, 255590006, 255590007, 255590008, 255590009

SAMPLE DUPLICATE: 48916

| Parameter | Units | 255566001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 15.8 | 15.5 | 2 | |

SAMPLE DUPLICATE: 48917

| Parameter | Units | 255590005 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.4 | 10.0 | 3 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| R1 | RPD value was outside control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255590001** | **SPL-4-1** | EPA 3546 | OEXT/2979 | NWTPH-Dx | GCSV/2074 |
| **255590002** | **SPL-4-2** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590003** | **SPL-4-3** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590004** | **SPL-5-1** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590005** | **SPL-5-2** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590006** | **SPL-5-3** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590007** | **SPL-3-1** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590008** | **SPL-3-2** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590009** | **SPL-3-3** | EPA 3546 | OEXT/2986 | NWTPH-Dx | GCSV/2082 |
| **255590001** | **SPL-4-1** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255590002** | **SPL-4-2** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255590003** | **SPL-4-3** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255590004** | **SPL-5-1** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255590005** | **SPL-5-2** | NWTPH-Gx | GCV/2007 | NWTPH-Gx | GCV/2013 |
| **255590006** | **SPL-5-3** | NWTPH-Gx | GCV/2016 | NWTPH-Gx | GCV/2024 |
| **255590007** | **SPL-3-1** | NWTPH-Gx | GCV/2016 | NWTPH-Gx | GCV/2024 |
| **255590008** | **SPL-3-2** | NWTPH-Gx | GCV/2016 | NWTPH-Gx | GCV/2024 |
| **255590009** | **SPL-3-3** | NWTPH-Gx | GCV/2016 | NWTPH-Gx | GCV/2024 |
| **255590001** | **SPL-4-1** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590002** | **SPL-4-2** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590003** | **SPL-4-3** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590004** | **SPL-5-1** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590005** | **SPL-5-2** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590006** | **SPL-5-3** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590007** | **SPL-3-1** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590008** | **SPL-3-2** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590009** | **SPL-3-3** | EPA 6020 | ICPM/23408 | EPA 6020 | ICPM/9523 |
| **255590001** | **SPL-4-1** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590002** | **SPL-4-2** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590003** | **SPL-4-3** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590004** | **SPL-5-1** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590005** | **SPL-5-2** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590006** | **SPL-5-3** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590007** | **SPL-3-1** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590008** | **SPL-3-2** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590009** | **SPL-3-3** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255590010** | **Trip Blank** | EPA 5030B/8260 | MSV/3414 | | |
| **255590001** | **SPL-4-1** | EPA 8260 | MSV/3395 | | |
| **255590002** | **SPL-4-2** | EPA 8260 | MSV/3395 | | |
| **255590003** | **SPL-4-3** | EPA 8260 | MSV/3395 | | |
| **255590004** | **SPL-5-1** | EPA 8260 | MSV/3429 | | |
| **255590005** | **SPL-5-2** | EPA 8260 | MSV/3429 | | |
| **255590006** | **SPL-5-3** | EPA 8260 | MSV/3429 | | |
| **255590007** | **SPL-3-1** | EPA 8260 | MSV/3429 | | |
| **255590008** | **SPL-3-2** | EPA 8260 | MSV/3429 | | |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255590

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255590009** | **SPL-3-3** | EPA 8260 | MSV/3429 | | |
| **255590001** | **SPL-4-1** | ASTM D2974-87 | PMST/1417 | | |
| **255590002** | **SPL-4-2** | ASTM D2974-87 | PMST/1417 | | |
| **255590003** | **SPL-4-3** | ASTM D2974-87 | PMST/1417 | | |
| **255590004** | **SPL-5-1** | ASTM D2974-87 | PMST/1417 | | |
| **255590005** | **SPL-5-2** | ASTM D2974-87 | PMST/1417 | | |
| **255590006** | **SPL-5-3** | ASTM D2974-87 | PMST/1417 | | |
| **255590007** | **SPL-3-1** | ASTM D2974-87 | PMST/1417 | | |
| **255590008** | **SPL-3-2** | ASTM D2974-87 | PMST/1417 | | |
| **255590009** | **SPL-3-3** | ASTM D2974-87 | PMST/1417 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1391148

**Section A** Required Client Information:

Company: Brown and Caldwell
Address: 724 Columbia St. NW #420
Olympia WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-7525 Fax: 360-943-7513
Requested Due Date/TAT: 10 Day TAT

**Section B** Required Project Information:

Report To: Jon Turk
Copy To:
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:

Attention: Same as client
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 22238/L1

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

255590

Requested Analysis Filtered (Y/N)

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Metals 6020A* | cPAH 8270C | Dioxins/Furans** | TPH-D, HCID | BTEX 8260B | Tot. Nap. 8270C | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-4-1 | SL | G | | | 11/3/10 | 1025 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 2 | SPL-4-2 | | | | | | 1030 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 3 | SPL-4-3 | | | | | | 1040 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 4 | SPL-5-1 | | | | | | 1100 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 5 | SPL-5-2 | | | | | | 1105 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 6 | SPL-5-3 | | | | | | 1110 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 7 | SPL-3-1 | | | | | | 1240 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 8 | SPL-3-2 | | | | | | 1245 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 9 | SPL-3-3 | | | | | | 1250 | | 6 | X | | | | | | X | | X | X | X | X | X | X | | |
| 10 | Trip Blank | | | | | | — | | 3 | | | | | | | X | | | | | | X | | | |
| 11 | | | | | | | | | | | | | | | | | | | | Sep. report** | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

* Dioxin Furans to appear on a separate report. RSM 11/04/10

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---|---|---|---|---|---|---|---|
| *Metals for Arsenic, Cadmium, Lead, Copper, Nickel | | 11/3/10 | 1525 | K. Cottright PCS | 11/3/10 | 1520 | |
| | X | | | | | | |
| **Methods 1613/8290 | PCS driver | | | Pace Analytical | | | |
| | | | | Jyothi Swamy | 11/03/10 | 19:30 | 5.2 / Y / N / Y |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Meredith Smith

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 11/3/10

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

# Sample Container Count

CLIENT: Brown + Caldwell

COC PAGE 1 of 1

COC ID#

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255590

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | VG9W | DG9M | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 3 | | 2 | 1 | | SPL-3-1 11/3/10 1240 |
| 2 | | | | | | | | | | | | | | | SPL-3-2 1245 |
| 3 | | | | | | | | | | | | | | | SPL-3-3 1250 |
| 4 | | | | | | | | | | | | | | | SPL-4-1 1025 |
| 5 | | | | | | | | | | | | | | | SPL-4-2 1030 |
| 6 | | | | | | | | | | | | | | | SPL-4-3 1040 |
| 7 | | | | | | | | | | | | | | | SPL-5-1 1100 |
| 8 | | | | | | | | | | | | | | | SPL-5-2 1105 |
| 9 | | | | | | | | | | 3 | | | | | SPL-5-3 1110 |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | 3 | | | | | | | | | | | | | | Trip Blank? yes -water. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Condition Upon Receipt

Pace Analytical

255590

Client Name: Brown + Caldwell Project #

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

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other Temp. Blank Yes No

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.1 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents:

Temp should be above freezing ≤ 6°C

Comments:

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☐Yes | ☑No | ☐N/A | 1. COC not received 11/3/10 19:30 NJS |
| Chain of Custody Filled Out: | ☐Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☐Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☐Yes | ☐No | ☐N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐Yes | ☐No | ☐N/A | 6. |
| Rush Turn Around Time Requested: | ☐Yes | ☐No | ☑N/A | 7. |
| Sufficient Volume: | ☐Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☐Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☐Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☐Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: | | | | |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☐N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☐N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes | ☐No | ☐N/A | 16. Water trip blanks |
| Trip Blank Custody Seals Present | ☑Yes | ☐No | ☐N/A | |
| Pace Trip Blank Lot # (if purchased): | | | | |

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: J. Johnson Date/Time: 11/04/10 15:39

Comments/ Resolution:

COC received 11/04/10 08:10 - PCS delivered - RSM

Emailed Josh Johnson for instructions on the trip blank. RSM
Run per client RSM

Project Manager Review: RSM Date: 11/04/10

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

November 19, 2010

## Report Information:

**Pace Project #: 10142541**
**Sample Receipt Date: 11/05/2010**
**Client Project #: 255589**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

November 19, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on nine samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 41-96%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain background levels of selected congeners. With the exception of one non-2,3,7,8-substituted TCDF congener, these were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 100-128%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10142541

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 255589 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 11/3/2010 **Results Requested By:** 11/29/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | 8290 Dioxins/Furans | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|
| 1 | SPL-4-1 | PS | 11/3/2010 10:25 | 255589001 | Solid | 1 | X | |
| 2 | SPL-4-2 | PS | 11/3/2010 10:30 | 255589002 | Solid | 1 | X | |
| 3 | SPL-4-3 | PS | 11/3/2010 10:40 | 255589003 | Solid | 1 | X | |
| 4 | SPL-5-1 | PS | 11/3/2010 11:00 | 255589004 | Solid | 1 | X | |
| 5 | SPL-5-2 | PS | 11/3/2010 11:05 | 255589005 | Solid | 1 | X | |
| 6 | SPL-5-3 | PS | 11/3/2010 11:10 | 255589006 | Solid | 1 | X | |
| 7 | SPL-3-1 | PS | 11/3/2010 12:40 | 255589007 | Solid | 1 | X | |
| 8 | SPL-3-2 | PS | 11/3/2010 12:45 | 255589008 | Solid | 1 | X | |
| 9 | SPL-3-3 | PS | 11/3/2010 12:50 | 255589009 | Solid | 1 | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | MJ | 11/4/10 16:00 | Shirley/Pace | 11/5/10 1015 |
| 2 | | | | |
| 3 | | | | |

**Comments**

8290 Dioxins/Furans

**Cooler Temperature on Receipt** 18 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

V2

## Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace-WA **Project #** 10142541

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

**Tracking #:** 7964 1882 3744

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes _____ No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.8 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and initials of person examining contents:** 11/5/10 SA

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 11/9/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-4-1 | | | |
| Lab Sample ID | 255589001 | | | |
| Filename | F101117B_16 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.2 g | Matrix | Solid | |
| % Moisture | 9.4 | Dilution | NA | |
| Dry Weight Extracted | 11.1 g | Collected | 11/03/2010 | 10:25 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 01:28 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.35 | ----- | 0.22 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 4.70 | ----- | 0.22 | B | 2,3,7,8-TCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 84 |
| 2,3,7,8-TCDD | ND | ----- | 0.20 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 91 |
| Total TCDD | 2.90 | ----- | 0.20 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 95 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.25 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 0.70 | ----- | 0.14 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 6.30 | ----- | 0.20 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDD | 0.49 | ----- | 0.23 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| Total PeCDD | 8.60 | ----- | 0.23 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | ----- | 5.00 | 0.14 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 57 |
| 1,2,3,6,7,8-HxCDF | 0.70 | ----- | 0.11 | J | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | 0.42 | ----- | 0.16 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.36 | ----- | 0.15 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 6.80 | ----- | 0.14 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.52 | 0.26 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 1.50 | ----- | 0.23 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.88 | ----- | 0.20 | J | | | |
| Total HxCDD | 16.00 | ----- | 0.23 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 8.80 | ----- | 0.19 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.70 | ----- | 0.27 | J | Equivalence: 1.8 ng/Kg | | |
| Total HpCDF | 21.00 | ----- | 0.23 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 34.00 | ----- | 0.42 | | | | |
| Total HpCDD | 64.00 | ----- | 0.42 | | | | |
| OCDF | 34.00 | ----- | 0.31 | | | | |
| OCDD | 320.00 | ----- | 0.19 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-4-2 | | | |
| Lab Sample ID | 255589002 | | | |
| Filename | F101117B_17 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 9.8 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/03/2010 | 10:30 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101117B_19 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 02:15 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.33 | 0.14 | I | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 4.30 | ----- | 0.14 | B | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 83 |
| 2,3,7,8-TCDD | ND | ----- | 0.12 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 91 |
| Total TCDD | 2.70 | ----- | 0.12 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 95 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.15 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 0.37 | ----- | 0.30 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| Total PeCDF | 3.30 | ----- | 0.22 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDD | 0.36 | ----- | 0.31 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 55 |
| Total PeCDD | 6.90 | ----- | 0.31 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 50 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 41 |
| 1,2,3,4,7,8-HxCDF | 1.10 | ----- | 0.19 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 50 |
| 1,2,3,6,7,8-HxCDF | 0.61 | ----- | 0.22 | J | OCDD-13C | 4.00 | 42 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.42 | 0.27 | I | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.33 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 8.00 | ----- | 0.25 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.56 | ----- | 0.20 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 77 |
| 1,2,3,6,7,8-HxCDD | 1.10 | ----- | 0.16 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.83 | ----- | 0.18 | J | | | |
| Total HxCDD | 15.00 | ----- | 0.18 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 9.60 | ----- | 0.30 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.64 | ----- | 0.52 | J | Equivalence: 1.5 ng/Kg | | |
| Total HpCDF | 35.00 | ----- | 0.41 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 28.00 | ----- | 0.61 | | | | |
| Total HpCDD | 51.00 | ----- | 0.61 | | | | |
| OCDF | 33.00 | ----- | 0.59 | | | | |
| OCDD | 280.00 | ----- | 0.36 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Minneapolis, MN 55414

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-4-3 | | | |
| Lab Sample ID | 255589003 | | | |
| Filename | F101118A_03 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.8 g | Matrix | Solid | |
| % Moisture | 8.4 | Dilution | NA | |
| Dry Weight Extracted | 10.8 g | Collected | 11/03/2010 | 10:40 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 06:07 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.45 | 0.19 | I | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 4.70 | ----- | 0.19 | B | 2,3,7,8-TCDD-13C | 2.00 | 74 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | ND | ----- | 0.14 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 93 |
| Total TCDD | 7.80 | ----- | 0.14 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 96 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDF | 0.35 | ----- | 0.30 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 69 |
| 2,3,4,7,8-PeCDF | 0.75 | ----- | 0.25 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 6.30 | ----- | 0.28 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDD | 0.44 | ----- | 0.27 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 66 |
| Total PeCDD | 11.00 | ----- | 0.27 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 59 |
| 1,2,3,4,7,8-HxCDF | ----- | 4.30 | 0.14 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 57 |
| 1,2,3,6,7,8-HxCDF | 0.61 | ----- | 0.15 | J | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | 0.49 | ----- | 0.20 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.32 | ----- | 0.22 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 6.70 | ----- | 0.18 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.37 | ----- | 0.19 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 72 |
| 1,2,3,6,7,8-HxCDD | 1.40 | ----- | 0.14 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.74 | ----- | 0.25 | J | | | |
| Total HxCDD | 16.00 | ----- | 0.19 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 6.90 | ----- | 0.26 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.74 | ----- | 0.32 | J | Equivalence: 1.5 ng/Kg | | |
| Total HpCDF | 7.70 | ----- | 0.29 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 24.00 | ----- | 0.41 | | | | |
| Total HpCDD | 44.00 | ----- | 0.41 | | | | |
| OCDF | 24.00 | ----- | 0.27 | | | | |
| OCDD | 200.00 | ----- | 0.39 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-5-1 | | | |
| Lab Sample ID | 255589004 | | | |
| Filename | F101118A_04 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.6 g | Matrix | Solid | |
| % Moisture | 10.1 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 11/03/2010 | 11:00 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 06:53 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.25 | ----- | 0.200 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 62 |
| Total TCDF | 1.90 | ----- | 0.200 | B | 2,3,7,8-TCDD-13C | 2.00 | 64 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 70 |
| 2,3,7,8-TCDD | ND | ----- | 0.330 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 |
| Total TCDD | ND | ----- | 0.330 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 60 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.160 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 65 |
| 2,3,4,7,8-PeCDF | 0.25 | ----- | 0.160 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 1.80 | ----- | 0.160 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 55 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 68 |
| Total PeCDD | 1.20 | ----- | 0.190 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 51 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 50 |
| 1,2,3,4,7,8-HxCDF | ----- | 1.30 | 0.170 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 49 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.17 | 0.130 | I | OCDD-13C | 4.00 | 51 |
| 2,3,4,6,7,8-HxCDF | 0.15 | ----- | 0.100 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.160 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.90 | ----- | 0.140 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.210 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 67 |
| 1,2,3,6,7,8-HxCDD | 0.31 | ----- | 0.180 | J | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.160 | | | | |
| Total HxCDD | 2.70 | ----- | 0.180 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.00 | ----- | 0.200 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.290 | | Equivalence: 0.57 ng/Kg | | |
| Total HpCDF | 6.50 | ----- | 0.250 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 7.80 | ----- | 0.480 | | | | |
| Total HpCDD | 16.00 | ----- | 0.480 | | | | |
| OCDF | 5.50 | ----- | 0.310 | J | | | |
| OCDD | 67.00 | ----- | 0.480 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-5-2 | | | |
| Lab Sample ID | 255589005 | | | |
| Filename | F101118A_05 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.9 g | Matrix | Solid | |
| % Moisture | 10.4 | Dilution | NA | |
| Dry Weight Extracted | 10.7 g | Collected | 11/03/2010 | 11:05 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 07:40 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.200 | | 2,3,7,8-TCDF-13C | 2.00 | 68 |
| Total TCDF | 1.40 | ----- | 0.200 | B | 2,3,7,8-TCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 78 |
| 2,3,7,8-TCDD | ND | ----- | 0.180 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 87 |
| Total TCDD | 0.96 | ----- | 0.180 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 65 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.200 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 64 |
| 2,3,4,7,8-PeCDF | ----- | 0.15 | 0.130 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 |
| Total PeCDF | 0.64 | ----- | 0.160 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.150 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | 1.50 | ----- | 0.150 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 55 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 56 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.92 | 0.100 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 53 |
| 1,2,3,6,7,8-HxCDF | 0.14 | ----- | 0.140 | J | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.140 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.200 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.95 | ----- | 0.140 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.120 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 66 |
| 1,2,3,6,7,8-HxCDD | 0.25 | ----- | 0.093 | J | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.170 | | | | |
| Total HxCDD | 1.70 | ----- | 0.130 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.40 | ----- | 0.090 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.110 | | Equivalence: 0.35 ng/Kg | | |
| Total HpCDF | 3.40 | ----- | 0.100 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 5.10 | ----- | 0.210 | | | | |
| Total HpCDD | 9.10 | ----- | 0.210 | | | | |
| OCDF | 4.60 | ----- | 0.270 | J | | | |
| OCDD | 44.00 | ----- | 0.310 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-5-3 | | | |
| Lab Sample ID | 255589006 | | | |
| Filename | F101118A_06 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 7.2 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 11/03/2010 | 11:10 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 08:26 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.120 | | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 0.67 | ----- | 0.120 | BJ | 2,3,7,8-TCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 77 |
| 2,3,7,8-TCDD | ND | ----- | 0.130 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 89 |
| Total TCDD | ND | ----- | 0.130 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.120 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 69 |
| 2,3,4,7,8-PeCDF | ----- | 0.13 | 0.083 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| Total PeCDF | 0.15 | ----- | 0.100 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 57 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.120 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 71 |
| Total PeCDD | ND | ----- | 0.120 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 52 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | 0.19 | ----- | 0.088 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 50 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.082 | | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.093 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.120 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.19 | ----- | 0.096 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.110 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.088 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.083 | | | | |
| Total HxCDD | 0.55 | ----- | 0.095 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.30 | ----- | 0.150 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.190 | | Equivalence: 0.22 ng/Kg | | |
| Total HpCDF | 0.30 | ----- | 0.170 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.50 | ----- | 0.270 | BJ | | | |
| Total HpCDD | 3.70 | ----- | 0.270 | J | | | |
| OCDF | 1.10 | ----- | 0.240 | J | | | |
| OCDD | 14.00 | ----- | 0.260 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-3-1 | | | |
| Lab Sample ID | 255589007 | | | |
| Filename | F101118A_07 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 13.8 g | Matrix | Solid | |
| % Moisture | 48.4 | Dilution | NA | |
| Dry Weight Extracted | 7.12 g | Collected | 11/03/2010 | 12:40 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 09:13 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.30 | ----- | 0.29 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 29.00 | ----- | 0.29 | | 2,3,7,8-TCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | ND | ----- | 0.36 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 73 |
| Total TCDD | 11.00 | ----- | 0.36 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 59 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.46 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 57 |
| 2,3,4,7,8-PeCDF | 0.95 | ----- | 0.31 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 53 |
| Total PeCDF | 8.80 | ----- | 0.39 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 56 |
| 1,2,3,7,8-PeCDD | ----- | 0.49 | 0.34 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 48 |
| Total PeCDD | 8.90 | ----- | 0.34 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 42 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 41 |
| 1,2,3,4,7,8-HxCDF | 0.43 | ----- | 0.23 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 42 |
| 1,2,3,6,7,8-HxCDF | 0.38 | ----- | 0.24 | J | OCDD-13C | 4.00 | 41 |
| 2,3,4,6,7,8-HxCDF | 0.38 | ----- | 0.27 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.23 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4.30 | ----- | 0.24 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.37 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | ----- | 0.65 | 0.40 | I | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.46 | 0.31 | I | | | |
| Total HxCDD | 5.10 | ----- | 0.36 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.40 | ----- | 0.26 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.32 | | Equivalence: 1.1 ng/Kg | | |
| Total HpCDF | 4.80 | ----- | 0.29 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 7.50 | ----- | 0.50 | | | | |
| Total HpCDD | 17.00 | ----- | 0.50 | | | | |
| OCDF | 8.40 | ----- | 0.42 | J | | | |
| OCDD | 95.00 | ----- | 0.56 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-3-2 | | | |
| Lab Sample ID | 255589008 | | | |
| Filename | F101118A_08 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 13.2 g | Matrix | Solid | |
| % Moisture | 23.3 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/03/2010 | 12:45 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 09:59 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.35 | ----- | 0.17 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 2.90 | ----- | 0.17 | B | 2,3,7,8-TCDD-13C | 2.00 | 65 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 71 |
| 2,3,7,8-TCDD | ND | ----- | 0.17 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 |
| Total TCDD | 0.28 | ----- | 0.17 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 58 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.27 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 63 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.16 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 61 |
| Total PeCDF | 1.30 | ----- | 0.22 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 51 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.15 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | 0.75 | ----- | 0.15 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 50 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 47 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.92 | 0.15 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 47 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.14 | | OCDD-13C | 4.00 | 47 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.16 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.20 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.17 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.19 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.11 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.13 | | | | |
| Total HxCDD | 0.39 | ----- | 0.14 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.41 | ----- | 0.16 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.28 | | Equivalence: 0.29 ng/Kg | | |
| Total HpCDF | 1.40 | ----- | 0.22 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ----- | 1.00 | 0.25 | I | | | |
| Total HpCDD | 1.60 | ----- | 0.25 | J | | | |
| OCDF | ----- | 1.20 | 0.32 | I | | | |
| OCDD | 9.80 | ----- | 0.18 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-3-3 | | | |
| Lab Sample ID | 255589009 | | | |
| Filename | F101118A_09 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 13.5 g | Matrix | Solid | |
| % Moisture | 23.2 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 11/03/2010 | 12:50 |
| ICAL ID | F101012 | Received | 11/05/2010 | 10:15 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Extracted | 11/15/2010 | 15:45 |
| Method Blank ID | BLANK-26969 | Analyzed | 11/18/2010 | 10:45 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.300 | ----- | 0.170 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 4.300 | ----- | 0.170 | B | 2,3,7,8-TCDD-13C | 2.00 | 67 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 72 |
| 2,3,7,8-TCDD | ND | ----- | 0.180 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 0.310 | ----- | 0.180 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 62 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.200 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 60 |
| 2,3,4,7,8-PeCDF | 0.200 | ----- | 0.130 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 |
| Total PeCDF | 1.700 | ----- | 0.170 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 57 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.170 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 60 |
| Total PeCDD | 0.690 | ----- | 0.170 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 50 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 51 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.25 | 0.092 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 50 |
| 1,2,3,6,7,8-HxCDF | 0.100 | ----- | 0.074 | J | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.100 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.096 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.230 | ----- | 0.091 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.140 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.130 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.088 | | | | |
| Total HxCDD | 1.100 | ----- | 0.120 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.450 | ----- | 0.120 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.160 | | Equivalence: 0.33 ng/Kg | | |
| Total HpCDF | 1.300 | ----- | 0.140 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1.100 | ----- | 0.130 | BJ | | | |
| Total HpCDD | 1.100 | ----- | 0.130 | BJ | | | |
| OCDF | 1.200 | ----- | 0.220 | J | | | |
| OCDD | 9.800 | ----- | 0.310 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-26969 | Matrix | Solid |
| Filename | F101117B_09 | Dilution | NA |
| Total Amount Extracted | 10.4 g | Extracted | 11/15/2010 15:45 |
| ICAL ID | F101012 | Analyzed | 11/17/2010 20:06 |
| CCal Filename(s) | F101117B_02 & F101117B_19 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | ----- | 0.140 | J | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | 1.40 | ----- | 0.140 | | 2,3,7,8-TCDD-13C | 2.00 | 60 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 81 |
| Total TCDD | ND | ----- | 0.160 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 63 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ----- | 0.13 | 0.120 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 0.22 | ----- | 0.160 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 59 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.092 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | ND | ----- | 0.092 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | 0.17 | ----- | 0.098 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 55 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.095 | | OCDD-13C | 4.00 | 54 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.078 | | | | |
| 1,2,3,7,8,9-HxCDF | 0.12 | ----- | 0.110 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.41 | ----- | 0.095 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.071 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 57 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.069 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.088 | | | | |
| Total HxCDD | ND | ----- | 0.076 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.11 | 0.077 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.120 | | Equivalence: 0.22 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.097 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.15 | ----- | 0.140 | J | | | |
| Total HpCDD | 0.15 | ----- | 0.140 | J | | | |
| OCDF | ----- | 0.42 | 0.120 | I | | | |
| OCDD | ----- | 0.74 | 0.090 | I | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-26970 | | |
| Filename | F101118A_16 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | F101012 | Extracted | 11/15/2010 15:45 |
| CCal Filename(s) | F101117B_19 & F101118A_18 | Analyzed | 11/18/2010 16:01 |
| Method Blank ID | BLANK-26969 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.26 | 128 | 2,3,7,8-TCDF-13C | 2.0 | 61 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 66 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 74 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 100 | 2,3,4,7,8-PeCDF-13C | 2.0 | 85 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 97 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.2 | 117 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 68 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 111 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 67 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 72 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDD | 1.0 | 1.1 | 106 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 58 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 61 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 62 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 115 | OCDD-13C | 4.0 | 53 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 112 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 111 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 109 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 111 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.3 | 128 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 111 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 108 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 101 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.5 | 125 | | | |
| OCDD | 2.0 | 2.5 | 123 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Seattle, WA 98108
(206)767-5060

December 09, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255812

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 24, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
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Louisiana Certification #: LA080009
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Nevada Certification #: MN_00064
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New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

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Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255812001** | **SPL-6-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812002** | **SPL-6-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812003** | **SPL-6-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812004** | **SPL-6-4** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812005** | **SPL-6-5** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812006** | **SPL-9-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812007** | **SPL-9-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812008** | **SPL-9-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812009** | **SPL-8-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812010** | **SPL-7-5** | NWTPH-Dx | DMT | 4 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812011** | **SPL-8-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |
| **255812012** | **SPL-8-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | ASTM D2974-87 | KMC | 1 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-6-1** **Lab ID: 255812001** Collected: 11/22/10 13:20 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 77.3 | 1 | 12/01/10 12:45 | 12/03/10 20:44 | | |
| Motor Oil Range SG | ND | mg/kg | 309 | 1 | 12/01/10 12:45 | 12/03/10 20:44 | 64742-65-0 | |
| n-Octacosane (S) SG | 100 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 20:44 | 630-02-4 | |
| o-Terphenyl (S) SG | 91 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 20:44 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.0** | mg/kg | 1.6 | 20 | 12/03/10 10:38 | 12/07/10 16:36 | 7440-38-2 | |
| Cadmium | **0.80** | mg/kg | 0.26 | 20 | 12/03/10 10:38 | 12/07/10 16:36 | 7440-43-9 | |
| Copper | **43.3** | mg/kg | 1.6 | 20 | 12/03/10 10:38 | 12/07/10 16:36 | 7440-50-8 | |
| Lead | **26.1** | mg/kg | 1.6 | 20 | 12/03/10 10:38 | 12/07/10 16:36 | 7439-92-1 | |
| Nickel | **26.5** | mg/kg | 1.6 | 20 | 12/03/10 10:38 | 12/07/10 16:36 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **28.3** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 83-32-9 | |
| Acenaphthylene | **47.2** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 208-96-8 | |
| Anthracene | **41.8** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 120-12-7 | |
| Benzo(a)anthracene | **90.5** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 56-55-3 | |
| Benzo(a)pyrene | **120** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 50-32-8 | |
| Benzo(b)fluoranthene | **55.9** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 205-99-2 | |
| Benzo(g,h,i)perylene | **83.5** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 191-24-2 | |
| Benzo(k)fluoranthene | **94.2** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 207-08-9 | |
| Chrysene | **99.5** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 218-01-9 | |
| Dibenz(a,h)anthracene | **32.3** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 53-70-3 | |
| Fluoranthene | **183** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 206-44-0 | |
| Fluorene | **41.1** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **72.9** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 193-39-5 | |
| 1-Methylnaphthalene | **51.0** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 90-12-0 | |
| 2-Methylnaphthalene | **73.8** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 91-57-6 | |
| Naphthalene | **328** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 91-20-3 | |
| Phenanthrene | **154** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 85-01-8 | |
| Pyrene | **174** | ug/kg | 25.7 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 57 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 321-60-8 | |
| Terphenyl-d14 (S) | 51 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 17:04 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **74.3** | % | 0.10 | 1 | | 11/30/10 17:03 | | |

**Sample: SPL-6-2** **Lab ID: 255812002** Collected: 11/22/10 13:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 25.3 | 1 | 12/01/10 12:45 | 12/03/10 21:01 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-6-2** **Lab ID: 255812002** Collected: 11/22/10 13:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Motor Oil Range SG | ND | mg/kg | 101 | 1 | 12/01/10 12:45 | 12/03/10 21:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 103 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 21:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 96 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 21:01 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.5** | mg/kg | 0.62 | 20 | 12/03/10 10:38 | 12/07/10 16:55 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.10 | 20 | 12/03/10 10:38 | 12/07/10 16:55 | 7440-43-9 | |
| Copper | **43.4** | mg/kg | 0.62 | 20 | 12/03/10 10:38 | 12/07/10 16:55 | 7440-50-8 | |
| Lead | **11.3** | mg/kg | 0.62 | 20 | 12/03/10 10:38 | 12/07/10 16:55 | 7439-92-1 | |
| Nickel | **47.6** | mg/kg | 0.62 | 20 | 12/03/10 10:38 | 12/07/10 16:55 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 208-96-8 | |
| Anthracene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 207-08-9 | |
| Chrysene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 53-70-3 | |
| Fluoranthene | **10.7** | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 206-44-0 | |
| Fluorene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 90-12-0 | |
| 2-Methylnaphthalene | **13.0** | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 91-57-6 | |
| Naphthalene | **80.4** | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 91-20-3 | |
| Phenanthrene | **23.2** | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 85-01-8 | |
| Pyrene | ND | ug/kg | 9.0 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 72 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 321-60-8 | |
| Terphenyl-d14 (S) | 72 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 13:53 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **26.5** | % | 0.10 | 1 | | 11/30/10 17:04 | | |

**Sample: SPL-6-3** **Lab ID: 255812003** Collected: 11/22/10 13:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 41.9 | 1 | 12/01/10 12:45 | 12/03/10 21:17 | | |
| Motor Oil Range SG | ND | mg/kg | 168 | 1 | 12/01/10 12:45 | 12/03/10 21:17 | 64742-65-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-6-3** **Lab ID: 255812003** Collected: 11/22/10 13:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| n-Octacosane (S) SG | 93 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 21:17 | 630-02-4 | |
| o-Terphenyl (S) SG | 87 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 21:17 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.8** | mg/kg | 0.91 | 20 | 12/03/10 10:38 | 12/07/10 17:04 | 7440-38-2 | |
| Cadmium | **1.8** | mg/kg | 0.15 | 20 | 12/03/10 10:38 | 12/07/10 17:04 | 7440-43-9 | |
| Copper | **36.9** | mg/kg | 0.91 | 20 | 12/03/10 10:38 | 12/07/10 17:04 | 7440-50-8 | |
| Lead | **14.2** | mg/kg | 0.91 | 20 | 12/03/10 10:38 | 12/07/10 17:04 | 7439-92-1 | |
| Nickel | **35.1** | mg/kg | 0.91 | 20 | 12/03/10 10:38 | 12/07/10 17:04 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 208-96-8 | |
| Anthracene | **21.9** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 120-12-7 | |
| Benzo(a)anthracene | **60.5** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 56-55-3 | |
| Benzo(a)pyrene | **50.9** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 50-32-8 | |
| Benzo(b)fluoranthene | **26.2** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 205-99-2 | |
| Benzo(g,h,i)perylene | **22.6** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 191-24-2 | |
| Benzo(k)fluoranthene | **46.8** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 207-08-9 | |
| Chrysene | **65.0** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 53-70-3 | |
| Fluoranthene | **98.0** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 206-44-0 | |
| Fluorene | ND | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **22.4** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 193-39-5 | |
| 1-Methylnaphthalene | **18.6** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 90-12-0 | |
| 2-Methylnaphthalene | **43.4** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 91-57-6 | |
| Naphthalene | **50.7** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 91-20-3 | |
| Phenanthrene | **34.7** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 85-01-8 | |
| Pyrene | **91.7** | ug/kg | 14.5 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 72 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 321-60-8 | |
| Terphenyl-d14 (S) | 67 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 14:40 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **54.1** | % | 0.10 | 1 | | 11/30/10 17:06 | | |

**Sample: SPL-6-4** **Lab ID: 255812004** Collected: 11/22/10 13:50 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 37.9 | 1 | 12/01/10 12:45 | 12/03/10 21:34 | | |
| Motor Oil Range SG | ND | mg/kg | 151 | 1 | 12/01/10 12:45 | 12/03/10 21:34 | 64742-65-0 | |
| n-Octacosane (S) SG | 108 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 21:34 | 630-02-4 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-6-4** **Lab ID: 255812004** Collected: 11/22/10 13:50 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| o-Terphenyl (S) SG | 96 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 21:34 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.5** | mg/kg | 0.88 | 20 | 12/03/10 10:38 | 12/07/10 17:28 | 7440-38-2 | |
| Cadmium | **1.3** | mg/kg | 0.14 | 20 | 12/03/10 10:38 | 12/07/10 17:28 | 7440-43-9 | |
| Copper | **31.3** | mg/kg | 0.88 | 20 | 12/03/10 10:38 | 12/07/10 17:28 | 7440-50-8 | |
| Lead | **13.8** | mg/kg | 0.88 | 20 | 12/03/10 10:38 | 12/07/10 17:28 | 7439-92-1 | |
| Nickel | **28.0** | mg/kg | 0.88 | 20 | 12/03/10 10:38 | 12/07/10 17:28 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **13.0** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 83-32-9 | |
| Acenaphthylene | **20.6** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 208-96-8 | |
| Anthracene | **42.4** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 120-12-7 | |
| Benzo(a)anthracene | **108** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 56-55-3 | |
| Benzo(a)pyrene | **138** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 50-32-8 | |
| Benzo(b)fluoranthene | **71.5** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 205-99-2 | |
| Benzo(g,h,i)perylene | **82.8** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 191-24-2 | |
| Benzo(k)fluoranthene | **102** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 207-08-9 | |
| Chrysene | **124** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 218-01-9 | |
| Dibenz(a,h)anthracene | **31.0** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 53-70-3 | |
| Fluoranthene | **177** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 206-44-0 | |
| Fluorene | **23.6** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **78.5** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 193-39-5 | |
| 1-Methylnaphthalene | **18.0** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 90-12-0 | |
| 2-Methylnaphthalene | **32.2** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 91-57-6 | |
| Naphthalene | **95.0** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 91-20-3 | |
| Phenanthrene | **76.1** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 85-01-8 | |
| Pyrene | **178** | ug/kg | 13.0 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 321-60-8 | |
| Terphenyl-d14 (S) | 60 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 17:19 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **48.7** | % | 0.10 | 1 | | 11/30/10 17:07 | | |

**Sample: SPL-6-5** **Lab ID: 255812005** Collected: 11/22/10 13:55 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **68.8** | mg/kg | 65.7 | 1 | 12/01/10 12:45 | 12/03/10 22:23 | | |
| Motor Oil Range SG | ND | mg/kg | 263 | 1 | 12/01/10 12:45 | 12/03/10 22:23 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 22:23 | 630-02-4 | |
| o-Terphenyl (S) SG | 97 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 22:23 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-6-5** **Lab ID: 255812005** Collected: 11/22/10 13:55 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.6** | mg/kg | 1.5 | 20 | 12/03/10 10:38 | 12/07/10 17:37 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.24 | 20 | 12/03/10 10:38 | 12/07/10 17:37 | 7440-43-9 | |
| Copper | **28.6** | mg/kg | 1.5 | 20 | 12/03/10 10:38 | 12/07/10 17:37 | 7440-50-8 | |
| Lead | **22.9** | mg/kg | 1.5 | 20 | 12/03/10 10:38 | 12/07/10 17:37 | 7439-92-1 | |
| Nickel | **12.1** | mg/kg | 1.5 | 20 | 12/03/10 10:38 | 12/07/10 17:37 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **289** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 83-32-9 | |
| Acenaphthylene | **36.2** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 208-96-8 | |
| Anthracene | **69.2** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 120-12-7 | |
| Benzo(a)anthracene | **69.2** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 56-55-3 | |
| Benzo(a)pyrene | **74.0** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 50-32-8 | |
| Benzo(b)fluoranthene | **57.4** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 205-99-2 | |
| Benzo(g,h,i)perylene | **65.0** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 191-24-2 | |
| Benzo(k)fluoranthene | **71.1** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 207-08-9 | |
| Chrysene | **113** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 53-70-3 | |
| Fluoranthene | **333** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 206-44-0 | |
| Fluorene | **126** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **49.6** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 193-39-5 | |
| 1-Methylnaphthalene | **55.2** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 90-12-0 | |
| 2-Methylnaphthalene | **115** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 91-57-6 | |
| Naphthalene | **520** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 91-20-3 | |
| Phenanthrene | **361** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 85-01-8 | |
| Pyrene | **199** | ug/kg | 22.4 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 58 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 321-60-8 | |
| Terphenyl-d14 (S) | 56 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 17:35 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **71.0** | % | 0.10 | 1 | | 11/30/10 17:08 | | |

**Sample: SPL-9-1** **Lab ID: 255812006** Collected: 11/22/10 13:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.0 | 1 | 12/01/10 12:45 | 12/03/10 22:39 | | |
| Motor Oil Range SG | ND | mg/kg | 84.2 | 1 | 12/01/10 12:45 | 12/03/10 22:39 | 64742-65-0 | |
| n-Octacosane (S) SG | 104 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 22:39 | 630-02-4 | |
| o-Terphenyl (S) SG | 94 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 22:39 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.4** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 17:47 | 7440-38-2 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-9-1** **Lab ID: 255812006** Collected: 11/22/10 13:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Cadmium | **0.12** | mg/kg | 0.073 | 20 | 12/03/10 10:38 | 12/07/10 17:47 | 7440-43-9 | |
| Copper | **26.0** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 17:47 | 7440-50-8 | |
| Lead | **6.7** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 17:47 | 7439-92-1 | |
| Nickel | **26.7** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 17:47 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **8.2** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 83-32-9 | |
| Acenaphthylene | **41.3** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 208-96-8 | |
| Anthracene | **56.2** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 120-12-7 | |
| Benzo(a)anthracene | **148** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 56-55-3 | |
| Benzo(a)pyrene | **179** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 50-32-8 | |
| Benzo(b)fluoranthene | **84.3** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 205-99-2 | |
| Benzo(g,h,i)perylene | **97.3** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 191-24-2 | |
| Benzo(k)fluoranthene | **123** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 207-08-9 | |
| Chrysene | **164** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 218-01-9 | |
| Dibenz(a,h)anthracene | **28.7** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 53-70-3 | |
| Fluoranthene | **318** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 206-44-0 | |
| Fluorene | **20.8** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **91.6** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 193-39-5 | |
| 1-Methylnaphthalene | **7.2** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 90-12-0 | |
| 2-Methylnaphthalene | **9.2** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 91-57-6 | |
| Naphthalene | **13.5** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 91-20-3 | |
| Phenanthrene | **214** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 85-01-8 | |
| Pyrene | **316** | ug/kg | 7.0 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 69 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 321-60-8 | |
| Terphenyl-d14 (S) | 79 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 17:51 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.8** | % | 0.10 | 1 | | 11/30/10 17:09 | | |

**Sample: SPL-9-2** **Lab ID: 255812007** Collected: 11/22/10 13:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.4 | 1 | 12/01/10 12:45 | 12/03/10 22:55 | | |
| Motor Oil Range SG | ND | mg/kg | 85.4 | 1 | 12/01/10 12:45 | 12/03/10 22:55 | 64742-65-0 | |
| n-Octacosane (S) SG | 110 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 22:55 | 630-02-4 | |
| o-Terphenyl (S) SG | 99 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 22:55 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.0** | mg/kg | 0.41 | 20 | 12/03/10 10:38 | 12/07/10 17:56 | 7440-38-2 | |
| Cadmium | **0.079** | mg/kg | 0.065 | 20 | 12/03/10 10:38 | 12/07/10 17:56 | 7440-43-9 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-9-2** **Lab ID: 255812007** Collected: 11/22/10 13:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Copper | **22.1** | mg/kg | 0.41 | 20 | 12/03/10 10:38 | 12/07/10 17:56 | 7440-50-8 | |
| Lead | **6.7** | mg/kg | 0.41 | 20 | 12/03/10 10:38 | 12/07/10 17:56 | 7439-92-1 | |
| Nickel | **22.9** | mg/kg | 0.41 | 20 | 12/03/10 10:38 | 12/07/10 17:56 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **7.7** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 83-32-9 | |
| Acenaphthylene | **50.6** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 208-96-8 | |
| Anthracene | **63.0** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 120-12-7 | |
| Benzo(a)anthracene | **161** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 56-55-3 | |
| Benzo(a)pyrene | **181** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 50-32-8 | |
| Benzo(b)fluoranthene | **91.0** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 205-99-2 | |
| Benzo(g,h,i)perylene | **97.2** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 191-24-2 | |
| Benzo(k)fluoranthene | **120** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 207-08-9 | |
| Chrysene | **178** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 218-01-9 | |
| Dibenz(a,h)anthracene | **44.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 53-70-3 | |
| Fluoranthene | **308** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 206-44-0 | |
| Fluorene | **19.1** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **87.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 90-12-0 | |
| 2-Methylnaphthalene | **9.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 91-57-6 | |
| Naphthalene | **14.4** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 91-20-3 | |
| Phenanthrene | **194** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 85-01-8 | |
| Pyrene | **329** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 63 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 321-60-8 | |
| Terphenyl-d14 (S) | 70 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 18:06 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.4** | % | 0.10 | 1 | | 11/30/10 17:10 | | |

**Sample: SPL-9-3** **Lab ID: 255812008** Collected: 11/22/10 13:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **89.0** | mg/kg | 20.6 | 1 | 12/01/10 12:45 | 12/03/10 23:12 | | |
| Motor Oil Range SG | **611** | mg/kg | 82.2 | 1 | 12/01/10 12:45 | 12/03/10 23:12 | 64742-65-0 | |
| n-Octacosane (S) SG | 108 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 23:12 | 630-02-4 | |
| o-Terphenyl (S) SG | 101 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 23:12 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.0** | mg/kg | 0.39 | 20 | 12/03/10 10:38 | 12/07/10 18:06 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.063 | 20 | 12/03/10 10:38 | 12/07/10 18:06 | 7440-43-9 | |
| Copper | **15.8** | mg/kg | 0.39 | 20 | 12/03/10 10:38 | 12/07/10 18:06 | 7440-50-8 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-9-3** **Lab ID: 255812008** Collected: 11/22/10 13:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **4.7** | mg/kg | 0.39 | 20 | 12/03/10 10:38 | 12/07/10 18:06 | 7439-92-1 | |
| Nickel | **18.5** | mg/kg | 0.39 | 20 | 12/03/10 10:38 | 12/07/10 18:06 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 83-32-9 | |
| Acenaphthylene | **35.0** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 208-96-8 | |
| Anthracene | **35.2** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 120-12-7 | |
| Benzo(a)anthracene | **101** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 56-55-3 | |
| Benzo(a)pyrene | **164** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 50-32-8 | |
| Benzo(b)fluoranthene | **67.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 205-99-2 | |
| Benzo(g,h,i)perylene | **108** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 191-24-2 | |
| Benzo(k)fluoranthene | **84.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 207-08-9 | |
| Chrysene | **124** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 218-01-9 | |
| Dibenz(a,h)anthracene | **30.5** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 53-70-3 | |
| Fluoranthene | **192** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 206-44-0 | |
| Fluorene | **10.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **72.3** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 91-57-6 | |
| Naphthalene | **11.0** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 91-20-3 | |
| Phenanthrene | **105** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 85-01-8 | |
| Pyrene | **210** | ug/kg | 7.1 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 58 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 321-60-8 | |
| Terphenyl-d14 (S) | 64 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 18:22 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.6** | % | 0.10 | 1 | | 11/30/10 17:12 | | |

**Sample: SPL-8-3** **Lab ID: 255812009** Collected: 11/22/10 14:30 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **538** | mg/kg | 23.6 | 1 | 12/01/10 12:45 | 12/03/10 23:28 | | |
| Motor Oil Range SG | ND | mg/kg | 94.4 | 1 | 12/01/10 12:45 | 12/03/10 23:28 | 64742-65-0 | |
| n-Octacosane (S) SG | 109 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 23:28 | 630-02-4 | |
| o-Terphenyl (S) SG | 100 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 23:28 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.3** | mg/kg | 0.53 | 20 | 12/03/10 10:38 | 12/07/10 18:29 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.085 | 20 | 12/03/10 10:38 | 12/07/10 18:29 | 7440-43-9 | |
| Copper | **15.3** | mg/kg | 0.53 | 20 | 12/03/10 10:38 | 12/07/10 18:29 | 7440-50-8 | |
| Lead | **3.8** | mg/kg | 0.53 | 20 | 12/03/10 10:38 | 12/07/10 18:29 | 7439-92-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-8-3** **Lab ID: 255812009** Collected: 11/22/10 14:30 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Nickel | **31.6** | mg/kg | 0.53 | 20 | 12/03/10 10:38 | 12/07/10 18:29 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **31.2** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 208-96-8 | |
| Anthracene | **29.6** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 120-12-7 | |
| Benzo(a)anthracene | **9.0** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 207-08-9 | |
| Chrysene | **13.6** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 53-70-3 | |
| Fluoranthene | **32.3** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 206-44-0 | |
| Fluorene | **11.0** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 193-39-5 | |
| 1-Methylnaphthalene | **13.9** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 90-12-0 | |
| 2-Methylnaphthalene | **16.9** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 91-57-6 | |
| Naphthalene | **14.6** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 91-20-3 | |
| Phenanthrene | **10.7** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 85-01-8 | |
| Pyrene | **33.5** | ug/kg | 7.8 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 69 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 321-60-8 | |
| Terphenyl-d14 (S) | 66 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 18:38 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **15.9** | % | 0.10 | 1 | | 11/30/10 17:13 | | |

**Sample: SPL-7-5** **Lab ID: 255812010** Collected: 11/22/10 15:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 61.1 | 1 | 12/01/10 12:45 | 12/03/10 23:45 | | |
| Motor Oil Range SG | ND | mg/kg | 245 | 1 | 12/01/10 12:45 | 12/03/10 23:45 | 64742-65-0 | |
| n-Octacosane (S) SG | 108 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 23:45 | 630-02-4 | |
| o-Terphenyl (S) SG | 96 | % | 50-150 | 1 | 12/01/10 12:45 | 12/03/10 23:45 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 1.2 | 20 | 12/03/10 10:38 | 12/07/10 18:39 | 7440-38-2 | |
| Cadmium | **2.0** | mg/kg | 0.20 | 20 | 12/03/10 10:38 | 12/07/10 18:39 | 7440-43-9 | |
| Copper | **40.4** | mg/kg | 1.2 | 20 | 12/03/10 10:38 | 12/07/10 18:39 | 7440-50-8 | |
| Lead | **18.8** | mg/kg | 1.2 | 20 | 12/03/10 10:38 | 12/07/10 18:39 | 7439-92-1 | |
| Nickel | **32.7** | mg/kg | 1.2 | 20 | 12/03/10 10:38 | 12/07/10 18:39 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-7-5** **Lab ID: 255812010** Collected: 11/22/10 15:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **25.6** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 208-96-8 | |
| Anthracene | **39.9** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 120-12-7 | |
| Benzo(a)anthracene | **55.1** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 56-55-3 | |
| Benzo(a)pyrene | **52.9** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 50-32-8 | |
| Benzo(b)fluoranthene | **28.0** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 205-99-2 | |
| Benzo(g,h,i)perylene | **25.2** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 191-24-2 | |
| Benzo(k)fluoranthene | **46.7** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 207-08-9 | |
| Chrysene | **54.9** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 53-70-3 | |
| Fluoranthene | **118** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 206-44-0 | |
| Fluorene | **23.5** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **24.2** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 193-39-5 | |
| 1-Methylnaphthalene | **23.0** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 90-12-0 | |
| 2-Methylnaphthalene | **39.0** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 91-57-6 | |
| Naphthalene | **159** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 91-20-3 | |
| Phenanthrene | **70.4** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 85-01-8 | |
| Pyrene | **110** | ug/kg | 20.7 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 76 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 321-60-8 | |
| Terphenyl-d14 (S) | 76 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 14:56 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **68.2** | % | 0.10 | 1 | | 11/30/10 17:13 | | |

**Sample: SPL-8-1** **Lab ID: 255812011** Collected: 11/22/10 14:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **132** | mg/kg | 26.5 | 1 | 12/01/10 12:45 | 12/04/10 00:01 | | |
| Motor Oil Range SG | ND | mg/kg | 106 | 1 | 12/01/10 12:45 | 12/04/10 00:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 00:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 96 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 00:01 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.2** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 18:48 | 7440-38-2 | |
| Cadmium | **0.080** | mg/kg | 0.073 | 20 | 12/03/10 10:38 | 12/07/10 18:48 | 7440-43-9 | |
| Copper | **15.4** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 18:48 | 7440-50-8 | |
| Lead | **9.3** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 18:48 | 7439-92-1 | M6 |
| Nickel | **28.2** | mg/kg | 0.46 | 20 | 12/03/10 10:38 | 12/07/10 18:48 | 7440-02-0 | M6 |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **30.7** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 83-32-9 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-8-1** **Lab ID: 255812011** Collected: 11/22/10 14:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthylene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 208-96-8 | |
| Anthracene | **11.9** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 207-08-9 | |
| Chrysene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 53-70-3 | |
| Fluoranthene | **23.1** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 206-44-0 | |
| Fluorene | **13.5** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 193-39-5 | |
| 1-Methylnaphthalene | **21.0** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 90-12-0 | |
| 2-Methylnaphthalene | **37.3** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 91-57-6 | |
| Naphthalene | **41.4** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 91-20-3 | |
| Phenanthrene | **18.5** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 85-01-8 | |
| Pyrene | **21.5** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 64 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 321-60-8 | |
| Terphenyl-d14 (S) | 63 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 18:54 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **25.7** | % | 0.10 | 1 | | 11/30/10 17:14 | | |

**Sample: SPL-8-2** **Lab ID: 255812012** Collected: 11/22/10 14:15 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 22.0 | 1 | 12/01/10 12:45 | 12/04/10 00:17 | | |
| Motor Oil Range SG | ND | mg/kg | 88.2 | 1 | 12/01/10 12:45 | 12/04/10 00:17 | 64742-65-0 | |
| n-Octacosane (S) SG | 101 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 00:17 | 630-02-4 | |
| o-Terphenyl (S) SG | 94 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 00:17 | 84-15-1 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.0** | mg/kg | 0.55 | 20 | 12/03/10 10:39 | 12/07/10 19:02 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.087 | 20 | 12/03/10 10:39 | 12/07/10 19:02 | 7440-43-9 | |
| Copper | **29.4** | mg/kg | 0.55 | 20 | 12/03/10 10:39 | 12/07/10 19:02 | 7440-50-8 | |
| Lead | **5.7** | mg/kg | 0.55 | 20 | 12/03/10 10:39 | 12/07/10 19:02 | 7439-92-1 | |
| Nickel | **39.8** | mg/kg | 0.55 | 20 | 12/03/10 10:39 | 12/07/10 19:02 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **11.0** | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 208-96-8 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

**Sample: SPL-8-2** **Lab ID: 255812012** Collected: 11/22/10 14:15 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Anthracene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 207-08-9 | |
| Chrysene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 53-70-3 | |
| Fluoranthene | **8.8** | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 90-12-0 | |
| 2-Methylnaphthalene | **10.4** | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 91-57-6 | |
| Naphthalene | **10.9** | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 91-20-3 | |
| Phenanthrene | **7.8** | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 85-01-8 | |
| Pyrene | **9.0** | ug/kg | 7.4 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 68 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 321-60-8 | |
| Terphenyl-d14 (S) | 63 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 19:10 | 1718-51-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.0** | % | 0.10 | 1 | | 11/30/10 17:15 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

QC Batch: OEXT/3040 | Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 | Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

METHOD BLANK: 50754 | Matrix: Solid
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 12/03/10 19:22 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 12/03/10 19:22 | |
| n-Octacosane (S) SG | % | 102 | 50-150 | 12/03/10 19:22 | |
| o-Terphenyl (S) SG | % | 96 | 50-150 | 12/03/10 19:22 | |

LABORATORY CONTROL SAMPLE: 50755

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 456 | 91 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 559 | 112 | 50-150 | |
| n-Octacosane (S) SG | % | | | 103 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 110 | 50-150 | |

SAMPLE DUPLICATE: 50756

| Parameter | Units | 255797001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 29.5 | 70.5 | 82 | R1 |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 100 | 100 | 6 | |
| o-Terphenyl (S) SG | % | 94 | 94 | 6 | |

SAMPLE DUPLICATE: 50757

| Parameter | Units | 255818001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | ND | | |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 106 | 111 | 4 | |
| o-Terphenyl (S) SG | % | 98 | 101 | 2 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

QC Batch: ICPM/23802 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

METHOD BLANK: 899839 Matrix: Solid
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 12/07/10 16:27 | |
| Cadmium | mg/kg | ND | 0.077 | 12/07/10 16:27 | |
| Copper | mg/kg | ND | 0.48 | 12/07/10 16:27 | |
| Lead | mg/kg | ND | 0.48 | 12/07/10 16:27 | |
| Nickel | mg/kg | ND | 0.48 | 12/07/10 16:27 | |

LABORATORY CONTROL SAMPLE: 899840

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.8 | 18.7 | 94 | 75-125 | |
| Cadmium | mg/kg | 19.8 | 19.3 | 98 | 75-125 | |
| Copper | mg/kg | 19.8 | 20.1 | 101 | 75-125 | |
| Lead | mg/kg | 19.8 | 19.8 | 100 | 75-125 | |
| Nickel | mg/kg | 19.8 | 19.9 | 101 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 899841 899842

| Parameter | Units | 255812001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 7.0 | 59.9 | 57.9 | 71.4 | 65.4 | 108 | 101 | 75-125 | 9 | |
| Cadmium | mg/kg | 0.80 | 59.9 | 57.9 | 63.8 | 58.0 | 105 | 99 | 75-125 | 10 | |
| Copper | mg/kg | 43.3 | 59.9 | 57.9 | 106 | 91.9 | 104 | 84 | 75-125 | 14 | |
| Lead | mg/kg | 26.1 | 59.9 | 57.9 | 94.5 | 83.6 | 114 | 99 | 75-125 | 12 | |
| Nickel | mg/kg | 26.5 | 59.9 | 57.9 | 91.1 | 79.6 | 108 | 91 | 75-125 | 14 | |

MATRIX SPIKE SAMPLE: 899843

| Parameter | Units | 255812011 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.2 | 20.6 | 24.3 | 103 | 75-125 | |
| Cadmium | mg/kg | 0.080 | 20.6 | 20.6 | 100 | 75-125 | |
| Copper | mg/kg | 15.4 | 20.6 | 36.1 | 100 | 75-125 | |
| Lead | mg/kg | 9.3 | 20.6 | 24.6 | 74 | 75-125 | M6 |
| Nickel | mg/kg | 28.2 | 20.6 | 54.8 | 129 | 75-125 | M6 |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

QC Batch: OEXT/3039 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

METHOD BLANK: 50750 | Matrix: Solid
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Acenaphthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Anthracene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Chrysene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Fluoranthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Fluorene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Naphthalene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Phenanthrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Pyrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| 2-Fluorobiphenyl (S) | % | 76 | 31-131 | 12/08/10 13:21 | |
| Terphenyl-d14 (S) | % | 84 | 30-133 | 12/08/10 13:21 | |

LABORATORY CONTROL SAMPLE: 50751

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 90.1 | 68 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 93.3 | 70 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 91.9 | 69 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 94.0 | 71 | 31-134 | |
| Anthracene | ug/kg | 133 | 91.3 | 68 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 103 | 77 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 97.6 | 73 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 91.5 | 69 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 110 | 83 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 107 | 80 | 45-147 | |
| Chrysene | ug/kg | 133 | 107 | 80 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 110 | 82 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 99.7 | 75 | 44-143 | |
| Fluorene | ug/kg | 133 | 99.2 | 74 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 112 | 84 | 47-140 | |
| Naphthalene | ug/kg | 133 | 90.1 | 68 | 35-118 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

LABORATORY CONTROL SAMPLE: 50751

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Phenanthrene | ug/kg | 133 | 94.5 | 71 | 42-131 | |
| Pyrene | ug/kg | 133 | 99.8 | 75 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 68 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 77 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50752 50753

| Parameter | Units | 255812002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 178 | 175 | 134 | 132 | 72 | 71 | 31-123 | 2 | |
| 2-Methylnaphthalene | ug/kg | 13.0 | 178 | 175 | 138 | 136 | 70 | 70 | 15-146 | .9 | |
| Acenaphthene | ug/kg | ND | 178 | 175 | 134 | 130 | 74 | 73 | 19-141 | 4 | |
| Acenaphthylene | ug/kg | ND | 178 | 175 | 130 | 124 | 70 | 67 | 30-142 | 5 | |
| Anthracene | ug/kg | ND | 178 | 175 | 127 | 114 | 70 | 64 | 38-137 | 11 | |
| Benzo(a)anthracene | ug/kg | ND | 178 | 175 | 131 | 121 | 73 | 68 | 37-143 | 8 | |
| Benzo(a)pyrene | ug/kg | ND | 178 | 175 | 124 | 108 | 69 | 61 | 33-147 | 13 | |
| Benzo(b)fluoranthene | ug/kg | ND | 178 | 175 | 117 | 113 | 65 | 64 | 25-156 | 4 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 178 | 175 | 131 | 117 | 73 | 66 | 26-142 | 12 | |
| Benzo(k)fluoranthene | ug/kg | ND | 178 | 175 | 129 | 114 | 72 | 64 | 35-142 | 13 | |
| Chrysene | ug/kg | ND | 178 | 175 | 136 | 128 | 76 | 73 | 23-150 | 7 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 178 | 175 | 130 | 118 | 73 | 67 | 41-140 | 10 | |
| Fluoranthene | ug/kg | 10.7 | 178 | 175 | 135 | 133 | 69 | 70 | 25-155 | 1 | |
| Fluorene | ug/kg | ND | 178 | 175 | 139 | 131 | 77 | 74 | 33-152 | 5 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 178 | 175 | 134 | 117 | 74 | 66 | 36-139 | 13 | |
| Naphthalene | ug/kg | 80.4 | 178 | 175 | 140 | 167 | 34 | 49 | 25-121 | 17 | |
| Phenanthrene | ug/kg | 23.2 | 178 | 175 | 138 | 135 | 64 | 64 | 29-141 | 2 | |
| Pyrene | ug/kg | ND | 178 | 175 | 145 | 139 | 76 | 74 | 36-145 | 5 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 74 | 71 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 76 | 74 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

QC Batch: PMST/1438 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255812001, 255812002, 255812003, 255812004, 255812005, 255812006, 255812007, 255812008, 255812009, 255812010, 255812011, 255812012

SAMPLE DUPLICATE: 50742

| Parameter | Units | 255815001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 21.5 | 20.2 | 6 | |

SAMPLE DUPLICATE: 50743

| Parameter | Units | 255830001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 13.1 | 14.3 | 9 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255812001** | **SPL-6-1** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812002** | **SPL-6-2** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812003** | **SPL-6-3** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812004** | **SPL-6-4** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812005** | **SPL-6-5** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812006** | **SPL-9-1** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812007** | **SPL-9-2** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812008** | **SPL-9-3** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812009** | **SPL-8-3** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812010** | **SPL-7-5** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812011** | **SPL-8-1** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812012** | **SPL-8-2** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255812001** | **SPL-6-1** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812002** | **SPL-6-2** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812003** | **SPL-6-3** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812004** | **SPL-6-4** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812005** | **SPL-6-5** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812006** | **SPL-9-1** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812007** | **SPL-9-2** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812008** | **SPL-9-3** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812009** | **SPL-8-3** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812010** | **SPL-7-5** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812011** | **SPL-8-1** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812012** | **SPL-8-2** | EPA 6020 | ICPM/23802 | EPA 6020 | ICPM/9660 |
| **255812001** | **SPL-6-1** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812002** | **SPL-6-2** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812003** | **SPL-6-3** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812004** | **SPL-6-4** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812005** | **SPL-6-5** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812006** | **SPL-9-1** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812007** | **SPL-9-2** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812008** | **SPL-9-3** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812009** | **SPL-8-3** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812010** | **SPL-7-5** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812011** | **SPL-8-1** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812012** | **SPL-8-2** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255812001** | **SPL-6-1** | ASTM D2974-87 | PMST/1438 | | |
| **255812002** | **SPL-6-2** | ASTM D2974-87 | PMST/1438 | | |
| **255812003** | **SPL-6-3** | ASTM D2974-87 | PMST/1438 | | |
| **255812004** | **SPL-6-4** | ASTM D2974-87 | PMST/1438 | | |
| **255812005** | **SPL-6-5** | ASTM D2974-87 | PMST/1438 | | |
| **255812006** | **SPL-9-1** | ASTM D2974-87 | PMST/1438 | | |
| **255812007** | **SPL-9-2** | ASTM D2974-87 | PMST/1438 | | |
| **255812008** | **SPL-9-3** | ASTM D2974-87 | PMST/1438 | | |
| **255812009** | **SPL-8-3** | ASTM D2974-87 | PMST/1438 | | |
| **255812010** | **SPL-7-5** | ASTM D2974-87 | PMST/1438 | | |
| **255812011** | **SPL-8-1** | ASTM D2974-87 | PMST/1438 | | |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255812

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255812012** | **SPL-8-2** | ASTM D2974-87 | PMST/1438 | | |



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## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

December 9, 2010

## Report Information:

**Pace Project #: 10144154**
**Sample Receipt Date: 11/30/2010**
**Client Project #: 255812 Brown & Caldwell**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

December 09, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

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Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on twelve samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 49-107%. With the exception of one low value in the associated method blank, which was flagged "R" on the result table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected value were flagged "I" where incorrect isotope ratios were obtained.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show the blanks to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batches using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 96-128%, with relative percent differences of 0.1-11.0%. These results indicate generally high degrees of accuracy and precision for these determinations. The background-subtracted recovery values obtained for OCDD in the matrix spike samples were above the 70-130% target range and may indicate a high bias for this congener in these determinations.



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Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

COC p. 1 (of 2)

10144154

# Chain of Custody

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**Workorder:** 255812 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 11/24/2010 **Results Requested By:** 12/8/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Requested Analysis: AS, Ni, Cu, Pb, Cd by 6020 | Requested Analysis: Dioxin, Furan | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-6-1 | PS | 11/22/2010 13:20 | 255812001 | Solid | 2 | X | X | |
| 2 | SPL-6-2 | PS | 11/22/2010 13:40 | 255812002 | Solid | 2 | X | X | |
| 3 | SPL-6-3 | PS | 11/22/2010 13:40 | 255812003 | Solid | 2 | X | X | |
| 4 | SPL-6-4 | PS | 11/22/2010 13:50 | 255812004 | Solid | 2 | X | X | |
| 5 | SPL-6-5 | PS | 11/22/2010 13:55 | 255812005 | Solid | 2 | X | X | |
| 6 | SPL-9-1 | PS | 11/22/2010 13:00 | 255812006 | Solid | 2 | X | X | |
| 7 | SPL-9-2 | PS | 11/22/2010 13:10 | 255812007 | Solid | 2 | X | X | |
| 8 | SPL-9-3 | PS | 11/22/2010 13:00 | 255812008 | Solid | 2 | X | X | |
| 9 | SPL-8-3 | PS | 11/22/2010 14:30 | 255812009 | Solid | 2 | X | X | |
| 10 | SPL-7-5 | PS | 11/22/2010 15:10 | 255812010 | Solid | 2 | X | X | |
| 11 | SPL-8-1 | PS | 11/22/2010 14:00 | 255812011 | Solid | 2 | X | X | |
| 12 | SPL-8-2 | PS | 11/22/2010 14:15 | 255812012 | Solid | 2 | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Colette Weaver | 112910/1400 | [illegible] | 11/30/10 1040 |
| 2 | | | | |
| 3 | | | | |

**Comments**

**Cooler Temperature on Receipt** 4.5 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

COC p. 2(of 2) 10144154

Revised COC

# Chain of Custody

Pace Analytical®
www.pacelabs.com

12/9/10

**Workorder:** 255812 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 11/24/2010 **Results Requested By:** ~~12/8/2010~~

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | As, Ni, Cu, Pb, Cd by 6020 | DIOXIN, FURAN | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-6-1 | PS | 11/22/2010 13:20 | 255812001 | Solid | 2 | X | X | |
| 2 | SPL-6-2 | PS | 11/22/2010 13:40 | 255812002 | Solid | 2 | X | X | |
| 3 | SPL-6-3 | PS | 11/22/2010 13:40 | 255812003 | Solid | 2 | X | X | |
| 4 | SPL-6-4 | PS | 11/22/2010 13:50 | 255812004 | Solid | 2 | X | X | |
| 5 | SPL-6-5 | PS | 11/22/2010 13:55 | 255812005 | Solid | 2 | X | X | |
| 6 | SPL-9-1 | PS | 11/22/2010 13:00 | 255812006 | Solid | 2 | X | X | |
| 7 | SPL-9-2 | PS | 11/22/2010 13:10 | 255812007 | Solid | 2 | X | X | |
| 8 | SPL-9-3 | PS | 11/22/2010 13:00 | 255812008 | Solid | 2 | X | X | |
| 9 | SPL-8-3 | PS | 11/22/2010 14:30 | 255812009 | Solid | 2 | X | X | |
| 10 | SPL-7-5 | PS | 11/22/2010 15:10 | 255812010 | Solid | 2 | X | X | |
| 11 | SPL-8-1 | PS | 11/22/2010 14:00 | 255812011 | Solid | 2 | X | X | |
| 12 | SPL-8-2 | PS | 11/22/2010 14:15 | 255812012 | Solid | 2 | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

**Comments**

Dioxins are RUSH

**Cooler Temperature on Receipt** °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE SERVICES **Project #** 10144154

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

**Tracking #:** 7969 9617 4291

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 4.5 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 11/30/10 NZ

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☑No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 11/30/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-6-1 | | | |
| Lab Sample ID | 255812001 | | | |
| Filename | F101206B_16 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 39.6 g | Matrix | Solid | |
| % Moisture | 74.3 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/22/2010 | 13:20 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 04:22 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 5.70 | ----- | 0.24 | | 2,3,7,8-TCDF-13C | 2.00 | 74 |
| Total TCDF | 80.00 | ----- | 0.24 | | 2,3,7,8-TCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | 0.86 | ----- | 0.29 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 39.00 | ----- | 0.29 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDF | 2.60 | ----- | 0.18 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 2.70 | ----- | 0.24 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 81 |
| Total PeCDF | 28.00 | ----- | 0.21 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 1.40 | ----- | 0.19 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 73 |
| Total PeCDD | 27.00 | ----- | 0.19 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 |
| 1,2,3,4,7,8-HxCDF | 2.00 | ----- | 0.19 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 |
| 1,2,3,6,7,8-HxCDF | 1.20 | ----- | 0.20 | J | OCDD-13C | 4.00 | 58 |
| 2,3,4,6,7,8-HxCDF | 1.40 | ----- | 0.18 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.97 | ----- | 0.14 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 17.00 | ----- | 0.18 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.20 | ----- | 0.23 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | ----- | 2.0 | 0.28 | I | | | |
| 1,2,3,7,8,9-HxCDD | 1.50 | ----- | 0.36 | J | | | |
| Total HxCDD | 21.00 | ----- | 0.29 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 7.70 | ----- | 0.36 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.30 | ----- | 0.36 | J | Equivalence: 5.0 ng/Kg | | |
| Total HpCDF | 27.00 | ----- | 0.36 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 27.00 | ----- | 0.51 | | | | |
| Total HpCDD | 55.00 | ----- | 0.51 | | | | |
| OCDF | 29.00 | ----- | 0.62 | | | | |
| OCDD | 300.00 | ----- | 0.61 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-6-2 | | | |
| Lab Sample ID | 255812002 | | | |
| Filename | F101207A_04 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 13.8 g | Matrix | Solid | |
| % Moisture | 26.5 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 13:40 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 15:59 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.180 | | 2,3,7,8-TCDF-13C | 2.00 | 52 |
| Total TCDF | 0.97 | ----- | 0.180 | J | 2,3,7,8-TCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 60 |
| 2,3,7,8-TCDD | ND | ----- | 0.180 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 Y |
| Total TCDD | 1.70 | ----- | 0.180 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.150 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | ----- | 0.26 | 0.110 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 56 |
| Total PeCDF | 1.80 | ----- | 0.130 | BJ | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 59 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDD | ----- | 0.15 | 0.086 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 69 |
| Total PeCDD | 1.30 | ----- | 0.086 | BJ | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | 0.20 | ----- | 0.086 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 64 |
| 1,2,3,6,7,8-HxCDF | 0.24 | ----- | 0.097 | BJ | OCDD-13C | 4.00 | 49 |
| 2,3,4,6,7,8-HxCDF | 0.21 | ----- | 0.110 | BJ | | | |
| 1,2,3,7,8,9-HxCDF | 0.26 | ----- | 0.140 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.90 | ----- | 0.110 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.150 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 66 |
| 1,2,3,6,7,8-HxCDD | 0.39 | ----- | 0.160 | BJ | | | |
| 1,2,3,7,8,9-HxCDD | 0.27 | ----- | 0.110 | BJ | | | |
| Total HxCDD | 3.70 | ----- | 0.140 | BJ | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.91 | ----- | 0.085 | BJ | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 0.19 | 0.072 | I | Equivalence: 0.36 ng/Kg | | |
| Total HpCDF | 2.10 | ----- | 0.078 | BJ | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 2.00 | ----- | 0.130 | BJ | | | |
| Total HpCDD | 5.20 | ----- | 0.130 | B | | | |
| OCDF | 2.10 | ----- | 0.170 | BJ | | | |
| OCDD | 16.00 | ----- | 0.250 | B | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-6-3 | | | |
| Lab Sample ID | 255812003 | | | |
| Filename | F101206B_17 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 22.5 g | Matrix | Solid | |
| % Moisture | 54.1 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 11/22/2010 | 13:40 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 05:10 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.30 | ----- | 0.21 | B | 2,3,7,8-TCDF-13C | 2.00 | 89 |
| Total TCDF | 14.00 | ----- | 0.21 | | 2,3,7,8-TCDD-13C | 2.00 | 103 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | ND | ----- | 0.23 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | 3.40 | ----- | 0.23 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 90 |
| 1,2,3,7,8-PeCDF | 0.59 | ----- | 0.16 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 85 |
| 2,3,4,7,8-PeCDF | 0.58 | ----- | 0.17 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 84 |
| Total PeCDF | 5.30 | ----- | 0.17 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDD | 0.55 | ----- | 0.25 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 83 |
| Total PeCDD | 7.90 | ----- | 0.25 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 0.58 | ----- | 0.15 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 75 |
| 1,2,3,6,7,8-HxCDF | 0.37 | ----- | 0.15 | J | OCDD-13C | 4.00 | 63 |
| 2,3,4,6,7,8-HxCDF | 0.51 | ----- | 0.14 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.44 | ----- | 0.17 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 3.50 | ----- | 0.15 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.53 | ----- | 0.20 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 95 |
| 1,2,3,6,7,8-HxCDD | 0.72 | ----- | 0.26 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.64 | ----- | 0.20 | J | | | |
| Total HxCDD | 13.00 | ----- | 0.22 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.93 | ----- | 0.18 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.45 | ----- | 0.32 | J | Equivalence: 1.5 ng/Kg | | |
| Total HpCDF | 3.10 | ----- | 0.25 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 6.20 | ----- | 0.44 | | | | |
| Total HpCDD | 13.00 | ----- | 0.44 | | | | |
| OCDF | 3.30 | ----- | 0.33 | J | | | |
| OCDD | 61.00 | ----- | 0.41 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-6-4 | | | |
| Lab Sample ID | 255812004 | | | |
| Filename | F101206B_18 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 19.6 g | Matrix | Solid | |
| % Moisture | 48.7 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 13:50 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 05:58 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 6.70 | ----- | 0.29 | | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 110.00 | ----- | 0.29 | | 2,3,7,8-TCDD-13C | 2.00 | 87 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 65 |
| 2,3,7,8-TCDD | 1.20 | ----- | 0.26 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 50.00 | ----- | 0.26 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 94 |
| 1,2,3,7,8-PeCDF | 3.60 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 82 |
| 2,3,4,7,8-PeCDF | 4.00 | ----- | 0.19 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 81 |
| Total PeCDF | 49.00 | ----- | 0.24 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 93 |
| 1,2,3,7,8-PeCDD | 3.20 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 75 |
| Total PeCDD | 52.00 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 |
| 1,2,3,4,7,8-HxCDF | 2.50 | ----- | 0.20 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 |
| 1,2,3,6,7,8-HxCDF | 1.80 | ----- | 0.18 | J | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 2.20 | ----- | 0.13 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.66 | ----- | 0.17 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 26.00 | ----- | 0.17 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.70 | ----- | 0.30 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 85 |
| 1,2,3,6,7,8-HxCDD | 3.80 | ----- | 0.25 | J | | | |
| 1,2,3,7,8,9-HxCDD | 2.20 | ----- | 0.23 | J | | | |
| Total HxCDD | 56.00 | ----- | 0.26 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 10.00 | ----- | 0.25 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.20 | ----- | 0.28 | J | Equivalence: 8.7 ng/Kg | | |
| Total HpCDF | 35.00 | ----- | 0.26 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 47.00 | ----- | 0.45 | | | | |
| Total HpCDD | 92.00 | ----- | 0.45 | | | | |
| OCDF | 36.00 | ----- | 0.40 | | | | |
| OCDD | 490.00 | ----- | 0.63 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-6-5 | | | |
| Lab Sample ID | 255812005 | | | |
| Filename | F101206B_19 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 35.3 g | Matrix | Solid | |
| % Moisture | 71.0 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/22/2010 | 13:55 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 06:46 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 16.0 | ----- | 0.71 | 2,3,7,8-TCDF-13C | 2.00 | 79 |
| Total TCDF | 320.0 | ----- | 0.71 | 2,3,7,8-TCDD-13C | 2.00 | 86 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 70 |
| 2,3,7,8-TCDD | 3.9 | ----- | 0.53 | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | 260.0 | ----- | 0.53 | 1,2,3,7,8-PeCDD-13C | 2.00 | 74 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 100 |
| 1,2,3,7,8-PeCDF | 12.0 | ----- | 0.70 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 |
| 2,3,4,7,8-PeCDF | 23.0 | ----- | 0.81 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | 250.0 | ----- | 0.76 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 107 |
| 1,2,3,7,8-PeCDD | 14.0 | ----- | 0.79 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 290.0 | ----- | 0.79 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 64 |
| 1,2,3,4,7,8-HxCDF | 23.0 | ----- | 0.56 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | 15.0 | ----- | 0.42 | OCDD-13C | 4.00 | 67 |
| 2,3,4,6,7,8-HxCDF | 19.0 | ----- | 0.62 | | | |
| 1,2,3,7,8,9-HxCDF | 7.3 | ----- | 0.90 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 220.0 | ----- | 0.62 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 11.0 | ----- | 0.95 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 85 |
| 1,2,3,6,7,8-HxCDD | 27.0 | ----- | 0.70 | | | |
| 1,2,3,7,8,9-HxCDD | 13.0 | ----- | 0.49 | | | |
| Total HxCDD | 380.0 | ----- | 0.72 | | | |
| 1,2,3,4,6,7,8-HpCDF | 150.0 | ----- | 0.57 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 16.0 | ----- | 0.80 | Equivalence: 47 ng/Kg | | |
| Total HpCDF | 210.0 | ----- | 0.69 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 460.0 | ----- | 1.60 | | | |
| Total HpCDD | 870.0 | ----- | 1.60 | | | |
| OCDF | 610.0 | ----- | 1.00 | | | |
| OCDD | 5400.0 | ----- | 1.10 | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-9-1 | | | |
| Lab Sample ID | 255812006 | | | |
| Filename | F101207A_05 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 10.8 g | Matrix | Solid | |
| % Moisture | 6.8 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 13:00 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 16:47 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.220 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 1.10 | ----- | 0.220 | | 2,3,7,8-TCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 61 |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 Y |
| Total TCDD | 0.76 | ----- | 0.150 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDF | 0.20 | ----- | 0.110 | BJ | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 0.39 | ----- | 0.072 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 |
| Total PeCDF | 4.20 | ----- | 0.090 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 79 |
| 1,2,3,7,8-PeCDD | 0.18 | ----- | 0.160 | BJ | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 1.30 | ----- | 0.160 | BJ | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.39 | 0.110 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 73 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.38 | 0.110 | I | OCDD-13C | 4.00 | 60 |
| 2,3,4,6,7,8-HxCDF | 0.33 | ----- | 0.110 | BJ | | | |
| 1,2,3,7,8,9-HxCDF | 0.22 | ----- | 0.097 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 6.20 | ----- | 0.110 | B | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.17 | ----- | 0.130 | BJ | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 0.51 | ----- | 0.130 | BJ | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.23 | 0.120 | I | | | |
| Total HxCDD | 2.50 | ----- | 0.130 | BJ | | | |
| 1,2,3,4,6,7,8-HpCDF | 3.00 | ----- | 0.130 | BJ | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.230 | | Equivalence: 0.79 ng/Kg | | |
| Total HpCDF | 11.00 | ----- | 0.180 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 17.00 | ----- | 0.270 | | | | |
| Total HpCDD | 36.00 | ----- | 0.270 | | | | |
| OCDF | 9.60 | ----- | 0.310 | BJ | | | |
| OCDD | 170.00 | ----- | 0.380 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-9-2 | | | |
| Lab Sample ID | 255812007 | | | |
| Filename | F101207A_06 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 10.9 g | Matrix | Solid | |
| % Moisture | 7.4 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 13:10 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 17:35 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.190 | | 2,3,7,8-TCDF-13C | 2.00 | 72 | |
| Total TCDF | 0.25 | ----- | 0.190 | J | 2,3,7,8-TCDD-13C | 2.00 | 85 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 58 | |
| 2,3,7,8-TCDD | ND | ----- | 0.150 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 81 | Y |
| Total TCDD | 0.65 | ----- | 0.150 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 | |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 81 | |
| 2,3,4,7,8-PeCDF | 0.36 | ----- | 0.100 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 55 | |
| Total PeCDF | 3.40 | ----- | 0.120 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 90 | |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 | |
| Total PeCDD | 0.16 | ----- | 0.130 | BJ | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 60 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 60 | |
| 1,2,3,4,7,8-HxCDF | 0.37 | ----- | 0.150 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 69 | |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.130 | | OCDD-13C | 4.00 | 58 | |
| 2,3,4,6,7,8-HxCDF | ----- | 0.26 | 0.170 | I | | | | |
| 1,2,3,7,8,9-HxCDF | 0.20 | ----- | 0.096 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 5.80 | ----- | 0.140 | B | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.280 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 92 | |
| 1,2,3,6,7,8-HxCDD | 0.63 | ----- | 0.230 | BJ | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.190 | | | | | |
| Total HxCDD | 5.20 | ----- | 0.240 | B | | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.70 | ----- | 0.200 | BJ | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.220 | | Equivalence: 0.70 ng/Kg | | | |
| Total HpCDF | 9.70 | ----- | 0.210 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 19.00 | ----- | 0.330 | | | | | |
| Total HpCDD | 41.00 | ----- | 0.330 | | | | | |
| OCDF | 7.90 | ----- | 0.400 | BJ | | | | |
| OCDD | 190.00 | ----- | 0.860 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-9-3 | | | |
| Lab Sample ID | 255812008 | | | |
| Filename | F101207A_07 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 10.8 g | Matrix | Solid | |
| % Moisture | 6.6 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 13:00 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 18:23 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.24 | | 2,3,7,8-TCDF-13C | 2.00 | 76 | |
| Total TCDF | 0.96 | ----- | 0.24 | J | 2,3,7,8-TCDD-13C | 2.00 | 88 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 54 | |
| 2,3,7,8-TCDD | ND | ----- | 0.26 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 | Y |
| Total TCDD | 0.44 | ----- | 0.26 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 83 | |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.24 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 | |
| 2,3,4,7,8-PeCDF | 0.40 | ----- | 0.16 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 | |
| Total PeCDF | 5.00 | ----- | 0.20 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 | |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.16 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 | |
| Total PeCDD | 0.93 | ----- | 0.16 | BJ | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 | |
| 1,2,3,4,7,8-HxCDF | 0.51 | ----- | 0.16 | BJ | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 74 | |
| 1,2,3,6,7,8-HxCDF | ----- | 0.25 | 0.16 | I | OCDD-13C | 4.00 | 62 | |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.25 | | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.15 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 7.30 | ----- | 0.18 | B | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.22 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 95 | |
| 1,2,3,6,7,8-HxCDD | 0.78 | ----- | 0.25 | BJ | | | | |
| 1,2,3,7,8,9-HxCDD | 0.36 | ----- | 0.20 | BJ | | | | |
| Total HxCDD | 6.20 | ----- | 0.22 | B | | | | |
| 1,2,3,4,6,7,8-HpCDF | 3.70 | ----- | 0.23 | J | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 0.34 | ----- | 0.28 | BJ | Equivalence: 0.95 ng/Kg | | | |
| Total HpCDF | 14.00 | ----- | 0.26 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 28.00 | ----- | 0.36 | | | | | |
| Total HpCDD | 56.00 | ----- | 0.36 | | | | | |
| OCDF | 11.00 | ----- | 0.33 | B | | | | |
| OCDD | 290.00 | ----- | 0.47 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-8-3 | | | |
| Lab Sample ID | 255812009 | | | |
| Filename | F101207A_08 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.9 g | Matrix | Solid | |
| % Moisture | 15.9 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 11/22/2010 | 14:30 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 19:12 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.80 | ----- | 0.26 | J | 2,3,7,8-TCDF-13C | 2.00 | 68 | |
| Total TCDF | 13.00 | ----- | 0.26 | | 2,3,7,8-TCDD-13C | 2.00 | 84 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 | |
| 2,3,7,8-TCDD | ND | ----- | 0.22 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 | Y |
| Total TCDD | 10.00 | ----- | 0.22 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 74 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 | |
| 1,2,3,7,8-PeCDF | 1.10 | ----- | 0.22 | BJ | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 | |
| 2,3,4,7,8-PeCDF | 4.20 | ----- | 0.21 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 58 | |
| Total PeCDF | 30.00 | ----- | 0.22 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 82 | |
| 1,2,3,7,8-PeCDD | 0.67 | ----- | 0.27 | BJ | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 | |
| Total PeCDD | 16.00 | ----- | 0.27 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 | |
| 1,2,3,4,7,8-HxCDF | 6.60 | ----- | 0.22 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 74 | |
| 1,2,3,6,7,8-HxCDF | 1.90 | ----- | 0.21 | BJ | OCDD-13C | 4.00 | 67 | |
| 2,3,4,6,7,8-HxCDF | 2.60 | ----- | 0.18 | BJ | | | | |
| 1,2,3,7,8,9-HxCDF | 1.80 | ----- | 0.30 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 79.00 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 0.85 | ----- | 0.29 | BJ | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 | |
| 1,2,3,6,7,8-HxCDD | 3.50 | ----- | 0.28 | J | | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | ----- | 0.22 | BJ | | | | |
| Total HxCDD | 31.00 | ----- | 0.27 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 28.00 | ----- | 0.11 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 2.0 | 0.31 | I | Equivalence: 5.3 ng/Kg | | | |
| Total HpCDF | 120.00 | ----- | 0.21 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 73.00 | ----- | 0.40 | | | | | |
| Total HpCDD | 140.00 | ----- | 0.40 | | | | | |
| OCDF | 100.00 | ----- | 0.30 | | | | | |
| OCDD | 880.00 | ----- | 0.46 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-7-5 | | | |
| Lab Sample ID | 255812010 | | | |
| Filename | F101206B_20 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 32.2 g | Matrix | Solid | |
| % Moisture | 68.2 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/22/2010 | 15:10 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 07:34 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.50 | ----- | 0.35 | | 2,3,7,8-TCDF-13C | 2.00 | 86 |
| Total TCDF | 30.00 | ----- | 0.35 | | 2,3,7,8-TCDD-13C | 2.00 | 99 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 65 |
| 2,3,7,8-TCDD | 0.58 | ----- | 0.41 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | 17.00 | ----- | 0.41 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDF | 1.20 | ----- | 0.32 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 84 |
| 2,3,4,7,8-PeCDF | 1.30 | ----- | 0.43 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 84 |
| Total PeCDF | 12.00 | ----- | 0.38 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 93 |
| 1,2,3,7,8-PeCDD | 1.40 | ----- | 0.70 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 16.00 | ----- | 0.70 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 66 |
| 1,2,3,4,7,8-HxCDF | 0.92 | ----- | 0.37 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 73 |
| 1,2,3,6,7,8-HxCDF | 0.74 | ----- | 0.29 | J | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 0.82 | ----- | 0.32 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.50 | ----- | 0.34 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 9.30 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.93 | ----- | 0.36 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 93 |
| 1,2,3,6,7,8-HxCDD | 1.30 | ----- | 0.39 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.82 | ----- | 0.34 | J | | | |
| Total HxCDD | 17.00 | ----- | 0.36 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 3.90 | ----- | 0.42 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.83 | ----- | 0.48 | J | Equivalence: 3.5 ng/Kg | | |
| Total HpCDF | 14.00 | ----- | 0.45 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 11.00 | ----- | 0.40 | | | | |
| Total HpCDD | 23.00 | ----- | 0.40 | | | | |
| OCDF | 15.00 | ----- | 0.66 | | | | |
| OCDD | 130.00 | ----- | 1.10 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-8-1 | | | |
| Lab Sample ID | 255812011 | | | |
| Filename | F101207A_09 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 13.5 g | Matrix | Solid | |
| % Moisture | 25.7 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 11/22/2010 | 14:00 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 20:00 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.49 | ----- | 0.40 | J | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 11.00 | ----- | 0.40 | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 63 |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 79 Y |
| Total TCDD | 5.20 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 70 |
| 1,2,3,7,8-PeCDF | 0.71 | ----- | 0.29 | BJ | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 65 |
| 2,3,4,7,8-PeCDF | 2.70 | ----- | 0.22 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 53 |
| Total PeCDF | 26.00 | ----- | 0.26 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDD | 0.55 | ----- | 0.29 | BJ | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | 7.80 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 59 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 |
| 1,2,3,4,7,8-HxCDF | 3.30 | ----- | 0.32 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 66 |
| 1,2,3,6,7,8-HxCDF | 0.90 | ----- | 0.29 | BJ | OCDD-13C | 4.00 | 54 |
| 2,3,4,6,7,8-HxCDF | 1.60 | ----- | 0.37 | BJ | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.87 | 0.21 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 40.00 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.57 | ----- | 0.34 | BJ | 2,3,7,8-TCDD-37Cl4 | 0.20 | 93 |
| 1,2,3,6,7,8-HxCDD | 1.80 | ----- | 0.24 | J | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.70 | 0.23 | I | | | |
| Total HxCDD | 18.00 | ----- | 0.27 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 13.00 | ----- | 0.17 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.50 | ----- | 0.30 | BJ | Equivalence: 3.0 ng/Kg | | |
| Total HpCDF | 58.00 | ----- | 0.23 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 33.00 | ----- | 0.40 | | | | |
| Total HpCDD | 67.00 | ----- | 0.40 | | | | |
| OCDF | 45.00 | ----- | 0.47 | | | | |
| OCDD | 390.00 | ----- | 1.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-8-2 | | | |
| Lab Sample ID | 255812012 | | | |
| Filename | F101207A_10 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.2 g | Matrix | Solid | |
| % Moisture | 12.0 | Dilution | NA | |
| Dry Weight Extracted | 10.7 g | Collected | 11/22/2010 | 14:15 |
| ICAL ID | F101206 | Received | 11/30/2010 | 10:48 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Extracted | 12/02/2010 | 14:00 |
| Method Blank ID | BLANK-27124 | Analyzed | 12/07/2010 | 20:48 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.98 | ----- | 0.28 | | 2,3,7,8-TCDF-13C | 2.00 | 69 | |
| Total TCDF | 24.00 | ----- | 0.28 | | 2,3,7,8-TCDD-13C | 2.00 | 82 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 | |
| 2,3,7,8-TCDD | ----- | 0.18 | 0.15 | I | 2,3,4,7,8-PeCDF-13C | 2.00 | 82 | Y |
| Total TCDD | 10.00 | ----- | 0.15 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 73 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 | |
| 1,2,3,7,8-PeCDF | 2.50 | ----- | 0.25 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 | |
| 2,3,4,7,8-PeCDF | 12.00 | ----- | 0.24 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 | |
| Total PeCDF | 130.00 | ----- | 0.25 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 83 | |
| 1,2,3,7,8-PeCDD | 0.81 | ----- | 0.23 | BJ | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 | |
| Total PeCDD | 26.00 | ----- | 0.23 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 | |
| 1,2,3,4,7,8-HxCDF | 23.00 | ----- | 0.40 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 | |
| 1,2,3,6,7,8-HxCDF | 5.60 | ----- | 0.20 | | OCDD-13C | 4.00 | 60 | |
| 2,3,4,6,7,8-HxCDF | 11.00 | ----- | 0.35 | | | | | |
| 1,2,3,7,8,9-HxCDF | 5.20 | ----- | 0.26 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 280.00 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 1.50 | ----- | 0.32 | BJ | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 | |
| 1,2,3,6,7,8-HxCDD | 8.90 | ----- | 0.32 | | | | | |
| 1,2,3,7,8,9-HxCDD | 2.30 | ----- | 0.22 | BJ | | | | |
| Total HxCDD | 140.00 | ----- | 0.29 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 82.00 | ----- | 0.47 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 8.20 | ----- | 0.66 | | Equivalence: 14 ng/Kg | | | |
| Total HpCDF | 350.00 | ----- | 0.56 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 200.00 | ----- | 0.59 | | | | | |
| Total HpCDD | 420.00 | ----- | 0.59 | | | | | |
| OCDF | 250.00 | ----- | 0.86 | | | | | |
| OCDD | 2500.00 | ----- | 0.36 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27127 | Matrix | Solid |
| Filename | U101206A_06 | Dilution | NA |
| Total Amount Extracted | 20.2 g | Extracted | 12/02/2010 17:15 |
| ICAL ID | U101204A | Analyzed | 12/06/2010 17:29 |
| CCal Filename(s) | U101206A_02 & U101206A_17 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.200 | ----- | 0.047 | J | 2,3,7,8-TCDF-13C | 2.00 | 51 |
| Total TCDF | 0.320 | ----- | 0.047 | J | 2,3,7,8-TCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 39 R |
| 2,3,7,8-TCDD | 0.039 | ----- | 0.026 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 40 |
| Total TCDD | 0.039 | ----- | 0.026 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 48 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.044 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 0.050 | ----- | 0.036 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 0.050 | ----- | 0.040 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.041 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | ND | ----- | 0.041 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 66 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.068 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.081 | | OCDD-13C | 4.00 | 72 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.063 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.087 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.075 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.094 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 56 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.100 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.097 | | | | |
| Total HxCDD | ND | ----- | 0.098 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.071 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.086 | | Equivalence: 0.13 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.078 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.100 | | | | |
| Total HpCDD | 0.130 | ----- | 0.100 | J | | | |
| OCDF | ND | ----- | 0.140 | | | | |
| OCDD | 0.550 | ----- | 0.210 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range



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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27124 | Matrix | Solid |
| Filename | F101207A_03 | Dilution | NA |
| Total Amount Extracted | 10.4 g | Extracted | 12/02/2010 14:00 |
| ICAL ID | F101206 | Analyzed | 12/07/2010 15:10 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.150 | | 2,3,7,8-TCDF-13C | 2.00 | 54 |
| Total TCDF | ND | ----- | 0.150 | | 2,3,7,8-TCDD-13C | 2.00 | 66 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | ND | ----- | 0.130 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 83 Y |
| Total TCDD | ND | ----- | 0.130 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDF | 0.24 | ----- | 0.100 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | ----- | 0.19 | 0.071 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 61 |
| Total PeCDF | 0.24 | ----- | 0.086 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | 0.21 | ----- | 0.110 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 0.21 | ----- | 0.110 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | 0.22 | ----- | 0.075 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 74 |
| 1,2,3,6,7,8-HxCDF | 0.21 | ----- | 0.067 | J | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 0.33 | ----- | 0.088 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.42 | ----- | 0.120 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.20 | ----- | 0.088 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.19 | ----- | 0.120 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 0.18 | ----- | 0.088 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.27 | ----- | 0.100 | J | | | |
| Total HxCDD | 0.64 | ----- | 0.100 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.32 | ----- | 0.082 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.37 | ----- | 0.120 | J | Equivalence: 0.49 ng/Kg | | |
| Total HpCDF | 0.69 | ----- | 0.100 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.46 | ----- | 0.100 | J | | | |
| Total HpCDD | 0.70 | ----- | 0.100 | J | | | |
| OCDF | 1.10 | ----- | 0.170 | J | | | |
| OCDD | 1.70 | ----- | 0.320 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27128 | | |
| Filename | U101206A_03 | Matrix | Solid |
| Total Amount Extracted | 20.4 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 12/02/2010 17:15 |
| CCal Filename(s) | U101206A_02 & U101206A_17 | Analyzed | 12/06/2010 15:03 |
| Method Blank ID | BLANK-27127 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 124 | 2,3,7,8-TCDF-13C | 2.0 | 57 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 71 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 60 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 100 | 2,3,4,7,8-PeCDF-13C | 2.0 | 57 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 78 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 79 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 115 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 69 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 113 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 71 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 71 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 73 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 77 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 70 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 66 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 110 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 76 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 113 | OCDD-13C | 4.0 | 63 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 115 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 115 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 112 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 68 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 109 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.1 | 114 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.2 | 116 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 110 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 102 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.3 | 115 | | | |
| OCDD | 2.0 | 2.4 | 122 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27125 | | |
| Filename | F101207A_01 | Matrix | Solid |
| Total Amount Extracted | 10.1 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/02/2010 14:00 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Analyzed | 12/07/2010 13:35 |
| Method Blank ID | BLANK-27124 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 117 | 2,3,7,8-TCDF-13C | 2.0 | 54 | |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 65 | |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 62 | |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 99 | 2,3,4,7,8-PeCDF-13C | 2.0 | 81 | Y |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 75 | |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 77 | |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 72 | |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 108 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 59 | |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 68 | |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 81 | |
| 1,2,3,7,8-PeCDD | 1.0 | 1.00 | 100 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 73 | |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 66 | |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 63 | |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 69 | |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 109 | OCDD-13C | 4.0 | 57 | |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 101 | | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 110 | 1,2,3,4-TCDD-13C | 2.0 | NA | |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA | |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.99 | 99 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 71 | |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 108 | | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.0 | 102 | | | | |
| Total HxCDD | | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 106 | | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 102 | | | | |
| Total HpCDF | | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.96 | 96 | | | | |
| Total HpCDD | | | | | | | |
| OCDF | 2.0 | 2.3 | 116 | | | | |
| OCDD | 2.0 | 2.2 | 109 | | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-9-1-MS | | |
| Lab Sample ID | 255812006-MS | | |
| Filename | F101207A_12 | Matrix | Solid |
| Total Amount Extracted | 10.9 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/02/2010 14:00 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Analyzed | 12/07/2010 22:24 |
| Method Blank ID | BLANK-27124 | Injected By | SMT |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.26 | 128 | 2,3,7,8-TCDF-13C | 2.00 | 68 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 60 |
| 2,3,7,8-TCDD | 0.20 | 0.21 | 105 | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 Y |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 69 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.15 | 115 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.11 | 111 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 83 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.01 | 101 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 75 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 56 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 55 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.07 | 107 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 61 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.09 | 109 | OCDD-13C | 4.00 | 49 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.11 | 111 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.07 | 107 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.04 | 104 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.04 | 104 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 0.96 | 96 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.10 | 110 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.03 | 103 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.26 | 126 | | | |
| OCDF | 2.00 | 2.28 | 114 | | | |
| OCDD | 2.00 | 5.27 | 264 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
Y = Calculated using average of daily RFs

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-9-1-MSD | | |
| Lab Sample ID | 255812006-MSD | | |
| Filename | F101207A_13 | Matrix | Solid |
| Total Amount Extracted | 10.8 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/02/2010 14:00 |
| CCal Filename(s) | F101206B_26 & F101207A_16 | Analyzed | 12/07/2010 23:12 |
| Method Blank ID | BLANK-27124 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 119 | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 61 |
| 2,3,7,8-TCDD | 0.20 | 0.21 | 104 | 2,3,4,7,8-PeCDF-13C | 2.00 | 79 Y |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.11 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.06 | 106 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 57 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.99 | 99 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 58 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.10 | 110 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.07 | 107 | OCDD-13C | 4.00 | 55 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.12 | 112 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.10 | 110 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.04 | 104 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.07 | 107 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 0.98 | 98 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.13 | 113 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.05 | 105 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.16 | 116 | | | |
| OCDF | 2.00 | 2.30 | 115 | | | |
| OCDD | 2.00 | 4.72 | 236 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
Y = Calculated using average of daily RFs

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# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-9-1 | | | Dry Weights | |
| Lab Sample ID | 255812006 | Sample Filename | F101207A_05 | Sample Amount | 10.1 g |
| MS ID | 255812006-MS | MS Filename | F101207A_12 | MS Amount | 10.2 g |
| MSD ID | 255812006-MSD | MSD Filename | F101207A_13 | MSD Amount | 10.1 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.000 | 0.20 | 0.26 | 0.24 | 7.4 | 128 | 119 | 7.4 |
| 2,3,7,8-TCDD | 0.000 | 0.20 | 0.21 | 0.21 | 1.1 | 105 | 104 | 1.1 |
| 1,2,3,7,8-PeCDF | 0.197 | 1.00 | 1.15 | 1.11 | 3.8 | 115 | 111 | 3.8 |
| 2,3,4,7,8-PeCDF | 0.393 | 1.00 | 1.11 | 1.06 | 4.7 | 111 | 106 | 4.7 |
| 1,2,3,7,8-PeCDD | 0.184 | 1.00 | 1.01 | 0.99 | 1.6 | 100 | 99 | 1.6 |
| 1,2,3,4,7,8-HxCDF | 0.000 | 1.00 | 1.07 | 1.10 | 1.9 | 107 | 109 | 2.0 |
| 1,2,3,6,7,8-HxCDF | 0.000 | 1.00 | 1.09 | 1.07 | 1.6 | 108 | 107 | 1.6 |
| 2,3,4,6,7,8-HxCDF | 0.330 | 1.00 | 1.11 | 1.12 | 1.0 | 110 | 111 | 1.0 |
| 1,2,3,7,8,9-HxCDF | 0.216 | 1.00 | 1.07 | 1.10 | 2.9 | 106 | 110 | 2.9 |
| 1,2,3,4,7,8-HxCDD | 0.168 | 1.00 | 1.04 | 1.04 | 0.1 | 104 | 104 | 0.0 |
| 1,2,3,6,7,8-HxCDD | 0.512 | 1.00 | 1.04 | 1.07 | 2.9 | 103 | 106 | 3.0 |
| 1,2,3,7,8,9-HxCDD | 0.000 | 1.00 | 0.96 | 0.98 | 1.7 | 96 | 97 | 1.7 |
| 1,2,3,4,6,7,8-HpCDF | 2.957 | 1.00 | 1.10 | 1.13 | 2.8 | 107 | 110 | 3.0 |
| 1,2,3,4,7,8,9-HpCDF | 0.000 | 1.00 | 1.03 | 1.05 | 2.4 | 103 | 105 | 2.4 |
| 1,2,3,4,6,7,8-HpCDD | 17.290 | 1.00 | 1.26 | 1.16 | 8.7 | 109 | 98 | 10.0 |
| OCDF | 9.566 | 2.00 | 2.28 | 2.30 | 0.8 | 109 | 110 | 0.8 |
| OCDD | 167.498 | 2.00 | 5.27 | 4.72 | 11.0 | 178 | 152 | 16.2 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255812

Page: 1 of 1

1318559

**Section A** Required Client Information:

Company: Braun + Caldwell
Address: 724 Columbia St NW #20, Olympia WA
Email To: jturk@braunald.com
Phone: 360-943-7525 Fax: 360-943-7513
Requested Due Date/TAT: 10-day, Dec 9, 2010

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 15130

**Section C** Invoice Information:

Attention: See A
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | As, Ni, Cu, Pb, Cd | cPAH, Naphthalene | TPH-HO, TPH-D | Dioxin, Furan | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-6-1 | SL | G | | | 11/22/10 | 13:20 | | 4 | X | | | | | | | | | X | X | X | X | | |
| 2 | SPL-6-2 | | | | | | 13:40 | | | | | | | | | | | | | | | | | |
| 3 | SPL-6-3 | | | | | | 13:40 | | | | | | | | | | | | | | | | | |
| 4 | SPL-6-4 | | | | | | 13:50 | | | | | | | | | | | | | | | | | |
| 5 | SPL-6-5 | | | | | | 13:55 | | | | | | | | | | | | | | | | | |
| 6 | SPL-9-1 | | | | | | 13:00 | | | | | | | | | | | | | | | | | |
| 7 | SPL-9-2 | | | | | | 13:10 | | | | | | | | | | | | | | | | | |
| 8 | SPL-9-3 | | | | | | 13:00 | | | | | | | | | | | | | | | | | |
| 9 | ~~SPL-7-4~~ SPL-8-3 | | | | | | 14:30 | | | | | | | | | | | | | | | | | |
| 10 | ~~SPL-7-5~~ SPL-7-5 | | | | | | 15:10 | | | | | | | | | | | | | | | | | |
| 11 | SPL-8-1 | | | | | | 14:00 | | | | | | | | | | | | | | | | | |
| 12 | SPL-8-2 | | | | | | 14:15 | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Jon Turk (BC) | 11/22/10 | 1800 | to Custody Seal for Pace Courier | | | | | | |
| | | | | John Swany | 11/24/10 | 1408 | 0.2 | Y | Y | Y |
| | | | | | | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/22/10

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

F-ALL-Q-020rev.07, 15-May-2007

255812

# Sample Container Count

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CLIENT: Brown + Caldwell

COC PAGE 1 of 1
COC ID# 1318559

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 4 | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 255812

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

Tracking #: 8138 8211 5369

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ____ No ____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.2°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NB 11/24/10

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑ Yes ☐ No ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes ☐ No ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes ☐ No ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes ☐ No ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes ☐ No ☐ N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐ Yes ☑ No ☐ N/A | 6. |
| Rush Turn Around Time Requested: | ☐ Yes ☑ No ☐ N/A | 7. |
| Sufficient Volume: | ☑ Yes ☐ No ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes ☐ No ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes ☐ No ☐ N/A | |
| Containers Intact: | ☑ Yes ☐ No ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes ☐ No ☑ N/A | 11. |
| Sample Labels match COC: | ☑ Yes ☐ No ☐ N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐ Yes ☐ No ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes ☐ No ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes ☐ No ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes ☐ No ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes ☑ No ☐ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes ☐ No ☑ N/A | |
| Pace Trip Blank Lot # (if purchased): | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: RSM Date: 11/29/10

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

December 27, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255986

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 11, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

No sample jars were received for dry weight correction. Per client previous results from the same sampling points (reported on work order 255812) can be used for the dry weight correction.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: John Turk, Brown & Caldwell



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## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 255986 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255986001** | **SPL-6-1** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986002** | **SPL-6-2** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986003** | **SPL-6-3** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986004** | **SPL-6-4** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986005** | **SPL-6-5** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986006** | **SPL-9-1** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986007** | **SPL-9-2** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986008** | **SPL-9-3** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986009** | **SPL-8-1** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986010** | **SPL-8-2** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255986011** | **TB-1318558** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

**Sample: SPL-6-1** **Lab ID: 255986001** Collected: 12/10/10 10:30 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 44.7 | 1 | 12/15/10 10:00 | 12/15/10 23:54 | | |
| a,a,a-Trifluorotoluene (S) | 91 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 23:54 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 75 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 23:54 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 16.3 | 1 | | 12/16/10 15:14 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 16.3 | 1 | | 12/16/10 15:14 | 100-41-4 | |
| Toluene | ND | ug/kg | 16.3 | 1 | | 12/16/10 15:14 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 48.9 | 1 | | 12/16/10 15:14 | 1330-20-7 | |
| Dibromofluoromethane (S) | 100 | % | 80-136 | 1 | | 12/16/10 15:14 | 1868-53-7 | |
| Toluene-d8 (S) | 128 | % | 80-120 | 1 | | 12/16/10 15:14 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 142 | % | 72-122 | 1 | | 12/16/10 15:14 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 12/16/10 15:14 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **74.3** | % | 0.10 | 1 | | 11/30/10 17:03 | | |

**Sample: SPL-6-2** **Lab ID: 255986002** Collected: 12/10/10 10:50 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 11.5 | 1 | 12/15/10 10:00 | 12/16/10 00:40 | | |
| a,a,a-Trifluorotoluene (S) | 79 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 00:40 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 62 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 00:40 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 5.9 | 1 | | 12/16/10 15:34 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 5.9 | 1 | | 12/16/10 15:34 | 100-41-4 | |
| Toluene | ND | ug/kg | 5.9 | 1 | | 12/16/10 15:34 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 17.6 | 1 | | 12/16/10 15:34 | 1330-20-7 | |
| Dibromofluoromethane (S) | 115 | % | 80-136 | 1 | | 12/16/10 15:34 | 1868-53-7 | |
| Toluene-d8 (S) | 146 | % | 80-120 | 1 | | 12/16/10 15:34 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 146 | % | 72-122 | 1 | | 12/16/10 15:34 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 111 | % | 80-143 | 1 | | 12/16/10 15:34 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **26.5** | % | 0.10 | 1 | | 11/30/10 17:04 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

**Sample: SPL-6-3** **Lab ID: 255986003** Collected: 12/10/10 10:40 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 22.8 | 1 | 12/15/10 10:00 | 12/16/10 01:03 | | |
| a,a,a-Trifluorotoluene (S) | 80 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 01:03 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 60 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 01:03 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 7.2 | 1 | | 12/16/10 15:53 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 7.2 | 1 | | 12/16/10 15:53 | 100-41-4 | |
| Toluene | ND | ug/kg | 7.2 | 1 | | 12/16/10 15:53 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 21.6 | 1 | | 12/16/10 15:53 | 1330-20-7 | |
| Dibromofluoromethane (S) | 101 | % | 80-136 | 1 | | 12/16/10 15:53 | 1868-53-7 | |
| Toluene-d8 (S) | 146 | % | 80-120 | 1 | | 12/16/10 15:53 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 137 | % | 72-122 | 1 | | 12/16/10 15:53 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 12/16/10 15:53 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **54.1** | % | 0.10 | 1 | | 11/30/10 17:06 | | |

**Sample: SPL-6-4** **Lab ID: 255986004** Collected: 12/10/10 10:40 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 22.9 | 1 | 12/15/10 10:00 | 12/16/10 01:27 | | |
| a,a,a-Trifluorotoluene (S) | 78 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 01:27 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 63 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 01:27 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 10.0 | 1 | | 12/21/10 14:27 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 10.0 | 1 | | 12/21/10 14:27 | 100-41-4 | |
| Toluene | ND | ug/kg | 10.0 | 1 | | 12/21/10 14:27 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 30.0 | 1 | | 12/21/10 14:27 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 12/21/10 14:27 | 1868-53-7 | |
| Toluene-d8 (S) | 147 | % | 80-120 | 1 | | 12/21/10 14:27 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 144 | % | 72-122 | 1 | | 12/21/10 14:27 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 12/21/10 14:27 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **48.7** | % | 0.10 | 1 | | 11/30/10 17:07 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

**Sample: SPL-6-5** **Lab ID: 255986005** Collected: 12/10/10 10:40 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 34.1 | 1 | 12/15/10 10:00 | 12/16/10 01:50 | | |
| a,a,a-Trifluorotoluene (S) | 81 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 01:50 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 72 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 01:50 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 12.6 | 1 | | 12/16/10 16:13 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 12.6 | 1 | | 12/16/10 16:13 | 100-41-4 | |
| Toluene | ND | ug/kg | 12.6 | 1 | | 12/16/10 16:13 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 37.9 | 1 | | 12/16/10 16:13 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 12/16/10 16:13 | 1868-53-7 | |
| Toluene-d8 (S) | 135 | % | 80-120 | 1 | | 12/16/10 16:13 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 157 | % | 72-122 | 1 | | 12/16/10 16:13 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 12/16/10 16:13 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **71.0** | % | 0.10 | 1 | | 11/30/10 17:08 | | |

**Sample: SPL-9-1** **Lab ID: 255986006** Collected: 12/10/10 10:55 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.0 | 1 | 12/15/10 10:00 | 12/16/10 02:13 | | |
| a,a,a-Trifluorotoluene (S) | 86 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 02:13 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 76 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 02:13 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 12/16/10 16:32 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 12/16/10 16:32 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 12/16/10 16:32 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.3 | 1 | | 12/16/10 16:32 | 1330-20-7 | |
| Dibromofluoromethane (S) | 94 | % | 80-136 | 1 | | 12/16/10 16:32 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 12/16/10 16:32 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 114 | % | 72-122 | 1 | | 12/16/10 16:32 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 12/16/10 16:32 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.8** | % | 0.10 | 1 | | 11/30/10 17:09 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

**Sample: SPL-9-2** **Lab ID: 255986007** Collected: 12/10/10 10:55 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 12/15/10 10:00 | 12/16/10 02:37 | | |
| a,a,a-Trifluorotoluene (S) | 83 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 02:37 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 72 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 02:37 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.5 | 1 | | 12/16/10 16:52 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.5 | 1 | | 12/16/10 16:52 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.5 | 1 | | 12/16/10 16:52 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.6 | 1 | | 12/16/10 16:52 | 1330-20-7 | |
| Dibromofluoromethane (S) | 100 | % | 80-136 | 1 | | 12/16/10 16:52 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 12/16/10 16:52 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 113 | % | 72-122 | 1 | | 12/16/10 16:52 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 12/16/10 16:52 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.4** | % | 0.10 | 1 | | 11/30/10 17:10 | | |

**Sample: SPL-9-3** **Lab ID: 255986008** Collected: 12/10/10 11:00 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.0 | 1 | 12/15/10 10:00 | 12/16/10 03:00 | | |
| a,a,a-Trifluorotoluene (S) | 84 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 03:00 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 73 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 03:00 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.5 | 1 | | 12/16/10 17:11 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.5 | 1 | | 12/16/10 17:11 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.5 | 1 | | 12/16/10 17:11 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.4 | 1 | | 12/16/10 17:11 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 12/16/10 17:11 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 12/16/10 17:11 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 115 | % | 72-122 | 1 | | 12/16/10 17:11 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 12/16/10 17:11 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.6** | % | 0.10 | 1 | | 11/30/10 17:12 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

**Sample: SPL-8-1** **Lab ID: 255986009** Collected: 12/10/10 10:45 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | **25.1** | mg/kg | 8.4 | 1 | 12/15/10 10:00 | 11/30/10 12:05 | | |
| a,a,a-Trifluorotoluene (S) | 109 | % | 50-150 | 1 | 12/15/10 10:00 | 11/30/10 12:05 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 124 | % | 50-150 | 1 | 12/15/10 10:00 | 11/30/10 12:05 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 4.0 | 1 | | 12/16/10 17:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 4.0 | 1 | | 12/16/10 17:31 | 100-41-4 | |
| Toluene | ND | ug/kg | 4.0 | 1 | | 12/16/10 17:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 12.1 | 1 | | 12/16/10 17:31 | 1330-20-7 | |
| Dibromofluoromethane (S) | 97 | % | 80-136 | 1 | | 12/16/10 17:31 | 1868-53-7 | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 12/16/10 17:31 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 126 | % | 72-122 | 1 | | 12/16/10 17:31 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 12/16/10 17:31 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **25.7** | % | 0.10 | 1 | | 11/30/10 17:14 | | |

**Sample: SPL-8-2** **Lab ID: 255986010** Collected: 12/10/10 10:48 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.8 | 1 | 12/15/10 10:00 | 12/16/10 09:20 | | |
| a,a,a-Trifluorotoluene (S) | 80 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 09:20 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 71 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 09:20 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.4 | 1 | | 12/16/10 17:50 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.4 | 1 | | 12/16/10 17:50 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.4 | 1 | | 12/16/10 17:50 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.1 | 1 | | 12/16/10 17:50 | 1330-20-7 | |
| Dibromofluoromethane (S) | 90 | % | 80-136 | 1 | | 12/16/10 17:50 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 12/16/10 17:50 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 12/16/10 17:50 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 12/16/10 17:50 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.0** | % | 0.10 | 1 | | 11/30/10 17:15 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

**Sample: TB-1318558** **Lab ID: 255986011** Collected: 12/10/10 00:00 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 12/15/10 10:00 | 12/16/10 09:44 | | |
| a,a,a-Trifluorotoluene (S) | 92 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 09:44 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 81 | % | 50-150 | 1 | 12/15/10 10:00 | 12/16/10 09:44 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 12/16/10 12:18 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 12/16/10 12:18 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 12/16/10 12:18 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 12/16/10 12:18 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 12/16/10 12:18 | 1868-53-7 | |
| Toluene-d8 (S) | 100 | % | 80-120 | 1 | | 12/16/10 12:18 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 109 | % | 72-122 | 1 | | 12/16/10 12:18 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 80-143 | 1 | | 12/16/10 12:18 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

QC Batch: GCV/2080 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255986001, 255986002, 255986003, 255986004, 255986005, 255986006, 255986007, 255986008, 255986009, 255986010, 255986011

METHOD BLANK: 52268 Matrix: Solid
Associated Lab Samples: 255986001, 255986002, 255986003, 255986004, 255986005, 255986006, 255986007, 255986008, 255986009, 255986010, 255986011

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 12/15/10 20:24 | |
| 4-Bromofluorobenzene (S) | % | 101 | 50-150 | 12/15/10 20:24 | |
| a,a,a-Trifluorotoluene (S) | % | 109 | 50-150 | 12/15/10 20:24 | |

LABORATORY CONTROL SAMPLE: 52269

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.6 | 101 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 122 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 52395

| Parameter | Units | 255986006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .77J | | |
| 4-Bromofluorobenzene (S) | % | 76 | 79 | 5 | |
| a,a,a-Trifluorotoluene (S) | % | 86 | 88 | 2 | |

SAMPLE DUPLICATE: 52396

| Parameter | Units | 255986008 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.3J | | |
| 4-Bromofluorobenzene (S) | % | 73 | 78 | 8 | |
| a,a,a-Trifluorotoluene (S) | % | 84 | 85 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

QC Batch: MSV/3610 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255986001, 255986002, 255986003, 255986005, 255986006, 255986007, 255986008, 255986009, 255986010, 255986011

METHOD BLANK: 52353 Matrix: Solid
Associated Lab Samples: 255986001, 255986002, 255986003, 255986005, 255986006, 255986007, 255986008, 255986009, 255986010, 255986011

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 12/16/10 11:59 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 12/16/10 11:59 | |
| Toluene | ug/kg | ND | 3.0 | 12/16/10 11:59 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 12/16/10 11:59 | |
| 1,2-Dichloroethane-d4 (S) | % | 108 | 80-143 | 12/16/10 11:59 | |
| 4-Bromofluorobenzene (S) | % | 104 | 72-122 | 12/16/10 11:59 | |
| Dibromofluoromethane (S) | % | 106 | 80-136 | 12/16/10 11:59 | |
| Toluene-d8 (S) | % | 104 | 80-120 | 12/16/10 11:59 | |

LABORATORY CONTROL SAMPLE & LCSD: 52354 52355

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 56.0 | 53.3 | 112 | 107 | 75-133 | 5 | 30 | |
| Ethylbenzene | ug/kg | 50 | 55.9 | 52.8 | 112 | 106 | 68-131 | 6 | 30 | |
| Toluene | ug/kg | 50 | 56.9 | 55.3 | 114 | 111 | 73-124 | 3 | 30 | |
| Xylene (Total) | ug/kg | 150 | 165 | 155 | 110 | 103 | 68-130 | 7 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 102 | 102 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 105 | 110 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 105 | 101 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 112 | 111 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

QC Batch: MSV/3636 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255986004

METHOD BLANK: 52906 | Matrix: Solid
Associated Lab Samples: 255986004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 12/21/10 13:29 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 12/21/10 13:29 | |
| Toluene | ug/kg | ND | 3.0 | 12/21/10 13:29 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 12/21/10 13:29 | |
| 1,2-Dichloroethane-d4 (S) | % | 106 | 80-143 | 12/21/10 13:29 | |
| 4-Bromofluorobenzene (S) | % | 109 | 72-122 | 12/21/10 13:29 | |
| Dibromofluoromethane (S) | % | 91 | 80-136 | 12/21/10 13:29 | |
| Toluene-d8 (S) | % | 123 | 80-120 | 12/21/10 13:29 | S3 |

LABORATORY CONTROL SAMPLE & LCSD: 52907 52908

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 49.2 | 48.1 | 98 | 96 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 61.8 | 60.1 | 124 | 120 | 68-131 | 3 | 30 | |
| Toluene | ug/kg | 50 | 64.4 | 62.7 | 129 | 125 | 73-124 | 3 | 30 | L3 |
| Xylene (Total) | ug/kg | 150 | 177 | 174 | 118 | 116 | 68-130 | 2 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 102 | 102 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 113 | 116 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 96 | 93 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 126 | 125 | 80-120 | | | S0 |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| L3 | Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |
| S0 | Surrogate recovery outside laboratory control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255986

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255986001** | **SPL-6-1** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986002** | **SPL-6-2** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986003** | **SPL-6-3** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986004** | **SPL-6-4** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986005** | **SPL-6-5** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986006** | **SPL-9-1** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986007** | **SPL-9-2** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986008** | **SPL-9-3** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986009** | **SPL-8-1** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986010** | **SPL-8-2** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986011** | **TB-1318558** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255986001** | **SPL-6-1** | EPA 8260 | MSV/3610 | | |
| **255986002** | **SPL-6-2** | EPA 8260 | MSV/3610 | | |
| **255986003** | **SPL-6-3** | EPA 8260 | MSV/3610 | | |
| **255986004** | **SPL-6-4** | EPA 8260 | MSV/3636 | | |
| **255986005** | **SPL-6-5** | EPA 8260 | MSV/3610 | | |
| **255986006** | **SPL-9-1** | EPA 8260 | MSV/3610 | | |
| **255986007** | **SPL-9-2** | EPA 8260 | MSV/3610 | | |
| **255986008** | **SPL-9-3** | EPA 8260 | MSV/3610 | | |
| **255986009** | **SPL-8-1** | EPA 8260 | MSV/3610 | | |
| **255986010** | **SPL-8-2** | EPA 8260 | MSV/3610 | | |
| **255986011** | **TB-1318558** | EPA 8260 | MSV/3610 | | |
| **255986001** | **SPL-6-1** | ASTM D2974-87 | PMST/1450 | | |
| **255986002** | **SPL-6-2** | ASTM D2974-87 | PMST/1450 | | |
| **255986003** | **SPL-6-3** | ASTM D2974-87 | PMST/1450 | | |
| **255986004** | **SPL-6-4** | ASTM D2974-87 | PMST/1450 | | |
| **255986005** | **SPL-6-5** | ASTM D2974-87 | PMST/1450 | | |
| **255986006** | **SPL-9-1** | ASTM D2974-87 | PMST/1450 | | |
| **255986007** | **SPL-9-2** | ASTM D2974-87 | PMST/1450 | | |
| **255986008** | **SPL-9-3** | ASTM D2974-87 | PMST/1450 | | |
| **255986009** | **SPL-8-1** | ASTM D2974-87 | PMST/1450 | | |
| **255986010** | **SPL-8-2** | ASTM D2974-87 | PMST/1450 | | |



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# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 255986

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

Tracking #: 8738 8211 4970

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) _____ No _____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NSS 12/10/10

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑ Yes ☐ No ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes ☐ No ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes ☐ No ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes ☐ No ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes ☐ No ☐ N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐ Yes ☑ No ☐ N/A | 6. |
| Rush Turn Around Time Requested: | ☐ Yes ☑ No ☐ N/A | 7. |
| Sufficient Volume: | RSM ☑ Yes ☑ No ☐ N/A | 8. No containers for dry weight. RSM 12/13/10 |
| Correct Containers Used: | ☑ Yes ☐ No ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes ☐ No ☐ N/A | |
| Containers Intact: | ☑ Yes ☐ No ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes ☐ No ☑ N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: Soil | ☑ Yes ☐ No ☐ N/A | 12. |
| All containers needing preservation have been checked. | ☐ Yes ☐ No ☑ N/A | 13. No soil jars received for % moisture. |
| All containers needing preservation are found to be in compliance with EPA recommendation. Exceptions: VOA, coliform, TOC, O&G | ☐ Yes ☐ No ☑ N/A | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes ☐ No ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes ☐ No ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes ☑ No ☐ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes ☐ No ☑ N/A | |
| Pace Trip Blank Lot # (if purchased): | | |

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: John Turk Date/Time: 12/13/10 10:52

Comments/ Resolution:

Per John - please use dryweight results ~~for~~ QC from 255812. QC 12/13/10

Project Manager Review: Jenni Gross Date: 12/13/10

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



255986

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of 1318558

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBIA ST NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360 943 7525 Fax: 360 943 7513
Requested Due Date/TAT: 10-day

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: Jon Turk
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER ECY

Site Location STATE: WA

Requested Analysis Filtered (Y/N): Y/N; Analysis Test: SG; BTEX, TPH-G

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | SG BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-6-1 | SL | G | | | 12-10-10 | 10:30 | | 3 | | | | | | | X | X | X | | 255986 |
| 2 | SPL-6-2 | | | | | | 10:50 | | | | | | | | | | | | | |
| 3 | SPL-6-3 | | | | | | 10:40 | | | | | | | | | | | | | |
| 4 | SPL-6-4 | | | | | | 10:40 | | | | | | | | | | | | | |
| 5 | SPL-6-5 | | | | | | 10:40 | | | | | | | | | | | | | |
| 6 | SPL-9-1 | | | | | | 10:55 | | | | | | | | | | | | | |
| 7 | SPL-9-2 | | | | | | 10:55 | | | | | | | | | | | | | |
| 8 | SPL-9-3 | | | | | | 10:00 | | | | | | | | | | | | | |
| 9 | SPL-8-1 | | | | | | 10:45 | | | | | | | | | | | | | |
| 10 | SPL-8-2 | | | | | | 10:48 | | | | | | | | | | | | | |
| 11 | TB-1318558 | OT | | | | — | — | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank Included | J Turk (BC) | 12/10/10 | 14:30 | Custody Seal | | | | | | |
| | | | | Jyothi Sivam/PACE | 12/11/10 | 0926 | 0.7 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 12/10/10

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

# Sample Container Count

CLIENT: Brown + Caldwell

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COC PAGE 6 of 1
COC ID# 1318558

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | 1 | 2 | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? Yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

255986

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

December 09, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255818

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 24, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255818001** | **SPL-7-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818002** | **SPL-7-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818003** | **SPL-7-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818004** | **SPL-7-4** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818005** | **SPL-6-1** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818006** | **SPL-6-2** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818007** | **SPL-6-3** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818008** | **SPL-6-4** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818009** | **SPL-6-5** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818010** | **SPL-9-1** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818011** | **SPL-9-2** | NWTPH-Gx | AY1 | 3 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818012** | **SPL-9-3** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818013** | **SPL-8-1** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818014** | **SPL-8-2** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818015** | **SPL-8-3** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **255818016** | **TB-1318561** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **255818017** | **SPL-7-5** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |



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Seattle, WA 98108
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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-7-1** **Lab ID: 255818001** Collected: 11/22/10 14:46 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 24.5 | 1 | 12/01/10 12:45 | 12/04/10 00:33 | | |
| Motor Oil Range SG | ND | mg/kg | 98.1 | 1 | 12/01/10 12:45 | 12/04/10 00:33 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 00:33 | 630-02-4 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 00:33 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.3 | 1 | 12/01/10 17:00 | 12/01/10 21:45 | | |
| a,a,a-Trifluorotoluene (S) | 116 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 21:45 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 124 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 21:45 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.4** | mg/kg | 0.62 | 20 | 12/03/10 11:02 | 12/07/10 01:09 | 7440-38-2 | |
| Cadmium | **0.47** | mg/kg | 0.099 | 20 | 12/03/10 11:02 | 12/07/10 01:09 | 7440-43-9 | |
| Copper | **12.2** | mg/kg | 0.62 | 20 | 12/03/10 11:02 | 12/07/10 01:09 | 7440-50-8 | M6 |
| Lead | **10** | mg/kg | 0.62 | 20 | 12/03/10 11:02 | 12/07/10 01:09 | 7439-92-1 | M6 |
| Nickel | **16.0** | mg/kg | 0.62 | 20 | 12/03/10 11:02 | 12/07/10 01:09 | 7440-02-0 | M6 |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 208-96-8 | |
| Anthracene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 205-99-2 | |
| Benzo(g,h,i)perylene | **12.3** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 207-08-9 | |
| Chrysene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 218-01-9 | |
| Dibenz(a,h)anthracene | **9.9** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 206-44-0 | |
| Fluorene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **10.6** | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 85-01-8 | |
| Pyrene | ND | ug/kg | 8.8 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 321-60-8 | |
| Terphenyl-d14 (S) | 70 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 15:12 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.6 | 1 | | 11/30/10 14:53 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.6 | 1 | | 11/30/10 14:53 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.6 | 1 | | 11/30/10 14:53 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.9 | 1 | | 11/30/10 14:53 | 1330-20-7 | |
| Dibromofluoromethane (S) | 105 | % | 80-136 | 1 | | 11/30/10 14:53 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-7-1** **Lab ID: 255818001** Collected: 11/22/10 14:46 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 11/30/10 14:53 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 11/30/10 14:53 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 11/30/10 14:53 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **24.1** | % | 0.10 | 1 | | 11/30/10 18:59 | | |

**Sample: SPL-7-2** **Lab ID: 255818002** Collected: 11/22/10 14:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **86.1** | mg/kg | 63.2 | 1 | 12/01/10 12:45 | 12/04/10 01:39 | | |
| Motor Oil Range SG | ND | mg/kg | 253 | 1 | 12/01/10 12:45 | 12/04/10 01:39 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 01:39 | 630-02-4 | |
| o-Terphenyl (S) SG | 94 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 01:39 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 30.9 | 1 | 12/01/10 17:00 | 12/01/10 22:08 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 22:08 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 94 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 22:08 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.7** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:27 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.22 | 20 | 12/03/10 11:02 | 12/07/10 01:27 | 7440-43-9 | |
| Copper | **12.5** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:27 | 7440-50-8 | |
| Lead | **18.8** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:27 | 7439-92-1 | |
| Nickel | **5.7** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:27 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **197** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 208-96-8 | |
| Anthracene | **88.3** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 120-12-7 | |
| Benzo(a)anthracene | **54.0** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 56-55-3 | |
| Benzo(a)pyrene | **42.1** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 50-32-8 | |
| Benzo(b)fluoranthene | **32.5** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 205-99-2 | |
| Benzo(g,h,i)perylene | **26.4** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 191-24-2 | |
| Benzo(k)fluoranthene | **37.9** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 207-08-9 | |
| Chrysene | **70.3** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 53-70-3 | |
| Fluoranthene | **266** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 206-44-0 | |
| Fluorene | **133** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **22.5** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-7-2** **Lab ID: 255818002** Collected: 11/22/10 14:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **63.9** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 90-12-0 | |
| 2-Methylnaphthalene | **129** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 91-57-6 | |
| Naphthalene | **271** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 91-20-3 | |
| Phenanthrene | **256** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 85-01-8 | |
| Pyrene | **278** | ug/kg | 21.2 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 321-60-8 | |
| Terphenyl-d14 (S) | 56 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 16:17 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 12.9 | 1 | | 11/30/10 15:12 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 12.9 | 1 | | 11/30/10 15:12 | 100-41-4 | |
| Toluene | ND | ug/kg | 12.9 | 1 | | 11/30/10 15:12 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 38.6 | 1 | | 11/30/10 15:12 | 1330-20-7 | |
| Dibromofluoromethane (S) | 114 | % | 80-136 | 1 | | 11/30/10 15:12 | 1868-53-7 | |
| Toluene-d8 (S) | 134 | % | 80-120 | 1 | | 11/30/10 15:12 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 131 | % | 72-122 | 1 | | 11/30/10 15:12 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 80-143 | 1 | | 11/30/10 15:12 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **68.5** | % | 0.10 | 1 | | 11/30/10 18:59 | | |

**Sample: SPL-7-3** **Lab ID: 255818003** Collected: 11/22/10 14:50 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **66.4** | mg/kg | 59.9 | 1 | 12/01/10 12:45 | 12/04/10 01:55 | | |
| Motor Oil Range SG | ND | mg/kg | 239 | 1 | 12/01/10 12:45 | 12/04/10 01:55 | 64742-65-0 | |
| n-Octacosane (S) SG | 104 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 01:55 | 630-02-4 | |
| o-Terphenyl (S) SG | 92 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 01:55 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 32.6 | 1 | 12/01/10 17:00 | 12/01/10 22:32 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 22:32 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 113 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 22:32 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **10.2** | mg/kg | 1.3 | 20 | 12/03/10 11:02 | 12/07/10 01:36 | 7440-38-2 | |
| Cadmium | **1.2** | mg/kg | 0.20 | 20 | 12/03/10 11:02 | 12/07/10 01:36 | 7440-43-9 | |
| Copper | **53.6** | mg/kg | 1.3 | 20 | 12/03/10 11:02 | 12/07/10 01:36 | 7440-50-8 | |
| Lead | **514** | mg/kg | 1.3 | 20 | 12/03/10 11:02 | 12/07/10 01:36 | 7439-92-1 | |
| Nickel | **19.7** | mg/kg | 1.3 | 20 | 12/03/10 11:02 | 12/07/10 01:36 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-7-3** **Lab ID: 255818003** Collected: 11/22/10 14:50 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **26.0** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 83-32-9 | |
| Acenaphthylene | **34.5** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 208-96-8 | |
| Anthracene | **50.4** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 120-12-7 | |
| Benzo(a)anthracene | **101** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 56-55-3 | |
| Benzo(a)pyrene | **115** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 50-32-8 | |
| Benzo(b)fluoranthene | **66.0** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 205-99-2 | |
| Benzo(g,h,i)perylene | **66.3** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 191-24-2 | |
| Benzo(k)fluoranthene | **75.1** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 207-08-9 | |
| Chrysene | **108** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 218-01-9 | |
| Dibenz(a,h)anthracene | **30.2** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 53-70-3 | |
| Fluoranthene | **235** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 206-44-0 | |
| Fluorene | **50.1** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **59.2** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 193-39-5 | |
| 1-Methylnaphthalene | **71.0** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 90-12-0 | |
| 2-Methylnaphthalene | **138** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 91-57-6 | |
| Naphthalene | **361** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 91-20-3 | |
| Phenanthrene | **219** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 85-01-8 | |
| Pyrene | **233** | ug/kg | 20.4 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 71 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 321-60-8 | |
| Terphenyl-d14 (S) | 64 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 16:32 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 12.5 | 1 | | 11/30/10 15:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 12.5 | 1 | | 11/30/10 15:31 | 100-41-4 | |
| Toluene | ND | ug/kg | 12.5 | 1 | | 11/30/10 15:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 37.5 | 1 | | 11/30/10 15:31 | 1330-20-7 | |
| Dibromofluoromethane (S) | 107 | % | 80-136 | 1 | | 11/30/10 15:31 | 1868-53-7 | |
| Toluene-d8 (S) | 132 | % | 80-120 | 1 | | 11/30/10 15:31 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 123 | % | 72-122 | 1 | | 11/30/10 15:31 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 80-143 | 1 | | 11/30/10 15:31 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **67.4** | % | 0.10 | 1 | | 11/30/10 19:00 | | |

**Sample: SPL-7-4** **Lab ID: 255818004** Collected: 11/22/10 15:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 72.8 | 1 | 12/01/10 12:45 | 12/04/10 02:11 | | |
| Motor Oil Range SG | ND | mg/kg | 291 | 1 | 12/01/10 12:45 | 12/04/10 02:11 | 64742-65-0 | |
| n-Octacosane (S) SG | 100 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 02:11 | 630-02-4 | |
| o-Terphenyl (S) SG | 91 | % | 50-150 | 1 | 12/01/10 12:45 | 12/04/10 02:11 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-7-4** **Lab ID: 255818004** Collected: 11/22/10 15:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 40.5 | 1 | 12/01/10 17:00 | 12/01/10 23:19 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 23:19 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 117 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 23:19 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.7** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:59 | 7440-38-2 | |
| Cadmium | **0.85** | mg/kg | 0.22 | 20 | 12/03/10 11:02 | 12/07/10 01:59 | 7440-43-9 | |
| Copper | **37.9** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:59 | 7440-50-8 | |
| Lead | **1210** | mg/kg | 13.8 | 200 | 12/03/10 11:02 | 12/07/10 02:03 | 7439-92-1 | |
| Nickel | **20.5** | mg/kg | 1.4 | 20 | 12/03/10 11:02 | 12/07/10 01:59 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **190** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 83-32-9 | |
| Acenaphthylene | **31.8** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 208-96-8 | |
| Anthracene | **116** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 120-12-7 | |
| Benzo(a)anthracene | **208** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 56-55-3 | |
| Benzo(a)pyrene | **227** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 50-32-8 | |
| Benzo(b)fluoranthene | **134** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 205-99-2 | |
| Benzo(g,h,i)perylene | **122** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 191-24-2 | |
| Benzo(k)fluoranthene | **148** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 207-08-9 | |
| Chrysene | **231** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 218-01-9 | |
| Dibenz(a,h)anthracene | **39.1** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 53-70-3 | |
| Fluoranthene | **455** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 206-44-0 | |
| Fluorene | **194** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **107** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 193-39-5 | |
| 1-Methylnaphthalene | **93.1** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 90-12-0 | |
| 2-Methylnaphthalene | **182** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 91-57-6 | |
| Naphthalene | **764** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 91-20-3 | |
| Phenanthrene | **407** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 85-01-8 | |
| Pyrene | **406** | ug/kg | 25.6 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 321-60-8 | |
| Terphenyl-d14 (S) | 62 | % | 30-133 | 1 | 12/01/10 13:30 | 12/08/10 16:48 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 13.2 | 1 | | 11/30/10 15:50 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 13.2 | 1 | | 11/30/10 15:50 | 100-41-4 | |
| Toluene | ND | ug/kg | 13.2 | 1 | | 11/30/10 15:50 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 39.5 | 1 | | 11/30/10 15:50 | 1330-20-7 | |
| Dibromofluoromethane (S) | 108 | % | 80-136 | 1 | | 11/30/10 15:50 | 1868-53-7 | |
| Toluene-d8 (S) | 122 | % | 80-120 | 1 | | 11/30/10 15:50 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 135 | % | 72-122 | 1 | | 11/30/10 15:50 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/30/10 15:50 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **73.8** | % | 0.10 | 1 | | 11/30/10 19:01 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-6-1** **Lab ID: 255818005** Collected: 11/22/10 13:20 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 45.4 | 1 | 12/01/10 17:00 | 12/01/10 23:43 | | |
| a,a,a-Trifluorotoluene (S) | 107 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 23:43 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 107 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 23:43 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **74.3** | % | 0.10 | 1 | | 11/30/10 17:03 | | |

**Sample: SPL-6-2** **Lab ID: 255818006** Collected: 11/22/10 13:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.4 | 1 | 12/01/10 17:00 | 12/02/10 04:48 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 04:48 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 107 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 04:48 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **26.5** | % | 0.10 | 1 | | 11/30/10 17:04 | | |

**Sample: SPL-6-3** **Lab ID: 255818007** Collected: 11/22/10 13:40 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 18.4 | 1 | 12/01/10 17:00 | 12/02/10 00:06 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 00:06 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 99 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 00:06 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **54.1** | % | 0.10 | 1 | | 11/30/10 17:06 | | |

**Sample: SPL-6-4** **Lab ID: 255818008** Collected: 11/22/10 13:50 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 12.8 | 1 | 12/01/10 17:00 | 12/02/10 00:30 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 00:30 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 107 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 00:30 | 460-00-4 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-6-4** **Lab ID: 255818008** Collected: 11/22/10 13:50 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **48.7** | % | 0.10 | 1 | | 11/30/10 17:07 | | |

**Sample: SPL-6-5** **Lab ID: 255818009** Collected: 11/22/10 13:55 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 43.0 | 1 | 12/01/10 17:00 | 12/02/10 00:53 | | |
| a,a,a-Trifluorotoluene (S) | 105 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 00:53 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 104 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 00:53 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **71.0** | % | 0.10 | 1 | | 11/30/10 17:08 | | |

**Sample: SPL-9-1** **Lab ID: 255818010** Collected: 11/22/10 13:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 12/01/10 17:00 | 12/02/10 01:17 | | |
| a,a,a-Trifluorotoluene (S) | 110 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 01:17 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 109 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 01:17 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.8** | % | 0.10 | 1 | | 11/30/10 17:09 | | |

**Sample: SPL-9-2** **Lab ID: 255818011** Collected: 11/22/10 13:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 12/01/10 17:00 | 12/02/10 02:04 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 02:04 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 105 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 02:04 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.4** | % | 0.10 | 1 | | 11/30/10 17:10 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-9-3** **Lab ID: 255818012** Collected: 11/22/10 13:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.7 | 1 | 12/01/10 17:00 | 12/02/10 02:27 | | |
| a,a,a-Trifluorotoluene (S) | 105 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 02:27 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 108 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 02:27 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.6** | % | 0.10 | 1 | | 11/30/10 17:12 | | |

**Sample: SPL-8-1** **Lab ID: 255818013** Collected: 11/22/10 14:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | **9.8** | mg/kg | 7.5 | 1 | 12/01/10 17:00 | 12/02/10 02:51 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 02:51 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 100 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 02:51 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **25.7** | % | 0.10 | 1 | | 11/30/10 17:14 | | |

**Sample: SPL-8-2** **Lab ID: 255818014** Collected: 11/22/10 14:15 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | **9.2** | mg/kg | 7.9 | 1 | 12/01/10 17:00 | 12/02/10 03:14 | | |
| a,a,a-Trifluorotoluene (S) | 110 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 03:14 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 112 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 03:14 | 460-00-4 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.0** | % | 0.10 | 1 | | 11/30/10 17:15 | | |

**Sample: SPL-8-3** **Lab ID: 255818015** Collected: 11/22/10 14:30 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | **17.0** | mg/kg | 6.1 | 1 | 12/01/10 17:00 | 12/02/10 04:01 | | |
| a,a,a-Trifluorotoluene (S) | 118 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 04:01 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 119 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 04:01 | 460-00-4 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-8-3** **Lab ID: 255818015** Collected: 11/22/10 14:30 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.2 | 1 | | 11/30/10 16:10 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.2 | 1 | | 11/30/10 16:10 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.2 | 1 | | 11/30/10 16:10 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.7 | 1 | | 11/30/10 16:10 | 1330-20-7 | |
| Dibromofluoromethane (S) | 107 | % | 80-136 | 1 | | 11/30/10 16:10 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 11/30/10 16:10 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 145 | % | 72-122 | 1 | | 11/30/10 16:10 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 80-143 | 1 | | 11/30/10 16:10 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **15.9** | % | 0.10 | 1 | | 11/30/10 17:13 | | |

**Sample: TB-1318561** **Lab ID: 255818016** Collected: 11/22/10 00:00 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 12/01/10 17:00 | 12/01/10 20:57 | | |
| a,a,a-Trifluorotoluene (S) | 105 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 20:57 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 114 | % | 50-150 | 1 | 12/01/10 17:00 | 12/01/10 20:57 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/30/10 14:35 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/30/10 14:35 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/30/10 14:35 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 11/30/10 14:35 | 1330-20-7 | |
| Dibromofluoromethane (S) | 107 | % | 80-136 | 1 | | 11/30/10 14:35 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 11/30/10 14:35 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 11/30/10 14:35 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 80-143 | 1 | | 11/30/10 14:35 | 17060-07-0 | |

**Sample: SPL-7-5** **Lab ID: 255818017** Collected: 11/22/10 15:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 32.3 | 1 | 12/01/10 17:00 | 12/02/10 03:38 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 03:38 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 109 | % | 50-150 | 1 | 12/01/10 17:00 | 12/02/10 03:38 | 460-00-4 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

**Sample: SPL-7-5** **Lab ID: 255818017** Collected: 11/22/10 15:10 Received: 11/24/10 14:08 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 12.5 | 1 | | 11/30/10 16:29 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 12.5 | 1 | | 11/30/10 16:29 | 100-41-4 | |
| Toluene | ND | ug/kg | 12.5 | 1 | | 11/30/10 16:29 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 37.6 | 1 | | 11/30/10 16:29 | 1330-20-7 | |
| Dibromofluoromethane (S) | 108 | % | 80-136 | 1 | | 11/30/10 16:29 | 1868-53-7 | |
| Toluene-d8 (S) | 124 | % | 80-120 | 1 | | 11/30/10 16:29 | 2037-26-5 | S3 |
| 4-Bromofluorobenzene (S) | 132 | % | 72-122 | 1 | | 11/30/10 16:29 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 11/30/10 16:29 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **68.2** | % | 0.10 | 1 | | 11/30/10 17:13 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

QC Batch: OEXT/3040 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

METHOD BLANK: 50754 Matrix: Solid
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 12/03/10 19:22 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 12/03/10 19:22 | |
| n-Octacosane (S) SG | % | 102 | 50-150 | 12/03/10 19:22 | |
| o-Terphenyl (S) SG | % | 96 | 50-150 | 12/03/10 19:22 | |

LABORATORY CONTROL SAMPLE: 50755

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 456 | 91 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 559 | 112 | 50-150 | |
| n-Octacosane (S) SG | % | | | 103 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 110 | 50-150 | |

SAMPLE DUPLICATE: 50756

| Parameter | Units | 255797001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 29.5 | 70.5 | 82 | R1 |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 100 | 100 | 6 | |
| o-Terphenyl (S) SG | % | 94 | 94 | 6 | |

SAMPLE DUPLICATE: 50757

| Parameter | Units | 255818001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | ND | | |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 106 | 111 | 4 | |
| o-Terphenyl (S) SG | % | 98 | 101 | 2 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

QC Batch: GCV/2055 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004, 255818005, 255818006, 255818007, 255818008, 255818009, 255818010, 255818011, 255818012, 255818013, 255818014, 255818015, 255818016, 255818017

METHOD BLANK: 50822 | Matrix: Solid
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004, 255818005, 255818006, 255818007, 255818008, 255818009, 255818010, 255818011, 255818012, 255818013, 255818014, 255818015, 255818016, 255818017

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 12/01/10 20:34 | |
| 4-Bromofluorobenzene (S) | % | 133 | 50-150 | 12/01/10 20:34 | |
| a,a,a-Trifluorotoluene (S) | % | 110 | 50-150 | 12/01/10 20:34 | |

LABORATORY CONTROL SAMPLE: 50823

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 14.1 | 113 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 139 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 123 | 50-150 | |

SAMPLE DUPLICATE: 50972

| Parameter | Units | 255818003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.6J | | |
| 4-Bromofluorobenzene (S) | % | 113 | 110 | 3 | |
| a,a,a-Trifluorotoluene (S) | % | 108 | 107 | .5 | |

SAMPLE DUPLICATE: 50973

| Parameter | Units | 255818006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.6J | | |
| 4-Bromofluorobenzene (S) | % | 107 | 112 | 5 | |
| a,a,a-Trifluorotoluene (S) | % | 106 | 110 | 3 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

QC Batch: ICPM/23821 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

METHOD BLANK: 900205 Matrix: Solid
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.42 | 12/07/10 01:00 | |
| Cadmium | mg/kg | ND | 0.067 | 12/07/10 01:00 | |
| Copper | mg/kg | ND | 0.42 | 12/07/10 01:00 | |
| Lead | mg/kg | ND | 0.42 | 12/07/10 01:00 | |
| Nickel | mg/kg | ND | 0.42 | 12/07/10 01:00 | |

LABORATORY CONTROL SAMPLE: 900206

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 17.5 | 17.1 | 98 | 75-125 | |
| Cadmium | mg/kg | 17.5 | 17.6 | 100 | 75-125 | |
| Copper | mg/kg | 17.5 | 17.8 | 101 | 75-125 | |
| Lead | mg/kg | 17.5 | 17.7 | 101 | 75-125 | |
| Nickel | mg/kg | 17.5 | 17.7 | 101 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 900207 900208

| Parameter | Units | 255818001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 5.4 | 22.3 | 21.2 | 22.8 | 22.5 | 78 | 81 | 75-125 | 1 | |
| Cadmium | mg/kg | 0.47 | 22.3 | 21.2 | 19.8 | 17.9 | 87 | 82 | 75-125 | 10 | |
| Copper | mg/kg | 12.2 | 22.3 | 21.2 | 27.1 | 25.9 | 67 | 65 | 75-125 | 4 | M6 |
| Lead | mg/kg | 10 | 22.3 | 21.2 | 24.3 | 22.6 | 64 | 60 | 75-125 | 7 | M6 |
| Nickel | mg/kg | 16.0 | 22.3 | 21.2 | 31.1 | 30.2 | 67 | 67 | 75-125 | 3 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

QC Batch: OEXT/3039 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

METHOD BLANK: 50750 Matrix: Solid
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Acenaphthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Anthracene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Chrysene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Fluoranthene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Fluorene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Naphthalene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Phenanthrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| Pyrene | ug/kg | ND | 6.7 | 12/08/10 13:21 | |
| 2-Fluorobiphenyl (S) | % | 76 | 31-131 | 12/08/10 13:21 | |
| Terphenyl-d14 (S) | % | 84 | 30-133 | 12/08/10 13:21 | |

LABORATORY CONTROL SAMPLE: 50751

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 90.1 | 68 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 93.3 | 70 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 91.9 | 69 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 94.0 | 71 | 31-134 | |
| Anthracene | ug/kg | 133 | 91.3 | 68 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 103 | 77 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 97.6 | 73 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 91.5 | 69 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 110 | 83 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 107 | 80 | 45-147 | |
| Chrysene | ug/kg | 133 | 107 | 80 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 110 | 82 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 99.7 | 75 | 44-143 | |
| Fluorene | ug/kg | 133 | 99.2 | 74 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 112 | 84 | 47-140 | |
| Naphthalene | ug/kg | 133 | 90.1 | 68 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 94.5 | 71 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

LABORATORY CONTROL SAMPLE: 50751

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 99.8 | 75 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 68 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 77 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50752 50753

| Parameter | Units | 255812002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 178 | 175 | 134 | 132 | 72 | 71 | 31-123 | 2 | |
| 2-Methylnaphthalene | ug/kg | 13.0 | 178 | 175 | 138 | 136 | 70 | 70 | 15-146 | .9 | |
| Acenaphthene | ug/kg | ND | 178 | 175 | 134 | 130 | 74 | 73 | 19-141 | 4 | |
| Acenaphthylene | ug/kg | ND | 178 | 175 | 130 | 124 | 70 | 67 | 30-142 | 5 | |
| Anthracene | ug/kg | ND | 178 | 175 | 127 | 114 | 70 | 64 | 38-137 | 11 | |
| Benzo(a)anthracene | ug/kg | ND | 178 | 175 | 131 | 121 | 73 | 68 | 37-143 | 8 | |
| Benzo(a)pyrene | ug/kg | ND | 178 | 175 | 124 | 108 | 69 | 61 | 33-147 | 13 | |
| Benzo(b)fluoranthene | ug/kg | ND | 178 | 175 | 117 | 113 | 65 | 64 | 25-156 | 4 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 178 | 175 | 131 | 117 | 73 | 66 | 26-142 | 12 | |
| Benzo(k)fluoranthene | ug/kg | ND | 178 | 175 | 129 | 114 | 72 | 64 | 35-142 | 13 | |
| Chrysene | ug/kg | ND | 178 | 175 | 136 | 128 | 76 | 73 | 23-150 | 7 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 178 | 175 | 130 | 118 | 73 | 67 | 41-140 | 10 | |
| Fluoranthene | ug/kg | 10.7 | 178 | 175 | 135 | 133 | 69 | 70 | 25-155 | 1 | |
| Fluorene | ug/kg | ND | 178 | 175 | 139 | 131 | 77 | 74 | 33-152 | 5 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 178 | 175 | 134 | 117 | 74 | 66 | 36-139 | 13 | |
| Naphthalene | ug/kg | 80.4 | 178 | 175 | 140 | 167 | 34 | 49 | 25-121 | 17 | |
| Phenanthrene | ug/kg | 23.2 | 178 | 175 | 138 | 135 | 64 | 64 | 29-141 | 2 | |
| Pyrene | ug/kg | ND | 178 | 175 | 145 | 139 | 76 | 74 | 36-145 | 5 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 74 | 71 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 76 | 74 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

QC Batch: MSV/3520 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004, 255818015, 255818016, 255818017

METHOD BLANK: 50634 Matrix: Solid
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004, 255818015, 255818016, 255818017

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/30/10 11:39 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/30/10 11:39 | |
| Toluene | ug/kg | ND | 3.0 | 11/30/10 11:39 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/30/10 11:39 | |
| 1,2-Dichloroethane-d4 (S) | % | 109 | 80-143 | 11/30/10 11:39 | |
| 4-Bromofluorobenzene (S) | % | 108 | 72-122 | 11/30/10 11:39 | |
| Dibromofluoromethane (S) | % | 109 | 80-136 | 11/30/10 11:39 | |
| Toluene-d8 (S) | % | 98 | 80-120 | 11/30/10 11:39 | |

LABORATORY CONTROL SAMPLE & LCSD: 50635 50885

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 52.3 | 51.1 | 105 | 102 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 54.0 | 49.5 | 108 | 99 | 68-131 | 9 | 30 | |
| Toluene | ug/kg | 50 | 57.3 | 49.8 | 115 | 100 | 73-124 | 14 | 30 | |
| Xylene (Total) | ug/kg | 150 | 165 | 152 | 110 | 102 | 68-130 | 8 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 106 | 110 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 100 | 105 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 106 | 113 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 111 | 102 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

QC Batch: PMST/1439 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255818001, 255818002, 255818003, 255818004

SAMPLE DUPLICATE: 50748

| Parameter | Units | 255821001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 27.2 | 26.2 | 4 | |

SAMPLE DUPLICATE: 50749

| Parameter | Units | 255820005 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 16.8 | 15.4 | 8 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255818001** | **SPL-7-1** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255818002** | **SPL-7-2** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255818003** | **SPL-7-3** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255818004** | **SPL-7-4** | EPA 3546 | OEXT/3040 | NWTPH-Dx | GCSV/2114 |
| **255818001** | **SPL-7-1** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818002** | **SPL-7-2** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818003** | **SPL-7-3** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818004** | **SPL-7-4** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818005** | **SPL-6-1** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818006** | **SPL-6-2** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818007** | **SPL-6-3** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818008** | **SPL-6-4** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818009** | **SPL-6-5** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818010** | **SPL-9-1** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818011** | **SPL-9-2** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818012** | **SPL-9-3** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818013** | **SPL-8-1** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818014** | **SPL-8-2** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818015** | **SPL-8-3** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818016** | **TB-1318561** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818017** | **SPL-7-5** | NWTPH-Gx | GCV/2055 | NWTPH-Gx | GCV/2060 |
| **255818001** | **SPL-7-1** | EPA 6020 | ICPM/23821 | EPA 6020 | ICPM/9649 |
| **255818002** | **SPL-7-2** | EPA 6020 | ICPM/23821 | EPA 6020 | ICPM/9649 |
| **255818003** | **SPL-7-3** | EPA 6020 | ICPM/23821 | EPA 6020 | ICPM/9649 |
| **255818004** | **SPL-7-4** | EPA 6020 | ICPM/23821 | EPA 6020 | ICPM/9649 |
| **255818001** | **SPL-7-1** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255818002** | **SPL-7-2** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255818003** | **SPL-7-3** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255818004** | **SPL-7-4** | EPA 3546 | OEXT/3039 | EPA 8270 by SIM | MSSV/1461 |
| **255818001** | **SPL-7-1** | EPA 8260 | MSV/3520 | | |
| **255818002** | **SPL-7-2** | EPA 8260 | MSV/3520 | | |
| **255818003** | **SPL-7-3** | EPA 8260 | MSV/3520 | | |
| **255818004** | **SPL-7-4** | EPA 8260 | MSV/3520 | | |
| **255818015** | **SPL-8-3** | EPA 8260 | MSV/3520 | | |
| **255818016** | **TB-1318561** | EPA 8260 | MSV/3520 | | |
| **255818017** | **SPL-7-5** | EPA 8260 | MSV/3520 | | |
| **255818001** | **SPL-7-1** | ASTM D2974-87 | PMST/1439 | | |
| **255818002** | **SPL-7-2** | ASTM D2974-87 | PMST/1439 | | |
| **255818003** | **SPL-7-3** | ASTM D2974-87 | PMST/1439 | | |
| **255818004** | **SPL-7-4** | ASTM D2974-87 | PMST/1439 | | |
| **255818005** | **SPL-6-1** | ASTM D2974-87 | PMST/1440 | | |
| **255818006** | **SPL-6-2** | ASTM D2974-87 | PMST/1440 | | |
| **255818007** | **SPL-6-3** | ASTM D2974-87 | PMST/1440 | | |
| **255818008** | **SPL-6-4** | ASTM D2974-87 | PMST/1440 | | |
| **255818009** | **SPL-6-5** | ASTM D2974-87 | PMST/1440 | | |
| **255818010** | **SPL-9-1** | ASTM D2974-87 | PMST/1440 | | |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255818

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255818011** | **SPL-9-2** | ASTM D2974-87 | PMST/1440 | | |
| **255818012** | **SPL-9-3** | ASTM D2974-87 | PMST/1440 | | |
| **255818013** | **SPL-8-1** | ASTM D2974-87 | PMST/1440 | | |
| **255818014** | **SPL-8-2** | ASTM D2974-87 | PMST/1440 | | |
| **255818015** | **SPL-8-3** | ASTM D2974-87 | PMST/1440 | | |
| **255818017** | **SPL-7-5** | ASTM D2974-87 | PMST/1440 | | |



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## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

December 9, 2010

## Report Information:

**Pace Project #: 10144251**
**Sample Receipt Date: 12/01/2010**
**Client Project #: 255818 Brown & Caldwell**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

December 09, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

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1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on four samples submitted by a representative of PASI Seattle. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 50-99%. With the exception of onelow value in the method blank, which was flagged "R" on the result table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In one case, an interfering substance impacted the determination of a PCDF congener. The affected value was flagged "I" due to an incorrect isotope ratio.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 98-124%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

1151

10144251

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 255818 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 11/24/2010 **Results Requested By:** ~~12/7/2010~~ 12/9/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | As, Ni, Cu, Pb, Cd 6020 | Dioxins | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-7-1 | PS | 11/22/2010 14:46 | 255818001 | Solid | 2 | X | X | 001 |
| 2 | SPL-7-2 | PS | 11/22/2010 14:40 | 255818002 | Solid | 2 | X | X | 002 |
| 3 | SPL-7-3 | PS | 11/22/2010 14:50 | 255818003 | Solid | 2 | X | X | 003 |
| 4 | SPL-7-4 | PS | 11/22/2010 15:00 | 255818004 | Solid | 2 | X | X | 004 |
| 5 | | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Evan Dorman | 11/30/10 2:00 | [illegible] / Pace MN | 12/1/10 085 |
| 2 | | | | |
| 3 | | | | |

**Comments**

Need final data by ~~11/30~~ 12/9/10
RUSH Dioxins

**Cooler Temperature on Receipt** 2.1 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace WA **Project #** 10144251

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

**Tracking #:** 7941664319 12

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.1 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 12/1/10 MSO

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 12/1/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-7-1 | | | |
| Lab Sample ID | 255818001 | | | |
| Filename | F101206B_21 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.5 g | Matrix | Solid | |
| % Moisture | 24.1 | Dilution | NA | |
| Dry Weight Extracted | 11.8 g | Collected | 11/22/2010 | 14:46 |
| ICAL ID | F101206 | Received | 12/01/2010 | 09:55 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 08:22 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.70 | ----- | 0.160 | BJ | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 1.20 | ----- | 0.160 | B | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 53 |
| 2,3,7,8-TCDD | ND | ----- | 0.160 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 55 |
| Total TCDD | ND | ----- | 0.160 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.070 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 80 |
| Total PeCDF | ND | ----- | 0.098 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.095 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | ND | ----- | 0.095 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 71 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.100 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.130 | | OCDD-13C | 4.00 | 67 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.098 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.110 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.110 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.270 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.250 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.140 | | | | |
| Total HxCDD | ND | ----- | 0.220 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.140 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.170 | | Equivalence: 0.28 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.160 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.60 | ----- | 0.130 | J | | | |
| Total HpCDD | 0.60 | ----- | 0.130 | BJ | | | |
| OCDF | 0.64 | ----- | 0.160 | J | | | |
| OCDD | 5.20 | ----- | 0.510 | BJ | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-7-2 | | | |
| Lab Sample ID | 255818002 | | | |
| Filename | F101206B_22 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 32.5 g | Matrix | Solid | |
| % Moisture | 68.5 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/22/2010 | 14:40 |
| ICAL ID | F101206 | Received | 12/01/2010 | 09:55 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 09:10 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 16.0 | ----- | 1.00 | | 2,3,7,8-TCDF-13C | 2.00 | 76 |
| Total TCDF | 260.0 | ----- | 1.00 | | 2,3,7,8-TCDD-13C | 2.00 | 87 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 59 |
| 2,3,7,8-TCDD | 3.2 | ----- | 0.20 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 61 |
| Total TCDD | 210.0 | ----- | 0.20 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 97 |
| 1,2,3,7,8-PeCDF | 8.3 | ----- | 0.72 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 12.0 | ----- | 0.37 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 81 |
| Total PeCDF | 160.0 | ----- | 0.55 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 99 |
| 1,2,3,7,8-PeCDD | 10.0 | ----- | 0.49 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 |
| Total PeCDD | 180.0 | ----- | 0.49 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 59 |
| 1,2,3,4,7,8-HxCDF | 9.1 | ----- | 0.66 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 |
| 1,2,3,6,7,8-HxCDF | 6.8 | ----- | 0.49 | | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | 8.7 | ----- | 0.52 | | | | |
| 1,2,3,7,8,9-HxCDF | 2.7 | ----- | 0.77 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 110.0 | ----- | 0.61 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 5.9 | ----- | 1.50 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | 11.0 | ----- | 1.20 | | | | |
| 1,2,3,7,8,9-HxCDD | 6.7 | ----- | 0.86 | | | | |
| Total HxCDD | 170.0 | ----- | 1.20 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 56.0 | ----- | 0.36 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.5 | ----- | 0.64 | | Equivalence: 27 ng/Kg | | |
| Total HpCDF | 190.0 | ----- | 0.50 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 160.0 | ----- | 0.76 | | | | |
| Total HpCDD | 300.0 | ----- | 0.76 | | | | |
| OCDF | 240.0 | ----- | 1.90 | | | | |
| OCDD | 1800.0 | ----- | 0.99 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-7-3 | | | |
| Lab Sample ID | 255818003 | | | |
| Filename | F101206B_23 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 31.0 g | Matrix | Solid | |
| % Moisture | 67.4 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 14:50 |
| ICAL ID | F101206 | Received | 12/01/2010 | 09:55 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 09:58 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 5.7 | ----- | 0.320 | | 2,3,7,8-TCDF-13C | 2.00 | 86 |
| Total TCDF | 70.0 | ----- | 0.320 | | 2,3,7,8-TCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 71 |
| 2,3,7,8-TCDD | 1.2 | ----- | 0.300 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 70 |
| Total TCDD | 51.0 | ----- | 0.300 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDF | 2.0 | ----- | 0.330 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 2.2 | ----- | 0.250 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 82 |
| Total PeCDF | 29.0 | ----- | 0.290 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 |
| 1,2,3,7,8-PeCDD | 2.8 | ----- | 0.190 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 75 |
| Total PeCDD | 32.0 | ----- | 0.190 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | 1.4 | ----- | 0.240 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 76 |
| 1,2,3,6,7,8-HxCDF | 1.1 | ----- | 0.200 | J | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | 1.3 | ----- | 0.200 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.150 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 13.0 | ----- | 0.200 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.2 | ----- | 0.150 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 1.8 | ----- | 0.260 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.7 | ----- | 0.096 | J | | | |
| Total HxCDD | 27.0 | ----- | 0.170 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 6.6 | ----- | 0.260 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.230 | | Equivalence: 6.4 ng/Kg | | |
| Total HpCDF | 23.0 | ----- | 0.250 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 17.0 | ----- | 0.330 | | | | |
| Total HpCDD | 34.0 | ----- | 0.330 | | | | |
| OCDF | 26.0 | ----- | 0.550 | | | | |
| OCDD | 200.0 | ----- | 1.000 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-7-4 | | | |
| Lab Sample ID | 255818004 | | | |
| Filename | F101206B_24 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 38.4 g | Matrix | Solid | |
| % Moisture | 73.8 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/22/2010 | 15:00 |
| ICAL ID | F101206 | Received | 12/01/2010 | 09:55 |
| CCal Filename(s) | F101206B_10 & F101206B_26 | Extracted | 12/02/2010 | 17:15 |
| Method Blank ID | BLANK-27127 | Analyzed | 12/07/2010 | 10:47 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 5.7 | ----- | 0.49 | | 2,3,7,8-TCDF-13C | 2.00 | 94 |
| Total TCDF | 93.0 | ----- | 0.49 | | 2,3,7,8-TCDD-13C | 2.00 | 96 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 82 |
| 2,3,7,8-TCDD | 1.3 | ----- | 0.28 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 77 |
| Total TCDD | 67.0 | ----- | 0.28 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 93 |
| 1,2,3,7,8-PeCDF | 2.9 | ----- | 0.31 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 5.5 | ----- | 0.37 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 84 |
| Total PeCDF | 56.0 | ----- | 0.34 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 97 |
| 1,2,3,7,8-PeCDD | 4.2 | ----- | 0.44 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | 56.0 | ----- | 0.44 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 5.0 | ----- | 0.33 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 80 |
| 1,2,3,6,7,8-HxCDF | 2.9 | ----- | 0.31 | J | OCDD-13C | 4.00 | 67 |
| 2,3,4,6,7,8-HxCDF | 3.7 | ----- | 0.33 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.4 | ----- | 0.22 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 32.0 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.1 | ----- | 0.41 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 88 |
| 1,2,3,6,7,8-HxCDD | 5.4 | ----- | 0.40 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.1 | ----- | 0.49 | J | | | |
| Total HxCDD | 76.0 | ----- | 0.43 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 22.0 | ----- | 1.20 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 1.9 | 1.10 | I | Equivalence: 11 ng/Kg | | |
| Total HpCDF | 78.0 | ----- | 1.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 71.0 | ----- | 1.10 | | | | |
| Total HpCDD | 160.0 | ----- | 1.10 | | | | |
| OCDF | 87.0 | ----- | 2.30 | | | | |
| OCDD | 800.0 | ----- | 17.00 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27127 | Matrix | Solid |
| Filename | U101206A_06 | Dilution | NA |
| Total Amount Extracted | 20.2 g | Extracted | 12/02/2010 17:15 |
| ICAL ID | U101204A | Analyzed | 12/06/2010 17:29 |
| CCal Filename(s) | U101206A_02 & U101206A_17 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.200 | ----- | 0.047 | J | 2,3,7,8-TCDF-13C | 2.00 | 51 |
| Total TCDF | 0.320 | ----- | 0.047 | J | 2,3,7,8-TCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 39 R |
| 2,3,7,8-TCDD | 0.039 | ----- | 0.026 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 40 |
| Total TCDD | 0.039 | ----- | 0.026 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 48 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.044 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 0.050 | ----- | 0.036 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 0.050 | ----- | 0.040 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.041 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | ND | ----- | 0.041 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 66 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.068 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.081 | | OCDD-13C | 4.00 | 72 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.063 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.087 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.075 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.094 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 56 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.100 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.097 | | | | |
| Total HxCDD | ND | ----- | 0.098 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.071 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.086 | | Equivalence: 0.13 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.078 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.100 | | | | |
| Total HpCDD | 0.130 | ----- | 0.100 | J | | | |
| OCDF | ND | ----- | 0.140 | | | | |
| OCDD | 0.550 | ----- | 0.210 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27128 | | |
| Filename | U101206A_03 | Matrix | Solid |
| Total Amount Extracted | 20.4 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 12/02/2010 17:15 |
| CCal Filename(s) | U101206A_02 & U101206A_17 | Analyzed | 12/06/2010 15:03 |
| Method Blank ID | BLANK-27127 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 124 | 2,3,7,8-TCDF-13C | 2.0 | 57 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 71 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 60 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 100 | 2,3,4,7,8-PeCDF-13C | 2.0 | 57 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 78 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 79 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 115 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 69 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 113 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 71 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 71 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 73 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 77 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 70 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 66 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 110 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 76 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 113 | OCDD-13C | 4.0 | 63 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 115 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 115 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 112 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 68 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 109 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.1 | 114 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.2 | 116 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 110 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 102 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.3 | 115 | | | |
| OCDD | 2.0 | 2.4 | 122 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255818

Page: 1 of 2

1318562

**Section A** Required Client Information:

Company: Braun + Caldwell
Address: 724 Columbia St NW #420, Olympia, WA 98501
Email To: jturk@braincald.com
Phone: 360-943-7525 Fax: 360-943-7513
Requested Due Date/TAT: 12/9/10

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name:
Project Number:

**Section C** Invoice Information:

Attention: See Section A
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): Analysis Test: As, Ni, Cu, Pb, Cd; DRO, EVRO; TPH-D, TPH-HO; cPAH, Naphthalene; TPH-G, BTEX

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | As, Ni, Cu, Pb, Cd | DRO, EVRO | TPH-D, TPH-HO | cPAH, Naphthalene | TPH-G, BTEX | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-7-1 | SL | G | | | 11/22/10 | 14:40 | | 7 | X | | | | | | X | X | X | X | X | X | X | | |
| 2 | SPL-7-2 | | | | | | 14:40 | | | | | | | | | | | | | | | | | |
| 3 | SPL-7-3 | | | | | | 14:50 | | | | | | | | | | | | | | | | | |
| 4 | SPL-7-4 | | | | | | 15:00 | | | | | | | | | | | | | | | | | |
| 5 | SPL-6-1 | | | | | | ~~13:20~~ 13:30 | | 3 | | | | | | | X | X | | | | X | | | |
| 6 | SPL-6-2 | | | | | | 13:40 | | | | | | | | | | | | | | | | | |
| 7 | SPL-6-3 | | | | | | 13:40 | | | | | | | | | | | | | | | | | |
| 8 | SPL-6-4 | | | | | | 13:50 | | | | | | | | | | | | | | | | | |
| 9 | SPL-6-5 | | | | | | 13:55 | | | | | | | | | | | | | | | | | |
| 10 | SPL-9-1 | | | | | | 13:00 | | | | | | | | | | | | | | | | | |
| 11 | SPL-9-2 | | | | | | 13:10 | | | | | | | | | | | | | | | | | |
| 12 | SPL-9-3 | | | | | | 13:00 | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jon Turk | 11/22/10 | 1800 | to Custody Seal for Pace Courier | | | | | | |
| | | | | Jyothi Swamy | 11/24/10 | 1408 | 1.4 | Y | Y | Y |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 11/22/10

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

F-ALL-Q-020rev.07, 15-May-2007

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255818

Page: 2 of 2

1318561

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW #420, Olympia WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-7524 Fax: 360-943-7513
Requested Due Date/TAT: 12/9/10

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name:
Project Number:

**Section C** Invoice Information:

Attention: Section A
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): Y/N; Analysis Test: SG; TPH-G, BTEX

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | SG | TPH-G, BTEX | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-S-1 | SL | G | | | 11/22 | 14:00 | | 3 | | | | | | | X | X | | X | | |
| 2 | SPL-S-2 | ↓ | ↓ | | | ↓ | 14:15 | | ↓ | | | | | | | ↓ | ↓ | | ↓ | | |
| 3 | SPL-S-3 | ↓ | ↓ | | | ↓ | 14:30 | | ↓ | | | | | | | ↓ | ↓ | | ↓ | | |
| 4 | TB-131856 | | | | | ↓ | | | 3 | | | | | | | X | X | | X | | |
| 5 | SPL-T-5 | SL | G | | | 11/22/10 | 15:10 | | 3 | | | | | | | X | X | | X | | |
| 6 | Temp Blank | WT | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jon Turk (BC) | 11/22 | 18:00 | to Custody Seal for Pace Courier | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | Jyothi Swamy | 11/24/10 | 1408 | 1.4 | Y | Y | Y |
| | | | | | | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: Jon Turk
DATE Signed (MM/DD/YY): 11/22/10

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

255818

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CLIENT: Brown & Caldwell

COC PAGE 1 of 2
COC ID# 1318562

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 4 | | 1 | 2 | | |
| 2 | | | | | | | | | | 4 | | | | | |
| 3 | | | | | | | | | | 4 | | | | | |
| 4 | | | | | | | | | | 4 | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Container Count

255818

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CLIENT: Brown + Caldwell

COC PAGE 2 of 2
COC ID# 1318562

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | | VG9W | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | 1 | | 2 | |
| 2 | | | | | | | | | | | | ↓ | | ↓ | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | ↓ | | ↓ | |
| 5 | | | | | | | | | | | | 1 | | 2 | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown + Caldwell Project # 255818

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

Tracking #: 8738 8211 5370

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or (101731962) or 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.4°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 11/24/10

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☑N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. Terracore kits frozen at 11/24/10 14:27 NJS |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☑No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Josh Johnson, Jon Turk Date/Time: 11/29/10 09:18

Comments/ Resolution:

Notified client that 10 samples were frozen outside the 48 hour window. RSM → SPL-6-1, SPL-6-2, SPL-6-3, SPL-6-4, SPL-6-5, SPL-9-1, SPL-9-2, SPL-9-3, SPL-8-1, SPL-8-2

Per Jon Turk - BTEX will be recollected for samples listed above. Proceed with the rest of the analyses. RSM

Project Manager Review: RSM Date: 11/29/10 14:00

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

December 09, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: Olympia Soils
Pace Project No.: 255764

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 18, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



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# CERTIFICATIONS

Project: Olympia Soils
Pace Project No.: 255764

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255764

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255764001** | **SPL-11-1** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255764002** | **SPL-11-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255764003** | **SPL-11-3** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255764004** | **SPL-10-1** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255764005** | **SPL-10-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255764006** | **SPL-10-3** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255764007** | **TB-1318922** | NWTPH-Gx | AY1 | 3 | PASI-S |



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Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255764

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-11-1** **Lab ID: 255764001** Collected: 11/16/10 11:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.6 | 1 | 11/29/10 11:00 | 11/30/10 10:04 | | |
| Motor Oil Range SG | ND | mg/kg | 82.3 | 1 | 11/29/10 11:00 | 11/30/10 10:04 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:04 | 630-02-4 | |
| o-Terphenyl (S) SG | 102 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:04 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.3 | 1 | 11/29/10 12:00 | 11/30/10 05:48 | | |
| a,a,a-Trifluorotoluene (S) | 112 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 05:48 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 120 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 05:48 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.5** | mg/kg | 0.49 | 20 | 11/24/10 07:01 | 11/30/10 11:49 | 7440-38-2 | |
| Cadmium | **0.084** | mg/kg | 0.078 | 20 | 11/24/10 07:01 | 11/30/10 11:49 | 7440-43-9 | |
| Copper | **35.2** | mg/kg | 0.49 | 20 | 11/24/10 07:01 | 11/30/10 11:49 | 7440-50-8 | |
| Lead | **8.1** | mg/kg | 0.49 | 20 | 11/24/10 07:01 | 11/30/10 11:49 | 7439-92-1 | |
| Nickel | **36.0** | mg/kg | 0.49 | 20 | 11/24/10 07:01 | 11/30/10 11:49 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 120-12-7 | |
| Benzo(a)anthracene | **10.0** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 56-55-3 | |
| Benzo(a)pyrene | **11.5** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 50-32-8 | |
| Benzo(b)fluoranthene | **13.1** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 205-99-2 | |
| Benzo(g,h,i)perylene | **13.0** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 191-24-2 | |
| Benzo(k)fluoranthene | **8.7** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 207-08-9 | |
| Chrysene | **24.9** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 53-70-3 | |
| Fluoranthene | **14.8** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 91-20-3 | |
| Phenanthrene | **8.1** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 85-01-8 | |
| Pyrene | **24.0** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 321-60-8 | 2n |
| Terphenyl-d14 (S) | 64 | % | 30-133 | 1 | 11/24/10 12:40 | 12/02/10 15:12 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 11/30/10 12:40 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 11/30/10 12:40 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 11/30/10 12:40 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10 | 1 | | 11/30/10 12:40 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 11/30/10 12:40 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-11-1** **Lab ID: 255764001** Collected: 11/16/10 11:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 111 | % | 80-120 | 1 | | 11/30/10 12:40 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 123 | % | 72-122 | 1 | | 11/30/10 12:40 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/30/10 12:40 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **14.5** | % | 0.10 | 1 | | 11/19/10 16:52 | | |

**Sample: SPL-11-2** **Lab ID: 255764002** Collected: 11/16/10 11:30 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **31.2** | mg/kg | 18.9 | 1 | 11/29/10 11:00 | 11/30/10 10:21 | | |
| Motor Oil Range SG | **428** | mg/kg | 75.8 | 1 | 11/29/10 11:00 | 11/30/10 10:21 | 64742-65-0 | |
| n-Octacosane (S) SG | 115 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:21 | 630-02-4 | |
| o-Terphenyl (S) SG | 105 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:21 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.3 | 1 | 11/29/10 12:00 | 11/30/10 09:19 | | |
| a,a,a-Trifluorotoluene (S) | 117 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 09:19 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 112 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 09:19 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.4** | mg/kg | 0.47 | 20 | 11/24/10 07:01 | 11/30/10 11:54 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.076 | 20 | 11/24/10 07:01 | 11/30/10 11:54 | 7440-43-9 | |
| Copper | **27.2** | mg/kg | 0.47 | 20 | 11/24/10 07:01 | 11/30/10 11:54 | 7440-50-8 | |
| Lead | **13.0** | mg/kg | 0.47 | 20 | 11/24/10 07:01 | 11/30/10 11:54 | 7439-92-1 | |
| Nickel | **26.6** | mg/kg | 0.47 | 20 | 11/24/10 07:01 | 11/30/10 11:54 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 83-32-9 | |
| Acenaphthylene | **7.5** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 208-96-8 | |
| Anthracene | **9.0** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 120-12-7 | |
| Benzo(a)anthracene | **22.8** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 56-55-3 | |
| Benzo(a)pyrene | **27.9** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 50-32-8 | |
| Benzo(b)fluoranthene | **41.3** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 205-99-2 | |
| Benzo(g,h,i)perylene | **28.1** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 191-24-2 | |
| Benzo(k)fluoranthene | **26.6** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 207-08-9 | |
| Chrysene | **51.0** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 218-01-9 | |
| Dibenz(a,h)anthracene | **8.1** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 53-70-3 | |
| Fluoranthene | **46.2** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **21.0** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-11-2** **Lab ID: 255764002** Collected: 11/16/10 11:30 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | ND | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 90-12-0 | |
| 2-Methylnaphthalene | **13.7** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 91-57-6 | |
| Naphthalene | **9.6** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 91-20-3 | |
| Phenanthrene | **20.1** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 85-01-8 | |
| Pyrene | **64.1** | ug/kg | 7.6 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 65 | % | 31-131 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 321-60-8 | 2n |
| Terphenyl-d14 (S) | 76 | % | 30-133 | 1 | 11/24/10 12:40 | 12/02/10 16:01 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 11/30/10 12:59 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 11/30/10 12:59 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 11/30/10 12:59 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.8 | 1 | | 11/30/10 12:59 | 1330-20-7 | |
| Dibromofluoromethane (S) | 90 | % | 80-136 | 1 | | 11/30/10 12:59 | 1868-53-7 | |
| Toluene-d8 (S) | 112 | % | 80-120 | 1 | | 11/30/10 12:59 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 116 | % | 72-122 | 1 | | 11/30/10 12:59 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 91 | % | 80-143 | 1 | | 11/30/10 12:59 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.8** | % | 0.10 | 1 | | 11/19/10 16:53 | | |

**Sample: SPL-11-3** **Lab ID: 255764003** Collected: 11/16/10 14:30 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.4 | 1 | 11/29/10 11:00 | 11/30/10 10:37 | | |
| Motor Oil Range SG | ND | mg/kg | 81.6 | 1 | 11/29/10 11:00 | 11/30/10 10:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 108 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 97 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.1 | 1 | 11/29/10 12:00 | 11/30/10 06:11 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 06:11 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 111 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 06:11 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.6** | mg/kg | 0.51 | 20 | 11/24/10 07:01 | 11/30/10 11:58 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.081 | 20 | 11/24/10 07:01 | 11/30/10 11:58 | 7440-43-9 | |
| Copper | **17.2** | mg/kg | 0.51 | 20 | 11/24/10 07:01 | 11/30/10 11:58 | 7440-50-8 | |
| Lead | **4.5** | mg/kg | 0.51 | 20 | 11/24/10 07:01 | 11/30/10 11:58 | 7439-92-1 | |
| Nickel | **29.6** | mg/kg | 0.51 | 20 | 11/24/10 07:01 | 11/30/10 11:58 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-11-3** **Lab ID: 255764003** Collected: 11/16/10 14:30 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 207-08-9 | |
| Chrysene | **10.9** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 90-12-0 | |
| 2-Methylnaphthalene | **10.8** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 85-01-8 | |
| Pyrene | **8.6** | ug/kg | 7.9 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 65 | % | 31-131 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 321-60-8 | 2n |
| Terphenyl-d14 (S) | 56 | % | 30-133 | 1 | 11/24/10 12:40 | 12/02/10 16:21 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.6 | 1 | | 11/30/10 13:19 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.6 | 1 | | 11/30/10 13:19 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.6 | 1 | | 11/30/10 13:19 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.9 | 1 | | 11/30/10 13:19 | 1330-20-7 | |
| Dibromofluoromethane (S) | 102 | % | 80-136 | 1 | | 11/30/10 13:19 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 11/30/10 13:19 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 112 | % | 72-122 | 1 | | 11/30/10 13:19 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 108 | % | 80-143 | 1 | | 11/30/10 13:19 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **17.4** | % | 0.10 | 1 | | 11/19/10 16:54 | | |

**Sample: SPL-10-1** **Lab ID: 255764004** Collected: 11/16/10 15:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **63.6** | mg/kg | 20.2 | 1 | 11/29/10 11:00 | 11/30/10 10:54 | | |
| Motor Oil Range SG | **478** | mg/kg | 81.0 | 1 | 11/29/10 11:00 | 11/30/10 10:54 | 64742-65-0 | |
| n-Octacosane (S) SG | 117 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:54 | 630-02-4 | |
| o-Terphenyl (S) SG | 105 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 10:54 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-10-1** **Lab ID: 255764004** Collected: 11/16/10 15:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.3 | 1 | 11/29/10 12:00 | 11/30/10 06:58 | | |
| a,a,a-Trifluorotoluene (S) | 114 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 06:58 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 122 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 06:58 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.3** | mg/kg | 0.45 | 20 | 11/24/10 07:01 | 12/03/10 09:35 | 7440-38-2 | |
| Cadmium | **0.12** | mg/kg | 0.072 | 20 | 11/24/10 07:01 | 12/03/10 09:35 | 7440-43-9 | |
| Copper | **20.3** | mg/kg | 0.45 | 20 | 11/24/10 07:01 | 12/03/10 09:35 | 7440-50-8 | |
| Lead | **6.0** | mg/kg | 0.45 | 20 | 11/24/10 07:01 | 12/03/10 09:35 | 7439-92-1 | |
| Nickel | **28.8** | mg/kg | 0.45 | 20 | 11/24/10 07:01 | 12/03/10 09:35 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **10.9** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 208-96-8 | |
| Anthracene | **9.7** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 120-12-7 | |
| Benzo(a)anthracene | **15.9** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 56-55-3 | |
| Benzo(a)pyrene | **15.6** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 50-32-8 | |
| Benzo(b)fluoranthene | **16.2** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 205-99-2 | |
| Benzo(g,h,i)perylene | **16.5** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 191-24-2 | |
| Benzo(k)fluoranthene | **11.5** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 207-08-9 | |
| Chrysene | **30.9** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 53-70-3 | |
| Fluoranthene | **46.5** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 206-44-0 | |
| Fluorene | **9.9** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **9.3** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 193-39-5 | |
| 1-Methylnaphthalene | **8.5** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 90-12-0 | |
| 2-Methylnaphthalene | **18.8** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 91-57-6 | |
| Naphthalene | **21.9** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 91-20-3 | |
| Phenanthrene | **33.6** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 85-01-8 | |
| Pyrene | **55.3** | ug/kg | 7.8 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 60 | % | 31-131 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 321-60-8 | 2n |
| Terphenyl-d14 (S) | 66 | % | 30-133 | 1 | 11/24/10 12:40 | 12/09/10 05:51 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.5 | 1 | | 11/30/10 13:38 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.5 | 1 | | 11/30/10 13:38 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.5 | 1 | | 11/30/10 13:38 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.6 | 1 | | 11/30/10 13:38 | 1330-20-7 | |
| Dibromofluoromethane (S) | 109 | % | 80-136 | 1 | | 11/30/10 13:38 | 1868-53-7 | |
| Toluene-d8 (S) | 115 | % | 80-120 | 1 | | 11/30/10 13:38 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 123 | % | 72-122 | 1 | | 11/30/10 13:38 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 108 | % | 80-143 | 1 | | 11/30/10 13:38 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **13.6** | % | 0.10 | 1 | | 11/19/10 16:55 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-10-2** **Lab ID: 255764005** Collected: 11/16/10 15:30 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **98.0** | mg/kg | 21.4 | 1 | 11/29/10 11:00 | 11/30/10 11:10 | | |
| Motor Oil Range SG | **444** | mg/kg | 85.6 | 1 | 11/29/10 11:00 | 11/30/10 11:10 | 64742-65-0 | |
| n-Octacosane (S) SG | 120 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 11:10 | 630-02-4 | |
| o-Terphenyl (S) SG | 108 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 11:10 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.7 | 1 | 11/29/10 12:00 | 11/30/10 07:22 | | |
| a,a,a-Trifluorotoluene (S) | 104 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 07:22 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 113 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 07:22 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.2** | mg/kg | 0.42 | 20 | 11/24/10 07:01 | 12/03/10 09:39 | 7440-38-2 | |
| Cadmium | **0.14** | mg/kg | 0.067 | 20 | 11/24/10 07:01 | 12/03/10 09:39 | 7440-43-9 | |
| Copper | **34.3** | mg/kg | 0.42 | 20 | 11/24/10 07:01 | 12/03/10 09:39 | 7440-50-8 | |
| Lead | **16.3** | mg/kg | 0.42 | 20 | 11/24/10 07:01 | 12/03/10 09:39 | 7439-92-1 | |
| Nickel | **38.5** | mg/kg | 0.42 | 20 | 11/24/10 07:01 | 12/03/10 09:39 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 83-32-9 | |
| Acenaphthylene | **21.8** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 208-96-8 | |
| Anthracene | **40.3** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 120-12-7 | |
| Benzo(a)anthracene | **52.4** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 56-55-3 | |
| Benzo(a)pyrene | **70.0** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 50-32-8 | |
| Benzo(b)fluoranthene | **61.6** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 205-99-2 | |
| Benzo(g,h,i)perylene | **42.2** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 191-24-2 | |
| Benzo(k)fluoranthene | **50.6** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 207-08-9 | |
| Chrysene | **96.5** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 218-01-9 | |
| Dibenz(a,h)anthracene | **15.9** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 53-70-3 | |
| Fluoranthene | **84.4** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 206-44-0 | |
| Fluorene | **15.2** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **33.9** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 193-39-5 | |
| 1-Methylnaphthalene | **24.9** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 90-12-0 | |
| 2-Methylnaphthalene | **60.4** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 91-57-6 | |
| Naphthalene | **36.0** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 91-20-3 | |
| Phenanthrene | **93.0** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 85-01-8 | |
| Pyrene | **131** | ug/kg | 7.7 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 58 | % | 31-131 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 321-60-8 | 2n |
| Terphenyl-d14 (S) | 65 | % | 30-133 | 1 | 11/24/10 12:40 | 12/09/10 06:06 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 11/30/10 13:56 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 11/30/10 13:56 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 11/30/10 13:56 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.9 | 1 | | 11/30/10 13:56 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 11/30/10 13:56 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-10-2** **Lab ID: 255764005** Collected: 11/16/10 15:30 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 110 | % | 80-120 | 1 | | 11/30/10 13:56 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 126 | % | 72-122 | 1 | | 11/30/10 13:56 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 11/30/10 13:56 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.9** | % | 0.10 | 1 | | 11/19/10 16:56 | | |

**Sample: SPL-10-3** **Lab ID: 255764006** Collected: 11/16/10 16:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **42.3** | mg/kg | 19.5 | 1 | 11/29/10 11:00 | 11/30/10 11:27 | | |
| Motor Oil Range SG | **289** | mg/kg | 77.9 | 1 | 11/29/10 11:00 | 11/30/10 11:27 | 64742-65-0 | |
| n-Octacosane (S) SG | 119 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 11:27 | 630-02-4 | |
| o-Terphenyl (S) SG | 107 | % | 50-150 | 1 | 11/29/10 11:00 | 11/30/10 11:27 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.7 | 1 | 11/29/10 12:00 | 11/30/10 07:45 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 07:45 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 112 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 07:45 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.7** | mg/kg | 0.40 | 20 | 11/24/10 07:01 | 12/03/10 09:49 | 7440-38-2 | |
| Cadmium | **0.15** | mg/kg | 0.064 | 20 | 11/24/10 07:01 | 12/03/10 09:49 | 7440-43-9 | |
| Copper | **36.0** | mg/kg | 0.40 | 20 | 11/24/10 07:01 | 12/03/10 09:49 | 7440-50-8 | |
| Lead | **20.9** | mg/kg | 0.40 | 20 | 11/24/10 07:01 | 12/03/10 09:49 | 7439-92-1 | |
| Nickel | **38.5** | mg/kg | 0.40 | 20 | 11/24/10 07:01 | 12/03/10 09:49 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 208-96-8 | |
| Anthracene | **9.2** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 120-12-7 | |
| Benzo(a)anthracene | **14.8** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 56-55-3 | |
| Benzo(a)pyrene | **17.0** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 50-32-8 | |
| Benzo(b)fluoranthene | **12.6** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 205-99-2 | |
| Benzo(g,h,i)perylene | **17.2** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 191-24-2 | |
| Benzo(k)fluoranthene | **15.8** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 207-08-9 | |
| Chrysene | **22.5** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 53-70-3 | |
| Fluoranthene | **27.7** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **10** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255764

**Sample: SPL-10-3** **Lab ID: 255764006** Collected: 11/16/10 16:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **15.2** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 90-12-0 | |
| 2-Methylnaphthalene | **39.6** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 91-57-6 | |
| Naphthalene | **20.7** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 91-20-3 | |
| Phenanthrene | **23.8** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 85-01-8 | |
| Pyrene | **30.2** | ug/kg | 7.4 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 58 | % | 31-131 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 321-60-8 | 2n |
| Terphenyl-d14 (S) | 58 | % | 30-133 | 1 | 11/24/10 12:40 | 12/09/10 06:22 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/30/10 14:16 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/30/10 14:16 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/30/10 14:16 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 11/30/10 14:16 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 11/30/10 14:16 | 1868-53-7 | |
| Toluene-d8 (S) | 111 | % | 80-120 | 1 | | 11/30/10 14:16 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 131 | % | 72-122 | 1 | | 11/30/10 14:16 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 11/30/10 14:16 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.5** | % | 0.10 | 1 | | 11/19/10 16:57 | | |

**Sample: TB-1318922** **Lab ID: 255764007** Collected: 11/16/10 00:00 Received: 11/18/10 09:25 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 11/29/10 12:00 | 11/30/10 03:04 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 03:04 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 114 | % | 50-150 | 1 | 11/29/10 12:00 | 11/30/10 03:04 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/30/10 12:21 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/30/10 12:21 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/30/10 12:21 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 11/30/10 12:21 | 1330-20-7 | |
| Dibromofluoromethane (S) | 108 | % | 80-136 | 1 | | 11/30/10 12:21 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 11/30/10 12:21 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 72-122 | 1 | | 11/30/10 12:21 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 109 | % | 80-143 | 1 | | 11/30/10 12:21 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

QC Batch: OEXT/3029 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

METHOD BLANK: 50537 Matrix: Solid
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 11/30/10 07:35 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 11/30/10 07:35 | |
| n-Octacosane (S) SG | % | 114 | 50-150 | 11/30/10 07:35 | |
| o-Terphenyl (S) SG | % | 102 | 50-150 | 11/30/10 07:35 | |

LABORATORY CONTROL SAMPLE: 50538

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 430 | 86 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 564 | 113 | 50-150 | |
| n-Octacosane (S) SG | % | | | 112 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 50540

| Parameter | Units | 255768007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | ND | | |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 109 | 106 | 6 | |
| o-Terphenyl (S) SG | % | 100 | 100 | 3 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

QC Batch: GCV/2048 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006, 255764007

METHOD BLANK: 50587 Matrix: Solid
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006, 255764007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/29/10 14:11 | |
| 4-Bromofluorobenzene (S) | % | 130 | 50-150 | 11/29/10 14:11 | |
| a,a,a-Trifluorotoluene (S) | % | 113 | 50-150 | 11/29/10 14:11 | |

LABORATORY CONTROL SAMPLE: 50588

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 14.5 | 116 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 122 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 110 | 50-150 | |

SAMPLE DUPLICATE: 50670

| Parameter | Units | 255768003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.4J | | |
| 4-Bromofluorobenzene (S) | % | 116 | 121 | 4 | |
| a,a,a-Trifluorotoluene (S) | % | 104 | 109 | 4 | |

SAMPLE DUPLICATE: 50671

| Parameter | Units | 255764002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 3.5J | | |
| 4-Bromofluorobenzene (S) | % | 112 | 123 | 9 | |
| a,a,a-Trifluorotoluene (S) | % | 117 | 112 | 4 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

QC Batch: ICPM/23712 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

METHOD BLANK: 897274 Matrix: Solid
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 11/30/10 02:11 | |
| Cadmium | mg/kg | ND | 0.076 | 11/30/10 02:11 | |
| Copper | mg/kg | ND | 0.48 | 11/30/10 02:11 | |
| Lead | mg/kg | ND | 0.48 | 11/30/10 02:11 | |
| Nickel | mg/kg | ND | 0.48 | 11/30/10 02:11 | |

LABORATORY CONTROL SAMPLE: 897275

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 18.2 | 16.3 | 90 | 75-125 | |
| Cadmium | mg/kg | 18.2 | 17.1 | 94 | 75-125 | |
| Copper | mg/kg | 18.2 | 17.2 | 95 | 75-125 | |
| Lead | mg/kg | 18.2 | 17.7 | 97 | 75-125 | |
| Nickel | mg/kg | 18.2 | 17.5 | 96 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 897276 897277

| Parameter | Units | 10143739002 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 2.9 | 17.5 | 19.6 | 18.6 | 21.6 | 90 | 95 | 75-125 | 15 | |
| Cadmium | mg/kg | 0.11 | 17.5 | 19.6 | 17.0 | 19.1 | 97 | 96 | 75-125 | 12 | |
| Copper | mg/kg | 6.6 | 17.5 | 19.6 | 22.6 | 25.8 | 92 | 98 | 75-125 | 14 | |
| Lead | mg/kg | 4.8 | 17.5 | 19.6 | 20.9 | 24.2 | 92 | 98 | 75-125 | 14 | |
| Nickel | mg/kg | 10.1 | 17.5 | 19.6 | 27.0 | 29.8 | 97 | 100 | 75-125 | 10 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

QC Batch: OEXT/3025 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

METHOD BLANK: 50452 Matrix: Solid
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Acenaphthene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Anthracene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Chrysene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Fluoranthene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Fluorene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Naphthalene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Phenanthrene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| Pyrene | ug/kg | ND | 6.7 | 12/02/10 13:15 | |
| 2-Fluorobiphenyl (S) | % | 1 | 31-131 | 12/02/10 13:15 | 1n,S0 |
| Terphenyl-d14 (S) | % | 74 | 30-133 | 12/02/10 13:15 | |

LABORATORY CONTROL SAMPLE: 50453

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 74.1 | 56 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 73.5 | 55 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 79.2 | 59 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 79.1 | 59 | 31-134 | |
| Anthracene | ug/kg | 133 | 86.1 | 65 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 97.6 | 73 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 105 | 79 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 96.7 | 73 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 96.2 | 72 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 108 | 81 | 45-147 | |
| Chrysene | ug/kg | 133 | 99.2 | 74 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 99.7 | 75 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 95.4 | 72 | 44-143 | |
| Fluorene | ug/kg | 133 | 96.7 | 73 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 99.3 | 74 | 47-140 | |
| Naphthalene | ug/kg | 133 | 71.9 | 54 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 90.0 | 68 | 42-131 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

LABORATORY CONTROL SAMPLE: 50453

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 101 | 76 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 60 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 78 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50454 50455

| Parameter | Units | 255764001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 157 | 157 | 110 | 109 | 68 | 68 | 31-123 | .5 | |
| 2-Methylnaphthalene | ug/kg | ND | 157 | 157 | 112 | 112 | 68 | 68 | 15-146 | .2 | |
| Acenaphthene | ug/kg | ND | 157 | 157 | 98.7 | 97.1 | 62 | 62 | 19-141 | 2 | |
| Acenaphthylene | ug/kg | ND | 157 | 157 | 101 | 98.8 | 63 | 62 | 30-142 | 2 | |
| Anthracene | ug/kg | ND | 157 | 157 | 100 | 96.2 | 62 | 59 | 38-137 | 4 | |
| Benzo(a)anthracene | ug/kg | 10.0 | 157 | 157 | 101 | 95.0 | 58 | 54 | 37-143 | 6 | |
| Benzo(a)pyrene | ug/kg | 11.5 | 157 | 157 | 102 | 98.4 | 58 | 55 | 33-147 | 4 | |
| Benzo(b)fluoranthene | ug/kg | 13.1 | 157 | 157 | 103 | 94.6 | 58 | 52 | 25-156 | 9 | |
| Benzo(g,h,i)perylene | ug/kg | 13.0 | 157 | 157 | 87.4 | 73.7 | 47 | 39 | 26-142 | 17 | |
| Benzo(k)fluoranthene | ug/kg | 8.7 | 157 | 157 | 87.2 | 83.7 | 50 | 48 | 35-142 | 4 | |
| Chrysene | ug/kg | 24.9 | 157 | 157 | 104 | 100 | 50 | 48 | 23-150 | 4 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 157 | 157 | 83.5 | 78.4 | 50 | 47 | 41-140 | 6 | |
| Fluoranthene | ug/kg | 14.8 | 157 | 157 | 88.2 | 88.1 | 47 | 47 | 25-155 | .07 | |
| Fluorene | ug/kg | ND | 157 | 157 | 99.9 | 98.0 | 63 | 62 | 33-152 | 2 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 157 | 157 | 85.4 | 76.6 | 51 | 45 | 36-139 | 11 | |
| Naphthalene | ug/kg | ND | 157 | 157 | 98.1 | 99.0 | 60 | 61 | 25-121 | 1 | |
| Phenanthrene | ug/kg | 8.1 | 157 | 157 | 101 | 99.0 | 59 | 58 | 29-141 | 2 | |
| Pyrene | ug/kg | 24.0 | 157 | 157 | 129 | 126 | 67 | 65 | 36-145 | 2 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 60 | 59 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 66 | 60 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

QC Batch: MSV/3520 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006, 255764007

METHOD BLANK: 50634 Matrix: Solid
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006, 255764007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/30/10 11:39 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/30/10 11:39 | |
| Toluene | ug/kg | ND | 3.0 | 11/30/10 11:39 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/30/10 11:39 | |
| 1,2-Dichloroethane-d4 (S) | % | 109 | 80-143 | 11/30/10 11:39 | |
| 4-Bromofluorobenzene (S) | % | 108 | 72-122 | 11/30/10 11:39 | |
| Dibromofluoromethane (S) | % | 109 | 80-136 | 11/30/10 11:39 | |
| Toluene-d8 (S) | % | 98 | 80-120 | 11/30/10 11:39 | |

LABORATORY CONTROL SAMPLE & LCSD: 50635 50885

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 52.3 | 51.1 | 105 | 102 | 75-133 | 2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 54.0 | 49.5 | 108 | 99 | 68-131 | 9 | 30 | |
| Toluene | ug/kg | 50 | 57.3 | 49.8 | 115 | 100 | 73-124 | 14 | 30 | |
| Xylene (Total) | ug/kg | 150 | 165 | 152 | 110 | 102 | 68-130 | 8 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 106 | 110 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 100 | 105 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 106 | 113 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 111 | 102 | 80-120 | | | |



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255764

QC Batch: PMST/1434 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255764001, 255764002, 255764003, 255764004, 255764005, 255764006

SAMPLE DUPLICATE: 50207

| Parameter | Units | 255231039 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 46.2 | 42.6 | 8 | |

SAMPLE DUPLICATE: 50208

| Parameter | Units | 255231047 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 13.1 | 13.1 | .7 | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: Olympia Soils
Pace Project No.: 255764

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| 1n | All samples associated with this method blank were re-extracted for confirmation of results due to failing surrogate. |
| 2n | Results for all target analytes were confirmed by the analysis of of an out-of-hold re-extract sample, associated with good batch QC and acceptable surrogate recoveries. |
| S0 | Surrogate recovery outside laboratory control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Olympia Soils
Pace Project No.: 255764

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255764001** | **SPL-11-1** | EPA 3546 | OEXT/3029 | NWTPH-Dx | GCSV/2103 |
| **255764002** | **SPL-11-2** | EPA 3546 | OEXT/3029 | NWTPH-Dx | GCSV/2103 |
| **255764003** | **SPL-11-3** | EPA 3546 | OEXT/3029 | NWTPH-Dx | GCSV/2103 |
| **255764004** | **SPL-10-1** | EPA 3546 | OEXT/3029 | NWTPH-Dx | GCSV/2103 |
| **255764005** | **SPL-10-2** | EPA 3546 | OEXT/3029 | NWTPH-Dx | GCSV/2103 |
| **255764006** | **SPL-10-3** | EPA 3546 | OEXT/3029 | NWTPH-Dx | GCSV/2103 |
| **255764001** | **SPL-11-1** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764002** | **SPL-11-2** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764003** | **SPL-11-3** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764004** | **SPL-10-1** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764005** | **SPL-10-2** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764006** | **SPL-10-3** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764007** | **TB-1318922** | NWTPH-Gx | GCV/2048 | NWTPH-Gx | GCV/2051 |
| **255764001** | **SPL-11-1** | EPA 6020 | ICPM/23712 | EPA 6020 | ICPM/9625 |
| **255764002** | **SPL-11-2** | EPA 6020 | ICPM/23712 | EPA 6020 | ICPM/9625 |
| **255764003** | **SPL-11-3** | EPA 6020 | ICPM/23712 | EPA 6020 | ICPM/9625 |
| **255764004** | **SPL-10-1** | EPA 6020 | ICPM/23712 | EPA 6020 | ICPM/9625 |
| **255764005** | **SPL-10-2** | EPA 6020 | ICPM/23712 | EPA 6020 | ICPM/9625 |
| **255764006** | **SPL-10-3** | EPA 6020 | ICPM/23712 | EPA 6020 | ICPM/9625 |
| **255764001** | **SPL-11-1** | EPA 3546 | OEXT/3025 | EPA 8270 by SIM | MSSV/1453 |
| **255764002** | **SPL-11-2** | EPA 3546 | OEXT/3025 | EPA 8270 by SIM | MSSV/1453 |
| **255764003** | **SPL-11-3** | EPA 3546 | OEXT/3025 | EPA 8270 by SIM | MSSV/1453 |
| **255764004** | **SPL-10-1** | EPA 3546 | OEXT/3025 | EPA 8270 by SIM | MSSV/1453 |
| **255764005** | **SPL-10-2** | EPA 3546 | OEXT/3025 | EPA 8270 by SIM | MSSV/1453 |
| **255764006** | **SPL-10-3** | EPA 3546 | OEXT/3025 | EPA 8270 by SIM | MSSV/1453 |
| **255764001** | **SPL-11-1** | EPA 8260 | MSV/3520 | | |
| **255764002** | **SPL-11-2** | EPA 8260 | MSV/3520 | | |
| **255764003** | **SPL-11-3** | EPA 8260 | MSV/3520 | | |
| **255764004** | **SPL-10-1** | EPA 8260 | MSV/3520 | | |
| **255764005** | **SPL-10-2** | EPA 8260 | MSV/3520 | | |
| **255764006** | **SPL-10-3** | EPA 8260 | MSV/3520 | | |
| **255764007** | **TB-1318922** | EPA 8260 | MSV/3520 | | |
| **255764001** | **SPL-11-1** | ASTM D2974-87 | PMST/1434 | | |
| **255764002** | **SPL-11-2** | ASTM D2974-87 | PMST/1434 | | |
| **255764003** | **SPL-11-3** | ASTM D2974-87 | PMST/1434 | | |
| **255764004** | **SPL-10-1** | ASTM D2974-87 | PMST/1434 | | |
| **255764005** | **SPL-10-2** | ASTM D2974-87 | PMST/1434 | | |
| **255764006** | **SPL-10-3** | ASTM D2974-87 | PMST/1434 | | |



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**Pace Analytical Services, Inc.**
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Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

December 6, 2010

## Report Information:

**Pace Project #: 10143645**
**Sample Receipt Date: 11/19/2010**
**Client Project #: 255764 Brown & Caldwell**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

December 06, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on six samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 42-94%. All of the labeled internal standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. The OCDD concentration reported for sample SPL-11-2 was above the calibration range; the value was flagged "E" and should be regarded as an estimate.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. With the exception of the Total TCDF, these were below the calibration range of the method. The levels reported for the affected congeners in the field samples were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 92-117%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10143645 COC p. 1 (of 2)

# Chain of Custody

Pace Analytical®
www.pacelabs.com

10143645 12/6/10

**Workorder:** 255764 **Workorder Name:** Olympia Soils **Owner Received Date:** 11/18/2010 **Results Requested By:** ~~12/2/2010~~

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | | | | | | Dioxins + Furans | 6020 As, Ni, Cu, Pb, Cd | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-11-1 | PS | 11/16/2010 11:00 | 255764001 | Solid | 1 | * | | | | | X | X | 001 |
| 2 | SPL-11-2 | PS | 11/16/2010 11:30 | 255764002 | Solid | 2 | | | | | | X | X | |
| 3 | SPL-11-3 | PS | 11/16/2010 14:30 | 255764003 | Solid | 1 | * | | | | | X | X | 002 |
| 4 | SPL-10-1 | PS | 11/16/2010 15:00 | 255764004 | Solid | 2 | | | | | | X | X | |
| 5 | SPL-10-2 | PS | 11/16/2010 15:30 | 255764005 | Solid | 2 | | | | | | X | X | |
| 6 | SPL-10-3 | PS | 11/16/2010 16:00 | 255764006 | Solid | 2 | | | | | | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Sean Donnan | 11/18/10 1:40 | Pace MN | 11/18/10 10:00 |
| 2 | | | | |
| 3 | | | | |

**Comments**

10-day RUSH.
Seattle will analyse dry weight.

Cooler Temperature on Receipt 1.7 °C | Custody Seal (Y) or N | Received on Ice (Y) or N | Samples Intact (Y) or N

10 DAY RUSH for dioxin

(*) 255764 001, 003 only one 4oz jar available for testing.
(*) Please return all samples to Seattle. NJS 11/18/10

Thursday, November 18, 2010 12:05:53 PM

FMT-ALL-C-002rev.00 24March2009

10143645
✓ DT 11-22-10 (COC p. 2 of 2)

| Pace Analytical Services, Inc. | |
|---|---|
| Percent Moisture/%TS | |
| Analyst | KJ1 |
| Instrument | 25BALB |

| Tray # | Sample ID | Tare Mass | Wet Mass | 1 Dry Mass | 2 Dry Mass | Weight Diff | % Diff | 3 Dry Mass | Weight Diff | % Diff | Percent Moisture | Date/Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 255231039 | 2.28 | 14.71 | 8.97 | | 8.97 | | | | | 46.17860016 | 11/19/2010 16:37:16 |
| 26 | 50207 | 2.26 | 14.42 | 9.24 | | 9.24 | | | | | 42.59868421 | 11/19/2010 16:37:33 |
| 27 | 255231040 | 2.33 | 14.69 | 12.85 | | 12.85 | | | | | 14.88673139 | 11/19/2010 16:38:19 |
| 28 | 255231041 | 2.36 | 14.05 | 11.11 | | 11.11 | | | | | 25.14970059 | 11/19/2010 16:39:13 |
| 29 | 255231042 | 2.28 | 14.52 | 12.92 | | 12.92 | | | | | 13.07189542 | 11/19/2010 16:40:01 |
| 30 | 255231045 | 2.25 | 14.17 | 11.75 | | 11.75 | | | | | 20.30201342 | 11/19/2010 16:40:37 |
| 31 | 255231046 | 2.3 | 14.73 | 14.09 | | 14.09 | | | | | 5.148833467 | 11/19/2010 16:41:21 |
| 32 | 255231047 | 2.26 | 14.28 | 12.71 | | 12.71 | | | | | 13.06156405 | 11/19/2010 16:42:18 |
| 33 | 50208 | 2.32 | 14.49 | 12.89 | | 12.89 | | | | | 13.14708299 | 11/19/2010 16:42:34 |
| | | | | | | | | | | | 100 | ~~11/19/2010 16:52:36~~ |
| 35 | 255764001 | 2.37 | 14.18 | 12.47 | | 12.47 | | | | | 14.47925486 | 11/19/2010 16:52:40 |
| 36 | 255764002 | 2.28 | 14.45 | 13.02 | | 13.02 | | | | | 11.75020542 | 11/19/2010 16:53:48 |
| 37 | 255764003 | 2.29 | 14.2 | 12.13 | | 12.13 | | | | | 17.38035264 | 11/19/2010 16:54:28 |
| 38 | 255764004 | 2.33 | 14.59 | 12.92 | | 12.92 | | | | | 13.62153344 | 11/19/2010 16:55:29 |
| 39 | 255764005 | 2.27 | 14.79 | 13.18 | | 13.18 | | | | | 12.85942492 | 11/19/2010 16:56:15 |
| 40 | 255764006 | 2.31 | 14.8 | 13.36 | | 13.36 | | | | | 11.52922337 | 11/19/2010 16:57:18 |

Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Ace WA **Project #** 10143645

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

**Tracking #:** 7941-3314-8721

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank: Yes** ____ **No** ✓

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.7 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C **Comments:**

Date and initials of person examining contents: 11/19/10

| | | |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. Split Samples for Dioxin from Metals Jar |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp # |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water | ☐Yes ☑No | Initial when completed — Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): — | | |

**Client Notification/ Resolution:** **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 11/19/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-11-1 | | | |
| Lab Sample ID | 255764001 | | | |
| Filename | P101203A_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.2 g | Matrix | Solid | |
| % Moisture | 14.8 | Dilution | NA | |
| Dry Weight Extracted | 8.69 g | Collected | 11/16/2010 | 11:00 |
| ICAL ID | P101202 | Received | 11/19/2010 | 10:00 |
| CCal Filename(s) | P101203A_01 & P101203A_17 | Extracted | 11/29/2010 | 14:30 |
| Method Blank ID | BLANK-27086 | Analyzed | 12/03/2010 | 04:51 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 7.3 | ----- | 0.19 | | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 120.0 | ----- | 0.19 | | 2,3,7,8-TCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | 1.7 | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| Total TCDD | 170.0 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 83 |
| 1,2,3,7,8-PeCDF | 7.6 | ----- | 0.25 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 |
| 2,3,4,7,8-PeCDF | 19.0 | ----- | 0.18 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 76 |
| Total PeCDF | 130.0 | ----- | 0.22 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDD | 10.0 | ----- | 0.21 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 |
| Total PeCDD | 190.0 | ----- | 0.21 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 |
| 1,2,3,4,7,8-HxCDF | 19.0 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 |
| 1,2,3,6,7,8-HxCDF | 13.0 | ----- | 0.32 | | OCDD-13C | 4.00 | 52 |
| 2,3,4,6,7,8-HxCDF | 14.0 | ----- | 0.36 | | | | |
| 1,2,3,7,8,9-HxCDF | 7.1 | ----- | 0.36 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 220.0 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 7.7 | ----- | 0.35 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | 23.0 | ----- | 0.36 | | | | |
| 1,2,3,7,8,9-HxCDD | 15.0 | ----- | 0.35 | | | | |
| Total HxCDD | 300.0 | ----- | 0.35 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 110.0 | ----- | 0.48 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 11.0 | ----- | 0.57 | | Equivalence: 34 ng/Kg | | |
| Total HpCDF | 350.0 | ----- | 0.52 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 360.0 | ----- | 0.76 | | | | |
| Total HpCDD | 640.0 | ----- | 0.76 | | | | |
| OCDF | ----- | 330 | 0.47 | P | | | |
| OCDD | 3300.0 | ----- | 0.36 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-11-2 | | | |
| Lab Sample ID | 255764002 | | | |
| Filename | P101203A_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.1 g | Matrix | Solid | |
| % Moisture | 11.8 | Dilution | NA | |
| Dry Weight Extracted | 8.91 g | Collected | 11/16/2010 | 11:30 |
| ICAL ID | P101202 | Received | 11/19/2010 | 10:00 |
| CCal Filename(s) | P101203A_01 & P101203A_17 | Extracted | 11/29/2010 | 14:30 |
| Method Blank ID | BLANK-27086 | Analyzed | 12/03/2010 | 05:34 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 14.0 | ----- | 0.23 | | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 220.0 | ----- | 0.23 | | 2,3,7,8-TCDD-13C | 2.00 | 73 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 |
| 2,3,7,8-TCDD | 3.5 | ----- | 0.26 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 300.0 | ----- | 0.26 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDF | 19.0 | ----- | 0.17 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 78.0 | ----- | 0.19 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 440.0 | ----- | 0.18 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDD | 19.0 | ----- | 0.24 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | 350.0 | ----- | 0.24 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 |
| 1,2,3,4,7,8-HxCDF | 120.0 | ----- | 0.24 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | 47.0 | ----- | 0.42 | | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | 49.0 | ----- | 0.66 | | | | |
| 1,2,3,7,8,9-HxCDF | 36.0 | ----- | 0.44 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1100.0 | ----- | 0.44 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 16.0 | ----- | 0.18 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 70 |
| 1,2,3,6,7,8-HxCDD | 65.0 | ----- | 0.47 | | | | |
| 1,2,3,7,8,9-HxCDD | 33.0 | ----- | 0.49 | | | | |
| Total HxCDD | 620.0 | ----- | 0.38 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 490.0 | ----- | 0.65 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 47.0 | ----- | 0.66 | | Equivalence: 110 ng/Kg | | |
| Total HpCDF | 1800.0 | ----- | 0.66 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 1200.0 | ----- | 0.91 | | | | |
| Total HpCDD | 2000.0 | ----- | 0.91 | | | | |
| OCDF | ----- | 1400 | 0.51 | P | | | |
| OCDD | 12000.0 | ----- | 0.18 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-11-3 | | | |
| Lab Sample ID | 255764003 | | | |
| Filename | P101203A_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.1 g | Matrix | Solid | |
| % Moisture | 17.4 | Dilution | NA | |
| Dry Weight Extracted | 8.34 g | Collected | 11/16/2010 | 14:30 |
| ICAL ID | P101202 | Received | 11/19/2010 | 10:00 |
| CCal Filename(s) | P101203A_01 & P101203A_17 | Extracted | 11/29/2010 | 14:30 |
| Method Blank ID | BLANK-27086 | Analyzed | 12/03/2010 | 06:16 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 6.4 | ----- | 0.200 | | 2,3,7,8-TCDF-13C | 2.00 | 78 |
| Total TCDF | 99.0 | ----- | 0.200 | | 2,3,7,8-TCDD-13C | 2.00 | 92 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | 1.7 | ----- | 0.200 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 |
| Total TCDD | 110.0 | ----- | 0.200 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 92 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDF | 6.5 | ----- | 0.130 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 84 |
| 2,3,4,7,8-PeCDF | 19.0 | ----- | 0.098 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 84 |
| Total PeCDF | 120.0 | ----- | 0.110 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDD | 8.2 | ----- | 0.160 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 85 |
| Total PeCDD | 140.0 | ----- | 0.160 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 29.0 | ----- | 0.190 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 80 |
| 1,2,3,6,7,8-HxCDF | 12.0 | ----- | 0.170 | | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | 7.8 | ----- | 0.110 | | | | |
| 1,2,3,7,8,9-HxCDF | 6.6 | ----- | 0.130 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 200.0 | ----- | 0.150 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 6.8 | ----- | 0.280 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 |
| 1,2,3,6,7,8-HxCDD | 17.0 | ----- | 0.180 | | | | |
| 1,2,3,7,8,9-HxCDD | 10.0 | ----- | 0.270 | | | | |
| Total HxCDD | 220.0 | ----- | 0.240 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 79.0 | ----- | 0.250 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 7.6 | ----- | 0.360 | | Equivalence: 29 ng/Kg | | |
| Total HpCDF | 240.0 | ----- | 0.310 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 250.0 | ----- | 0.670 | | | | |
| Total HpCDD | 430.0 | ----- | 0.670 | | | | |
| OCDF | ----- | 190 | 0.400 | P | | | |
| OCDD | 2200.0 | ----- | 0.440 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-10-1 | | | |
| Lab Sample ID | 255764004 | | | |
| Filename | P101203A_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.5 g | Matrix | Solid | |
| % Moisture | 13.6 | Dilution | NA | |
| Dry Weight Extracted | 9.07 g | Collected | 11/16/2010 | 15:00 |
| ICAL ID | P101202 | Received | 11/19/2010 | 10:00 |
| CCal Filename(s) | P101203A_01 & P101203A_17 | Extracted | 11/29/2010 | 14:30 |
| Method Blank ID | BLANK-27086 | Analyzed | 12/03/2010 | 06:59 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.60 | ----- | 0.25 | | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| Total TCDF | 42.00 | ----- | 0.25 | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 74 |
| 2,3,7,8-TCDD | 0.67 | ----- | 0.18 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 23.00 | ----- | 0.18 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | 4.20 | ----- | 0.14 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 |
| 2,3,4,7,8-PeCDF | 13.00 | ----- | 0.13 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| Total PeCDF | 77.00 | ----- | 0.13 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 3.50 | ----- | 0.23 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 67 |
| Total PeCDD | 52.00 | ----- | 0.23 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 59 |
| 1,2,3,4,7,8-HxCDF | ----- | 35 | 0.25 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 66 |
| 1,2,3,6,7,8-HxCDF | 8.60 | ----- | 0.22 | | OCDD-13C | 4.00 | 42 |
| 2,3,4,6,7,8-HxCDF | 4.40 | ----- | 0.45 | J | | | |
| 1,2,3,7,8,9-HxCDF | 7.30 | ----- | 0.23 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 110.00 | ----- | 0.28 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.70 | ----- | 0.30 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 16.00 | ----- | 0.32 | | | | |
| 1,2,3,7,8,9-HxCDD | 6.50 | ----- | 0.32 | | | | |
| Total HxCDD | 140.00 | ----- | 0.31 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 140.00 | ----- | 0.39 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 13.00 | ----- | 0.38 | | Equivalence: 22 ng/Kg | | |
| Total HpCDF | 150.00 | ----- | 0.38 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 510.00 | ----- | 1.10 | | | | |
| Total HpCDD | 940.00 | ----- | 1.10 | | | | |
| OCDF | 600.00 | ----- | 0.33 | | | | |
| OCDD | 7800.00 | ----- | 3.90 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-10-2 | | | |
| Lab Sample ID | 255764005 | | | |
| Filename | P101203A_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.4 g | Matrix | Solid | |
| % Moisture | 12.8 | Dilution | NA | |
| Dry Weight Extracted | 9.07 g | Collected | 11/16/2010 | 15:30 |
| ICAL ID | P101202 | Received | 11/19/2010 | 10:00 |
| CCal Filename(s) | P101203A_01 & P101203A_17 | Extracted | 11/29/2010 | 14:30 |
| Method Blank ID | BLANK-27086 | Analyzed | 12/03/2010 | 07:42 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.40 | ----- | 0.25 | | 2,3,7,8-TCDF-13C | 2.00 | 79 |
| Total TCDF | 30.00 | ----- | 0.25 | | 2,3,7,8-TCDD-13C | 2.00 | 93 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | 0.41 | ----- | 0.21 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 14.00 | ----- | 0.21 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDF | 1.30 | ----- | 0.27 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 86 |
| 2,3,4,7,8-PeCDF | 3.60 | ----- | 0.12 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 81 |
| Total PeCDF | 33.00 | ----- | 0.20 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 90 |
| 1,2,3,7,8-PeCDD | 2.10 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 78 |
| Total PeCDD | 33.00 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 62 |
| 1,2,3,4,7,8-HxCDF | ----- | 4.3 | 0.23 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 69 |
| 1,2,3,6,7,8-HxCDF | 2.30 | ----- | 0.20 | J | OCDD-13C | 4.00 | 43 |
| 2,3,4,6,7,8-HxCDF | 1.80 | ----- | 0.23 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.96 | ----- | 0.25 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 27.00 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.50 | ----- | 0.17 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 89 |
| 1,2,3,6,7,8-HxCDD | 5.70 | ----- | 0.20 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.20 | ----- | 0.20 | J | | | |
| Total HxCDD | 67.00 | ----- | 0.19 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 26.00 | ----- | 0.21 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.00 | ----- | 0.32 | J | Equivalence: 7.3 ng/Kg | | |
| Total HpCDF | 28.00 | ----- | 0.27 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 130.00 | ----- | 0.37 | | | | |
| Total HpCDD | 240.00 | ----- | 0.37 | | | | |
| OCDF | 90.00 | ----- | 0.39 | | | | |
| OCDD | 1500.00 | ----- | 0.39 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-10-3 | | | |
| Lab Sample ID | 255764006 | | | |
| Filename | P101203A_12 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.6 g | Matrix | Solid | |
| % Moisture | 11.5 | Dilution | NA | |
| Dry Weight Extracted | 9.38 g | Collected | 11/16/2010 | 16:00 |
| ICAL ID | P101202 | Received | 11/19/2010 | 10:00 |
| CCal Filename(s) | P101203A_01 & P101203A_17 | Extracted | 11/29/2010 | 14:30 |
| Method Blank ID | BLANK-27086 | Analyzed | 12/03/2010 | 08:25 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.6 | ----- | 0.87 | | 2,3,7,8-TCDF-13C | 2.00 | 79 |
| Total TCDF | 60.0 | ----- | 0.87 | | 2,3,7,8-TCDD-13C | 2.00 | 94 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | ND | ----- | 0.92 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 |
| Total TCDD | 54.0 | ----- | 0.92 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDF | 3.6 | ----- | 0.73 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 85 |
| 2,3,4,7,8-PeCDF | 9.6 | ----- | 0.67 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 83 |
| Total PeCDF | 75.0 | ----- | 0.70 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 |
| 1,2,3,7,8-PeCDD | 5.0 | ----- | 0.43 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 90.0 | ----- | 0.43 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 14.0 | ----- | 1.50 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 76 |
| 1,2,3,6,7,8-HxCDF | 6.2 | ----- | 1.10 | | OCDD-13C | 4.00 | 52 |
| 2,3,4,6,7,8-HxCDF | 6.3 | ----- | 1.40 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.2 | ----- | 0.58 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 130.0 | ----- | 1.10 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 4.3 | ----- | 0.54 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 173 |
| 1,2,3,6,7,8-HxCDD | 14.0 | ----- | 0.48 | | | | |
| 1,2,3,7,8,9-HxCDD | 8.2 | ----- | 0.41 | | | | |
| Total HxCDD | 170.0 | ----- | 0.48 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 70.0 | ----- | 0.52 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 6.1 | ----- | 1.20 | | Equivalence: 20 ng/Kg | | |
| Total HpCDF | 240.0 | ----- | 0.85 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 320.0 | ----- | 1.60 | | | | |
| Total HpCDD | 600.0 | ----- | 1.60 | | | | |
| OCDF | 240.0 | ----- | 1.00 | | | | |
| OCDD | 3900.0 | ----- | 1.60 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27086 | Matrix | Solid |
| Filename | P101203B_02 | Dilution | NA |
| Total Amount Extracted | 20.1 g | Extracted | 11/29/2010 14:30 |
| ICAL ID | P101202 | Analyzed | 12/03/2010 13:25 |
| CCal Filename(s) | P101203A_17 & P101203B_09 | Injected By | ACE |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.073 | ----- | 0.039 | J | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | 1.200 | ----- | 0.039 | | 2,3,7,8-TCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 80 |
| 2,3,7,8-TCDD | ND | ----- | 0.047 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 82 |
| Total TCDD | ND | ----- | 0.047 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDF | 0.051 | ----- | 0.021 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 83 |
| 2,3,4,7,8-PeCDF | 0.048 | ----- | 0.022 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 82 |
| Total PeCDF | 0.300 | ----- | 0.022 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 90 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.032 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | ND | ----- | 0.032 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | 0.063 | ----- | 0.018 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | 0.058 | ----- | 0.019 | J | OCDD-13C | 4.00 | 65 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.039 | 0.021 | I | | | |
| 1,2,3,7,8,9-HxCDF | 0.059 | ----- | 0.021 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.260 | ----- | 0.020 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.039 | ----- | 0.023 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | ----- | 0.040 | 0.024 | I | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.036 | 0.021 | I | | | |
| Total HxCDD | 0.087 | ----- | 0.023 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.088 | ----- | 0.025 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.051 | ----- | 0.040 | J | Equivalence: 0.091 ng/Kg | | |
| Total HpCDF | 0.140 | ----- | 0.033 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.120 | ----- | 0.043 | J | | | |
| Total HpCDD | 0.230 | ----- | 0.043 | J | | | |
| OCDF | 0.220 | ----- | 0.051 | J | | | |
| OCDD | 0.540 | ----- | 0.100 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27087 | | |
| Filename | F101201B_11 | Matrix | Solid |
| Total Amount Extracted | 20.5 g | Dilution | NA |
| ICAL ID | F101201 | Extracted | 11/29/2010 14:30 |
| CCal Filename(s) | F101201B_10 & F101201B_22 | Analyzed | 12/01/2010 18:33 |
| Method Blank ID | BLANK-27086 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 113 | 2,3,7,8-TCDF-13C | 2.0 | 70 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 90 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 79 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 92 | 2,3,4,7,8-PeCDF-13C | 2.0 | 81 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 97 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 74 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.0 | 102 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 69 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 100 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 70 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 75 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 83 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.92 | 92 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 77 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 73 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 76 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 0.99 | 99 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 84 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 0.98 | 98 | OCDD-13C | 4.0 | 66 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 0.96 | 96 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.0 | 101 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.95 | 95 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 0.98 | 98 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 0.99 | 99 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.0 | 103 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 0.98 | 98 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.92 | 92 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.3 | 117 Y | | | |
| OCDD | 2.0 | 2.1 | 105 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1318922

**Section A** Required Client Information:

Company: BROWN - CALDWELL
Address: 724 Columbia St NW Ste 420, Olympia, WA 98501
Email To: jturk@browncald.com
Phone: 360-534-1266 Fax: 360-943-7533
Requested Due Date/TAT: 12/3/10

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: Seattle WA
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other $H_2O$ | Analysis Test (Y/N): Arsenic, Ni, Cu, Pb, Cd (Y/N) | Dioxin, furan | TPH-D, TPH-HO SG | cPAH, Naphthalene | TPH-G, BTEX SG | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. 255764 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-11-1 | SL | G | | | 11/16/10 | 11:00 | | 7 | X | | | | | | X | X | X | X | X | X | X | | |
| 2 | SPL-11-2 | SL | ↓ | | | ↓ | 11:30 | | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 3 | SPL-11-3 | ↓ | ↓ | | | ↓ | 14:30 | | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 4 | SPL-16-1 | ↓ | ↓ | | | ↓ | 15:00 | | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 5 | SPL-16-2 | ↓ | ↓ | | | ↓ | 15:30 | | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 6 | SPL-16-3 | ↓ | ↓ | | | ↓ | 16:00 | | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 7 | TB-1318922 | | | | | | | | 3 | | | | | | | X | X | | | | | X | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Josh Caldwell | 11/17/10 | 11:00 | Fedex | 11/17/10 | 11:00 | | | | |
| | | | | Jyothi Sway | 11/18/10 | 0925 | 2.3 | Y | Y | N |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

CLIENT: B & C

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COC PAGE 1 of 1
COC ID# 1318922

255764

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | Broken | DG9M | VG9W | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 2x WGFU | 1 | 2 | |
| 2 | | | | | | | | | | 3 | | 1 x WGFU | 0 | 2 | 1 x DG9M broken " subsampled at 11/18/10 11:15 NJS |
| 3 | | | | | | | | | | 2 | | 2x WGFU | 1 | 1 | 1 x VG9W broken |
| 4 | | | | | | | | | | 3 | | 1 x " | 1 | 2 | |
| 5 | | | | | | | | | | 3 | | 1 x " | 1 | 2 | |
| 6 | | | | | | | | | | 4 | | | 1 | 2 | |
| 7 | | | | | | | | | | | | + NJS 11/18/10 | 1 | 2 | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Condition Upon Receipt

Pace Analytical

Client Name: B & C  Project # 255764

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

Tracking #: 8738 8211 5406

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No  Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank Yes _____ No _____

Thermometer Used 132013 or 101731962 or 226099  Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.3  Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 11/18/10

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐Yes ☐No ☐N/A | 6. Terracore kits, frozen at 11:15 10/18/10 NJS |
| Rush Turn Around Time Requested: | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☐Yes ☑No ☐N/A | 10. Received broken, see 13. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: Soil | ☑Yes ☐No ☐N/A | 12. |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. Broken ⇒ 11-1 ⇒ 2 jars; 11-2 ⇒ 1 jar, 1 methanol vial; 11-3 ⇒ 2 soil jars; 1 water vial; 10-[illegible] ⇒ 1 soil jar; 10-2 ⇒ 1 soil jar; 10-3 ⇒ all intact. |
| All containers needing preservation are found to be in compliance with EPA recommendation. Exceptions: VOA, coliform, TOC, O&G | ☐Yes ☐No ☑N/A | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☑Yes ☐No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: J. Turk  Date/Time: 11/16/10

Comments/ Resolution:

Emailed JT, said to use packing material & ~~[illegible]~~ would they like to re-sample or have possible elevated PCL's?

Project Manager Review: [signature]  Date: 11/18/10 1303

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

December 02, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: Olympia Soils
Pace Project No.: 255708

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on November 12, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# CERTIFICATIONS

Project: Olympia Soils
Pace Project No.: 255708

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
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Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**
940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255708

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255708001** | **SPL-12-1** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255708002** | **SPL-12-2** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | ATH | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255708003** | **SPL-12-3** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255708004** | **SPL-12-4** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255708005** | **SPL-12-5** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255708006** | **SPL-12-6** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: Olympia Soils
Pace Project No.: 255708

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255708007** | **SPL-12-7** | NWTPH-Dx | ERB | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 4 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-1** **Lab ID: 255708001** Collected: 11/10/10 15:20 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.3 | 1 | 11/19/10 16:35 | 11/23/10 01:52 | | |
| Motor Oil Range SG | ND | mg/kg | 85.4 | 1 | 11/19/10 16:35 | 11/23/10 01:52 | 64742-65-0 | |
| n-Octacosane (S) SG | 115 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 01:52 | 630-02-4 | |
| o-Terphenyl (S) SG | 109 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 01:52 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.7 | 1 | 11/16/10 17:00 | 11/17/10 06:35 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 06:35 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 84 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 06:35 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.9** | mg/kg | 0.95 | 40 | 11/17/10 16:56 | 11/24/10 17:45 | 7440-38-2 | M6 |
| Copper | **12.3** | mg/kg | 0.95 | 40 | 11/17/10 16:56 | 11/24/10 17:45 | 7440-50-8 | M6 |
| Lead | **2.6** | mg/kg | 0.95 | 40 | 11/17/10 16:56 | 11/24/10 17:45 | 7439-92-1 | M6 |
| Nickel | **23.6** | mg/kg | 0.95 | 40 | 11/17/10 16:56 | 11/24/10 17:45 | 7440-02-0 | M6 |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **9.2** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 207-08-9 | |
| Chrysene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 193-39-5 | |
| 1-Methylnaphthalene | **76.1** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 90-12-0 | |
| 2-Methylnaphthalene | **222** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 91-57-6 | |
| Naphthalene | **80.2** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 85-01-8 | |
| Pyrene | **7.8** | ug/kg | 7.4 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 321-60-8 | |
| Terphenyl-d14 (S) | 69 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 19:09 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 11/13/10 18:53 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 11/13/10 18:53 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 11/13/10 18:53 | 108-88-3 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-1** **Lab ID: 255708001** Collected: 11/10/10 15:20 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Xylene (Total) | ND | ug/kg | 8.8 | 1 | | 11/13/10 18:53 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 11/13/10 18:53 | 1868-53-7 | |
| Toluene-d8 (S) | 111 | % | 80-120 | 1 | | 11/13/10 18:53 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 117 | % | 72-122 | 1 | | 11/13/10 18:53 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 11/13/10 18:53 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.8** | % | 0.10 | 1 | | 11/15/10 14:09 | | |

**Sample: SPL-12-2** **Lab ID: 255708002** Collected: 11/10/10 15:40 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.2 | 1 | 11/19/10 16:35 | 11/23/10 02:08 | | |
| Motor Oil Range SG | ND | mg/kg | 85.0 | 1 | 11/19/10 16:35 | 11/23/10 02:08 | 64742-65-0 | |
| n-Octacosane (S) SG | 118 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:08 | 630-02-4 | |
| o-Terphenyl (S) SG | 111 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:08 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 11/16/10 17:00 | 11/17/10 06:58 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 06:58 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 06:58 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.0** | mg/kg | 2.5 | 100 | 11/17/10 16:56 | 11/24/10 18:03 | 7440-38-2 | |
| Copper | **14.2** | mg/kg | 2.5 | 100 | 11/17/10 16:56 | 11/24/10 18:03 | 7440-50-8 | |
| Lead | **3.8** | mg/kg | 2.5 | 100 | 11/17/10 16:56 | 11/24/10 18:03 | 7439-92-1 | |
| Nickel | **24.7** | mg/kg | 2.5 | 100 | 11/17/10 16:56 | 11/24/10 18:03 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.5** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 120-12-7 | |
| Benzo(a)anthracene | **16.1** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 56-55-3 | |
| Benzo(a)pyrene | **18.5** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 50-32-8 | |
| Benzo(b)fluoranthene | **13.7** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 205-99-2 | |
| Benzo(g,h,i)perylene | **11.2** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 191-24-2 | |
| Benzo(k)fluoranthene | **11.5** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 207-08-9 | |
| Chrysene | **18.3** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 218-01-9 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-2** **Lab ID: 255708002** Collected: 11/10/10 15:40 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 53-70-3 | |
| Fluoranthene | **28.0** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **9.0** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 90-12-0 | |
| 2-Methylnaphthalene | **9.1** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 91-57-6 | |
| Naphthalene | **8.5** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 91-20-3 | |
| Phenanthrene | **18.0** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 85-01-8 | |
| Pyrene | **40.9** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 74 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 321-60-8 | |
| Terphenyl-d14 (S) | 84 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 19:28 | 1718-51-0 | |
| **8260 MSV 5035A Med Level VOA** | Analytical Method: EPA 8260 Preparation Method: EPA 5035A/5030B | | | | | | | |
| Benzene | ND | ug/kg | 32.0 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 64.0 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 100-41-4 | |
| Toluene | ND | ug/kg | 64.0 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 192 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 1330-20-7 | |
| Dibromofluoromethane (S) | 90 | % | 81-114 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 1868-53-7 | |
| Toluene-d8 (S) | 92 | % | 84-121 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 94 | % | 78-127 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 90 | % | 76-115 | 1 | 11/24/10 14:30 | 11/24/10 16:54 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.3** | % | 0.10 | 1 | | 11/15/10 14:10 | | |

**Sample: SPL-12-3** **Lab ID: 255708003** Collected: 11/10/10 16:00 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 19.8 | 1 | 11/19/10 16:35 | 11/23/10 02:25 | | |
| Motor Oil Range SG | ND | mg/kg | 79.0 | 1 | 11/19/10 16:35 | 11/23/10 02:25 | 64742-65-0 | |
| n-Octacosane (S) SG | 119 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:25 | 630-02-4 | |
| o-Terphenyl (S) SG | 109 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:25 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.1 | 1 | 11/16/10 17:00 | 11/17/10 07:22 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 07:22 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 75 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 07:22 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 2.0 | 100 | 11/17/10 16:56 | 11/24/10 18:07 | 7440-38-2 | |
| Copper | **19.4** | mg/kg | 2.0 | 100 | 11/17/10 16:56 | 11/24/10 18:07 | 7440-50-8 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-3** **Lab ID: 255708003** Collected: 11/10/10 16:00 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **5.9** | mg/kg | 2.0 | 100 | 11/17/10 16:56 | 11/24/10 18:07 | 7439-92-1 | |
| Nickel | **27.5** | mg/kg | 2.0 | 100 | 11/17/10 16:56 | 11/24/10 18:07 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **22.0** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **166** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 83-32-9 | |
| Acenaphthylene | **14.5** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 208-96-8 | |
| Anthracene | **69.9** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 120-12-7 | |
| Benzo(a)anthracene | **42.2** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 56-55-3 | |
| Benzo(a)pyrene | **35.4** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 50-32-8 | |
| Benzo(b)fluoranthene | **24.6** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 205-99-2 | |
| Benzo(g,h,i)perylene | **20.3** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 191-24-2 | |
| Benzo(k)fluoranthene | **25.4** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 207-08-9 | |
| Chrysene | **52.8** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 218-01-9 | |
| Dibenz(a,h)anthracene | **7.8** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 53-70-3 | |
| Fluoranthene | **181** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 206-44-0 | |
| Fluorene | **143** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **16.5** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 193-39-5 | |
| 1-Methylnaphthalene | **102** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 90-12-0 | |
| 2-Methylnaphthalene | **184** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 91-57-6 | |
| Naphthalene | **310** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 91-20-3 | |
| Phenanthrene | **466** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 85-01-8 | |
| Pyrene | **186** | ug/kg | 7.1 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 69 | % | 31-131 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 321-60-8 | |
| Terphenyl-d14 (S) | 80 | % | 30-133 | 1 | 11/15/10 14:30 | 11/17/10 19:46 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 11/13/10 19:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 11/13/10 19:31 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 11/13/10 19:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.7 | 1 | | 11/13/10 19:31 | 1330-20-7 | |
| Dibromofluoromethane (S) | 89 | % | 80-136 | 1 | | 11/13/10 19:31 | 1868-53-7 | |
| Toluene-d8 (S) | 115 | % | 80-120 | 1 | | 11/13/10 19:31 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 125 | % | 72-122 | 1 | | 11/13/10 19:31 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 80-143 | 1 | | 11/13/10 19:31 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.8** | % | 0.10 | 1 | | 11/15/10 14:11 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-4** **Lab ID: 255708004** Collected: 11/10/10 16:15 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.1 | 1 | 11/19/10 16:35 | 11/23/10 02:41 | | |
| Motor Oil Range SG | **205** | mg/kg | 84.5 | 1 | 11/19/10 16:35 | 11/23/10 02:41 | 64742-65-0 | |
| n-Octacosane (S) SG | 125 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:41 | 630-02-4 | |
| o-Terphenyl (S) SG | 115 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:41 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 11/16/10 17:00 | 11/17/10 08:33 | | |
| a,a,a-Trifluorotoluene (S) | 105 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 08:33 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 08:33 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.8** | mg/kg | 2.2 | 100 | 11/17/10 16:56 | 11/24/10 18:12 | 7440-38-2 | |
| Copper | **33.1** | mg/kg | 2.2 | 100 | 11/17/10 16:56 | 11/24/10 18:12 | 7440-50-8 | |
| Lead | **17.3** | mg/kg | 2.2 | 100 | 11/17/10 16:56 | 11/24/10 18:12 | 7439-92-1 | |
| Nickel | **38.7** | mg/kg | 2.2 | 100 | 11/17/10 16:56 | 11/24/10 18:12 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **16.7** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 83-32-9 | |
| Acenaphthylene | **7.2** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 208-96-8 | |
| Anthracene | **8.5** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 120-12-7 | |
| Benzo(a)anthracene | **15.4** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 56-55-3 | |
| Benzo(a)pyrene | **26.3** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 50-32-8 | |
| Benzo(b)fluoranthene | **22.8** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 205-99-2 | |
| Benzo(g,h,i)perylene | **24.1** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 191-24-2 | |
| Benzo(k)fluoranthene | **18.0** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 207-08-9 | |
| Chrysene | **36.8** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 218-01-9 | |
| Dibenz(a,h)anthracene | **9.1** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 53-70-3 | |
| Fluoranthene | **19.4** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **13.5** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 91-57-6 | |
| Naphthalene | **7.7** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 91-20-3 | |
| Phenanthrene | **11.8** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 85-01-8 | |
| Pyrene | **39.9** | ug/kg | 7.2 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 60 | % | 31-131 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 321-60-8 | |
| Terphenyl-d14 (S) | 58 | % | 30-133 | 1 | 11/19/10 15:15 | 11/23/10 03:15 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.7 | 1 | | 11/13/10 19:50 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.7 | 1 | | 11/13/10 19:50 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.7 | 1 | | 11/13/10 19:50 | 108-88-3 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-4** **Lab ID: 255708004** Collected: 11/10/10 16:15 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Xylene (Total) | ND | ug/kg | 8.1 | 1 | | 11/13/10 19:50 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 11/13/10 19:50 | 1868-53-7 | |
| Toluene-d8 (S) | 110 | % | 80-120 | 1 | | 11/13/10 19:50 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 115 | % | 72-122 | 1 | | 11/13/10 19:50 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 11/13/10 19:50 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.6** | % | 0.10 | 1 | | 11/15/10 14:11 | | |

**Sample: SPL-12-5** **Lab ID: 255708005** Collected: 11/11/10 08:15 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.4 | 1 | 11/19/10 16:35 | 11/23/10 02:57 | | |
| Motor Oil Range SG | ND | mg/kg | 85.4 | 1 | 11/19/10 16:35 | 11/23/10 02:57 | 64742-65-0 | |
| n-Octacosane (S) SG | 125 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:57 | 630-02-4 | |
| o-Terphenyl (S) SG | 114 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 02:57 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 11/16/10 17:00 | 11/17/10 08:56 | | |
| a,a,a-Trifluorotoluene (S) | 119 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 08:56 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 106 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 08:56 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.6** | mg/kg | 2.3 | 100 | 11/17/10 16:56 | 11/24/10 18:17 | 7440-38-2 | |
| Copper | **21.1** | mg/kg | 2.3 | 100 | 11/17/10 16:56 | 11/24/10 18:17 | 7440-50-8 | |
| Lead | **5.3** | mg/kg | 2.3 | 100 | 11/17/10 16:56 | 11/24/10 18:17 | 7439-92-1 | |
| Nickel | **44.0** | mg/kg | 2.3 | 100 | 11/17/10 16:56 | 11/24/10 18:17 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **21.7** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 120-12-7 | |
| Benzo(a)anthracene | **7.4** | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 56-55-3 | |
| Benzo(a)pyrene | **8.2** | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 207-08-9 | |
| Chrysene | **8.9** | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 218-01-9 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-5** **Lab ID: 255708005** Collected: 11/11/10 08:15 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 53-70-3 | |
| Fluoranthene | **13.9** | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 91-20-3 | |
| Phenanthrene | **11.6** | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 85-01-8 | |
| Pyrene | **20.0** | ug/kg | 7.1 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 65 | % | 31-131 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 321-60-8 | |
| Terphenyl-d14 (S) | 62 | % | 30-133 | 1 | 11/19/10 15:15 | 11/23/10 02:10 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 11/13/10 20:09 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 11/13/10 20:09 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 11/13/10 20:09 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 11/13/10 20:09 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 11/13/10 20:09 | 1868-53-7 | |
| Toluene-d8 (S) | 113 | % | 80-120 | 1 | | 11/13/10 20:09 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 113 | % | 72-122 | 1 | | 11/13/10 20:09 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 11/13/10 20:09 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.8** | % | 0.10 | 1 | | 11/15/10 14:12 | | |

**Sample: SPL-12-6** **Lab ID: 255708006** Collected: 11/11/10 08:30 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.3 | 1 | 11/19/10 16:35 | 11/23/10 03:45 | | |
| Motor Oil Range SG | ND | mg/kg | 85.0 | 1 | 11/19/10 16:35 | 11/23/10 03:45 | 64742-65-0 | |
| n-Octacosane (S) SG | 115 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 03:45 | 630-02-4 | |
| o-Terphenyl (S) SG | 106 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 03:45 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.8 | 1 | 11/16/10 17:00 | 11/17/10 09:20 | | |
| a,a,a-Trifluorotoluene (S) | 112 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 09:20 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 09:20 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.2** | mg/kg | 1.3 | 50 | 11/17/10 16:56 | 11/24/10 15:19 | 7440-38-2 | |
| Copper | **11.6** | mg/kg | 1.3 | 50 | 11/17/10 16:56 | 11/24/10 15:19 | 7440-50-8 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-6** **Lab ID: 255708006** Collected: 11/11/10 08:30 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Lead | **3.3** | mg/kg | 1.3 | 50 | 11/17/10 16:56 | 11/24/10 15:19 | 7439-92-1 | |
| Nickel | **26.3** | mg/kg | 1.3 | 50 | 11/17/10 16:56 | 11/24/10 15:19 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **22.2** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 207-08-9 | |
| Chrysene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 85-01-8 | |
| Pyrene | ND | ug/kg | 7.3 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 69 | % | 31-131 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 321-60-8 | |
| Terphenyl-d14 (S) | 69 | % | 30-133 | 1 | 11/19/10 15:15 | 11/23/10 02:26 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/13/10 20:28 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/13/10 20:28 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/13/10 20:28 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.4 | 1 | | 11/13/10 20:28 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 11/13/10 20:28 | 1868-53-7 | |
| Toluene-d8 (S) | 113 | % | 80-120 | 1 | | 11/13/10 20:28 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 113 | % | 72-122 | 1 | | 11/13/10 20:28 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 11/13/10 20:28 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.6** | % | 0.10 | 1 | | 11/15/10 14:13 | | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-7** **Lab ID: 255708007** Collected: 11/11/10 09:15 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 22.1 | 1 | 11/19/10 16:35 | 11/23/10 04:01 | | |
| Motor Oil Range SG | ND | mg/kg | 88.3 | 1 | 11/19/10 16:35 | 11/23/10 04:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 120 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 04:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 111 | % | 50-150 | 1 | 11/19/10 16:35 | 11/23/10 04:01 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.0 | 1 | 11/16/10 17:00 | 11/17/10 09:43 | | |
| a,a,a-Trifluorotoluene (S) | 110 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 09:43 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 98 | % | 50-150 | 1 | 11/16/10 17:00 | 11/17/10 09:43 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.4** | mg/kg | 1.0 | 50 | 11/17/10 16:56 | 11/24/10 15:24 | 7440-38-2 | |
| Copper | **12.2** | mg/kg | 1.0 | 50 | 11/17/10 16:56 | 11/24/10 15:24 | 7440-50-8 | |
| Lead | **2.4** | mg/kg | 1.0 | 50 | 11/17/10 16:56 | 11/24/10 15:24 | 7439-92-1 | |
| Nickel | **30.4** | mg/kg | 1.0 | 50 | 11/17/10 16:56 | 11/24/10 15:24 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **24.2** | % | 0.10 | 1 | | 11/16/10 00:00 | | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 208-96-8 | |
| Anthracene | **8.2** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 120-12-7 | |
| Benzo(a)anthracene | **28.7** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 56-55-3 | |
| Benzo(a)pyrene | **36.6** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 50-32-8 | |
| Benzo(b)fluoranthene | **17.1** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 205-99-2 | |
| Benzo(g,h,i)perylene | **18.5** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 191-24-2 | |
| Benzo(k)fluoranthene | **25.9** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 207-08-9 | |
| Chrysene | **32.1** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 53-70-3 | |
| Fluoranthene | **50.5** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **15.7** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 91-20-3 | |
| Phenanthrene | **26.0** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 85-01-8 | |
| Pyrene | **75.2** | ug/kg | 7.4 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 69 | % | 31-131 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 321-60-8 | |
| Terphenyl-d14 (S) | 68 | % | 30-133 | 1 | 11/19/10 15:15 | 11/23/10 02:42 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 11/13/10 20:47 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 11/13/10 20:47 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 11/13/10 20:47 | 108-88-3 | |



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# ANALYTICAL RESULTS

Project: Olympia Soils
Pace Project No.: 255708

**Sample: SPL-12-7** **Lab ID: 255708007** Collected: 11/11/10 09:15 Received: 11/12/10 09:03 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Xylene (Total) | ND | ug/kg | 9.2 | 1 | | 11/13/10 20:47 | 1330-20-7 | |
| Dibromofluoromethane (S) | 88 | % | 80-136 | 1 | | 11/13/10 20:47 | 1868-53-7 | |
| Toluene-d8 (S) | 115 | % | 80-120 | 1 | | 11/13/10 20:47 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 115 | % | 72-122 | 1 | | 11/13/10 20:47 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 11/13/10 20:47 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.8** | % | 0.10 | 1 | | 11/15/10 14:13 | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: OEXT/3010 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

METHOD BLANK: 50101 Matrix: Solid
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 11/22/10 23:27 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 11/22/10 23:27 | |
| n-Octacosane (S) SG | % | 119 | 50-150 | 11/22/10 23:27 | |
| o-Terphenyl (S) SG | % | 108 | 50-150 | 11/22/10 23:27 | |

LABORATORY CONTROL SAMPLE: 50102

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 436 | 87 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 531 | 106 | 50-150 | |
| n-Octacosane (S) SG | % | | | 118 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 50103

| Parameter | Units | 255745002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 6.2J | | |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 90 | 88 | 3 | |
| o-Terphenyl (S) SG | % | 92 | 90 | 2 | |

SAMPLE DUPLICATE: 50104

| Parameter | Units | 255708007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | ND | | |
| Motor Oil Range SG | mg/kg | ND | ND | | |
| n-Octacosane (S) SG | % | 120 | 120 | 2 | |
| o-Terphenyl (S) SG | % | 111 | 111 | 3 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: GCV/2028 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

METHOD BLANK: 49707 Matrix: Solid
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 11/17/10 02:16 | |
| 4-Bromofluorobenzene (S) | % | 96 | 50-150 | 11/17/10 02:16 | |
| a,a,a-Trifluorotoluene (S) | % | 104 | 50-150 | 11/17/10 02:16 | |

LABORATORY CONTROL SAMPLE: 49708

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.7 | 110 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 95 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 99 | 50-150 | |

SAMPLE DUPLICATE: 49856

| Parameter | Units | 255708003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .92J | | |
| 4-Bromofluorobenzene (S) | % | 75 | 86 | 13 | |
| a,a,a-Trifluorotoluene (S) | % | 96 | 105 | 9 | |

SAMPLE DUPLICATE: 49857

| Parameter | Units | 255708007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .84J | | |
| 4-Bromofluorobenzene (S) | % | 98 | 97 | 1 | |
| a,a,a-Trifluorotoluene (S) | % | 110 | 107 | 3 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: ICPM/23533 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

METHOD BLANK: 892711 Matrix: Solid
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.45 | 11/24/10 17:36 | |
| Copper | mg/kg | ND | 0.45 | 11/24/10 17:36 | |
| Lead | mg/kg | ND | 0.45 | 11/24/10 17:36 | |
| Nickel | mg/kg | ND | 0.45 | 11/24/10 17:36 | |

LABORATORY CONTROL SAMPLE: 892712

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19 | 18.8 | 98 | 75-125 | |
| Copper | mg/kg | 19 | 19.5 | 103 | 75-125 | |
| Lead | mg/kg | 19 | 18.9 | 99 | 75-125 | |
| Nickel | mg/kg | 19 | 19.2 | 101 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 892713 892714

| Parameter | Units | 255708001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.9 | 17.7 | 17.4 | 23.6 | 27.6 | 111 | 136 | 75-125 | 16 | M6 |
| Copper | mg/kg | 12.3 | 17.7 | 17.4 | 32.4 | 56.4 | 113 | 253 | 75-125 | 54 | D6,M6 |
| Lead | mg/kg | 2.6 | 17.7 | 17.4 | 20.9 | 24.6 | 103 | 126 | 75-125 | 17 | M6 |
| Nickel | mg/kg | 23.6 | 17.7 | 17.4 | 48.3 | 58.0 | 139 | 197 | 75-125 | 18 | M6 |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: MPRP/23557 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

SAMPLE DUPLICATE: 893330

| Parameter | Units | 255708007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 24.2 | 23.4 | 3 | |

SAMPLE DUPLICATE: 893444

| Parameter | Units | 10143060008 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 38.4 | 38.0 | .9 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: OEXT/2985 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255708001, 255708002, 255708003

METHOD BLANK: 49594 | Matrix: Solid
Associated Lab Samples: 255708001, 255708002, 255708003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Acenaphthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Anthracene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Chrysene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Fluoranthene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Fluorene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Naphthalene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Phenanthrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| Pyrene | ug/kg | ND | 6.7 | 11/17/10 12:42 | |
| 2-Fluorobiphenyl (S) | % | 68 | 31-131 | 11/17/10 12:42 | |
| Terphenyl-d14 (S) | % | 86 | 30-133 | 11/17/10 12:42 | |

LABORATORY CONTROL SAMPLE: 49595

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 104 | 78 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 106 | 79 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 101 | 76 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 99.0 | 74 | 31-134 | |
| Anthracene | ug/kg | 133 | 99.1 | 74 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 112 | 84 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 118 | 89 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 106 | 80 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 112 | 84 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 113 | 85 | 45-147 | |
| Chrysene | ug/kg | 133 | 109 | 82 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 113 | 85 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 104 | 78 | 44-143 | |
| Fluorene | ug/kg | 133 | 104 | 78 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 113 | 85 | 47-140 | |
| Naphthalene | ug/kg | 133 | 96.3 | 72 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 104 | 78 | 42-131 | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

LABORATORY CONTROL SAMPLE: 49595

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 121 | 91 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 76 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 93 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 49596 49597

| Parameter | Units | 255590001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 146 | 145 | 111 | 127 | 75 | 85 | 31-123 | 13 | |
| 2-Methylnaphthalene | ug/kg | ND | 146 | 145 | 114 | 154 | 74 | 101 | 15-146 | 30 | R1 |
| Acenaphthene | ug/kg | ND | 146 | 145 | 109 | 109 | 74 | 74 | 19-141 | .1 | |
| Acenaphthylene | ug/kg | 8.3 | 146 | 145 | 110 | 110 | 70 | 70 | 30-142 | .2 | |
| Anthracene | ug/kg | 8.6 | 146 | 145 | 107 | 112 | 68 | 71 | 38-137 | 4 | |
| Benzo(a)anthracene | ug/kg | 26.1 | 146 | 145 | 120 | 129 | 65 | 71 | 37-143 | 7 | |
| Benzo(a)pyrene | ug/kg | 28.9 | 146 | 145 | 124 | 136 | 66 | 74 | 33-147 | 9 | |
| Benzo(b)fluoranthene | ug/kg | 15.5 | 146 | 145 | 121 | 122 | 72 | 73 | 25-156 | 1 | |
| Benzo(g,h,i)perylene | ug/kg | 24.7 | 146 | 145 | 113 | 118 | 60 | 64 | 26-142 | 5 | |
| Benzo(k)fluoranthene | ug/kg | 24.2 | 146 | 145 | 101 | 109 | 52 | 58 | 35-142 | 8 | |
| Chrysene | ug/kg | 31.8 | 146 | 145 | 122 | 133 | 62 | 70 | 23-150 | 9 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 146 | 145 | 106 | 108 | 68 | 70 | 41-140 | 2 | |
| Fluoranthene | ug/kg | 51.2 | 146 | 145 | 120 | 144 | 47 | 64 | 25-155 | 18 | |
| Fluorene | ug/kg | ND | 146 | 145 | 114 | 114 | 75 | 75 | 33-152 | .6 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 16.2 | 146 | 145 | 109 | 116 | 64 | 69 | 36-139 | 6 | |
| Naphthalene | ug/kg | 14.3 | 146 | 145 | 107 | 118 | 64 | 71 | 25-121 | 10 | |
| Phenanthrene | ug/kg | 33.9 | 146 | 145 | 133 | 148 | 68 | 79 | 29-141 | 11 | |
| Pyrene | ug/kg | 78.0 | 146 | 145 | 155 | 181 | 53 | 71 | 36-145 | 15 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 73 | 71 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 79 | 77 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: OEXT/3011 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255708004, 255708005, 255708006, 255708007

METHOD BLANK: 50105 | Matrix: Solid
Associated Lab Samples: 255708004, 255708005, 255708006, 255708007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Acenaphthene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Anthracene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Chrysene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Fluoranthene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Fluorene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Naphthalene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Phenanthrene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| Pyrene | ug/kg | ND | 6.7 | 11/23/10 00:33 | |
| 2-Fluorobiphenyl (S) | % | 61 | 31-131 | 11/23/10 00:33 | |
| Terphenyl-d14 (S) | % | 73 | 30-133 | 11/23/10 00:33 | |

LABORATORY CONTROL SAMPLE: 50106

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 87.6 | 66 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 90.3 | 68 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 85.7 | 64 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 84.2 | 63 | 31-134 | |
| Anthracene | ug/kg | 133 | 82.7 | 62 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 96.7 | 73 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 111 | 83 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 104 | 78 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 99.7 | 75 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 117 | 88 | 45-147 | |
| Chrysene | ug/kg | 133 | 98.8 | 74 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 102 | 77 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 90.2 | 68 | 44-143 | |
| Fluorene | ug/kg | 133 | 90.7 | 68 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 104 | 78 | 47-140 | |
| Naphthalene | ug/kg | 133 | 83.0 | 62 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 92.8 | 70 | 42-131 | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

LABORATORY CONTROL SAMPLE: 50106

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 105 | 78 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 64 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 68 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50107 50108

| Parameter | Units | 255745001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 63.2 | 173 | 173 | 170 | 168 | 62 | 61 | 31-123 | 1 | |
| 2-Methylnaphthalene | ug/kg | 82.5 | 173 | 173 | 193 | 185 | 64 | 59 | 15-146 | 4 | |
| Acenaphthene | ug/kg | ND | 173 | 173 | 121 | 125 | 67 | 70 | 19-141 | 4 | |
| Acenaphthylene | ug/kg | ND | 173 | 173 | 115 | 122 | 66 | 70 | 30-142 | 6 | |
| Anthracene | ug/kg | ND | 173 | 173 | 117 | 122 | 67 | 70 | 38-137 | 4 | |
| Benzo(a)anthracene | ug/kg | ND | 173 | 173 | 134 | 134 | 77 | 78 | 37-143 | .6 | |
| Benzo(a)pyrene | ug/kg | ND | 173 | 173 | 140 | 140 | 81 | 81 | 33-147 | .2 | |
| Benzo(b)fluoranthene | ug/kg | ND | 173 | 173 | 140 | 144 | 81 | 83 | 25-156 | 3 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 173 | 173 | 125 | 127 | 72 | 73 | 26-142 | 1 | |
| Benzo(k)fluoranthene | ug/kg | ND | 173 | 173 | 138 | 139 | 80 | 80 | 35-142 | .1 | |
| Chrysene | ug/kg | ND | 173 | 173 | 134 | 139 | 77 | 80 | 23-150 | 3 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 173 | 173 | 125 | 128 | 72 | 74 | 41-140 | 2 | |
| Fluoranthene | ug/kg | ND | 173 | 173 | 129 | 131 | 74 | 76 | 25-155 | 2 | |
| Fluorene | ug/kg | ND | 173 | 173 | 130 | 138 | 71 | 76 | 33-152 | 6 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 173 | 173 | 129 | 130 | 74 | 75 | 36-139 | 1 | |
| Naphthalene | ug/kg | 14.8 | 173 | 173 | 124 | 126 | 63 | 64 | 25-121 | 2 | |
| Phenanthrene | ug/kg | 11.2 | 173 | 173 | 134 | 137 | 71 | 72 | 29-141 | 2 | |
| Pyrene | ug/kg | ND | 173 | 173 | 141 | 144 | 81 | 83 | 36-145 | 2 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 63 | 67 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 64 | 66 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: MSV/3507
QC Batch Method: EPA 5035A/5030B
Associated Lab Samples: 255708002

Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Medium Soil

METHOD BLANK: 50495
Matrix: Solid
Associated Lab Samples: 255708002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 25.0 | 11/24/10 16:07 | |
| Ethylbenzene | ug/kg | ND | 50.0 | 11/24/10 16:07 | |
| Toluene | ug/kg | ND | 50.0 | 11/24/10 16:07 | |
| Xylene (Total) | ug/kg | ND | 150 | 11/24/10 16:07 | |
| 1,2-Dichloroethane-d4 (S) | % | 88 | 76-115 | 11/24/10 16:07 | |
| 4-Bromofluorobenzene (S) | % | 94 | 78-127 | 11/24/10 16:07 | |
| Dibromofluoromethane (S) | % | 90 | 81-114 | 11/24/10 16:07 | |
| Toluene-d8 (S) | % | 91 | 84-121 | 11/24/10 16:07 | |

LABORATORY CONTROL SAMPLE & LCSD: 50496 50497

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 1000 | 956 | 960 | 96 | 96 | 78-123 | .4 | 30 | |
| Ethylbenzene | ug/kg | 1000 | 970 | 977 | 97 | 98 | 74-120 | .7 | 30 | |
| Toluene | ug/kg | 1000 | 929 | 957 | 93 | 96 | 70-121 | 3 | 30 | |
| Xylene (Total) | ug/kg | 3000 | 2910 | 2880 | 97 | 96 | 76-120 | 1 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 87 | 89 | 76-115 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 94 | 95 | 78-127 | | | |
| Dibromofluoromethane (S) | % | | | | 95 | 92 | 81-114 | | | |
| Toluene-d8 (S) | % | | | | 94 | 96 | 84-121 | | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: MSV/3441 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255708001, 255708003, 255708004, 255708005, 255708006, 255708007

METHOD BLANK: 49435 | Matrix: Solid
Associated Lab Samples: 255708001, 255708003, 255708004, 255708005, 255708006, 255708007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 11/13/10 17:57 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 11/13/10 17:57 | |
| Toluene | ug/kg | ND | 3.0 | 11/13/10 17:57 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 11/13/10 17:57 | |
| 1,2-Dichloroethane-d4 (S) | % | 98 | 80-143 | 11/13/10 17:57 | |
| 4-Bromofluorobenzene (S) | % | 109 | 72-122 | 11/13/10 17:57 | |
| Dibromofluoromethane (S) | % | 92 | 80-136 | 11/13/10 17:57 | |
| Toluene-d8 (S) | % | 110 | 80-120 | 11/13/10 17:57 | |

LABORATORY CONTROL SAMPLE & LCSD: 49436 49437

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 46.3 | 45.2 | 93 | 90 | 75-133 | 3 | 30 | |
| Ethylbenzene | ug/kg | 50 | 47.3 | 46.5 | 95 | 93 | 68-131 | 2 | 30 | |
| Toluene | ug/kg | 50 | 46.7 | 45.1 | 93 | 90 | 73-124 | 3 | 30 | |
| Xylene (Total) | ug/kg | 150 | 136 | 134 | 91 | 89 | 68-130 | 1 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 104 | 100 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 111 | 115 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 101 | 100 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 106 | 106 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: Olympia Soils
Pace Project No.: 255708

QC Batch: PMST/1428 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255708001, 255708002, 255708003, 255708004, 255708005, 255708006, 255708007

SAMPLE DUPLICATE: 49589

| Parameter | Units | 255708002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 7.3 | 8.0 | 8 | |

SAMPLE DUPLICATE: 49590

| Parameter | Units | 255633001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 6.5 | 7.1 | 9 | |



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# QUALIFIERS

Project: Olympia Soils
Pace Project No.: 255708

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| D6 | The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Olympia Soils
Pace Project No.: 255708

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255708001** | **SPL-12-1** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708002** | **SPL-12-2** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708003** | **SPL-12-3** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708004** | **SPL-12-4** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708005** | **SPL-12-5** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708006** | **SPL-12-6** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708007** | **SPL-12-7** | EPA 3546 | OEXT/3010 | NWTPH-Dx | GCSV/2097 |
| **255708001** | **SPL-12-1** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708002** | **SPL-12-2** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708003** | **SPL-12-3** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708004** | **SPL-12-4** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708005** | **SPL-12-5** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708006** | **SPL-12-6** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708007** | **SPL-12-7** | NWTPH-Gx | GCV/2028 | NWTPH-Gx | GCV/2032 |
| **255708001** | **SPL-12-1** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708002** | **SPL-12-2** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708003** | **SPL-12-3** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708004** | **SPL-12-4** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708005** | **SPL-12-5** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708006** | **SPL-12-6** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708007** | **SPL-12-7** | EPA 6020 | ICPM/23533 | EPA 6020 | ICPM/9581 |
| **255708001** | **SPL-12-1** | % Moisture | MPRP/23557 | | |
| **255708002** | **SPL-12-2** | % Moisture | MPRP/23557 | | |
| **255708003** | **SPL-12-3** | % Moisture | MPRP/23557 | | |
| **255708004** | **SPL-12-4** | % Moisture | MPRP/23557 | | |
| **255708005** | **SPL-12-5** | % Moisture | MPRP/23557 | | |
| **255708006** | **SPL-12-6** | % Moisture | MPRP/23557 | | |
| **255708007** | **SPL-12-7** | % Moisture | MPRP/23557 | | |
| **255708001** | **SPL-12-1** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255708002** | **SPL-12-2** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255708003** | **SPL-12-3** | EPA 3546 | OEXT/2985 | EPA 8270 by SIM | MSSV/1440 |
| **255708004** | **SPL-12-4** | EPA 3546 | OEXT/3011 | EPA 8270 by SIM | MSSV/1447 |
| **255708005** | **SPL-12-5** | EPA 3546 | OEXT/3011 | EPA 8270 by SIM | MSSV/1447 |
| **255708006** | **SPL-12-6** | EPA 3546 | OEXT/3011 | EPA 8270 by SIM | MSSV/1447 |
| **255708007** | **SPL-12-7** | EPA 3546 | OEXT/3011 | EPA 8270 by SIM | MSSV/1447 |
| **255708002** | **SPL-12-2** | EPA 5035A/5030B | MSV/3507 | EPA 8260 | MSV/3517 |
| **255708001** | **SPL-12-1** | EPA 8260 | MSV/3441 | | |
| **255708003** | **SPL-12-3** | EPA 8260 | MSV/3441 | | |
| **255708004** | **SPL-12-4** | EPA 8260 | MSV/3441 | | |
| **255708005** | **SPL-12-5** | EPA 8260 | MSV/3441 | | |
| **255708006** | **SPL-12-6** | EPA 8260 | MSV/3441 | | |
| **255708007** | **SPL-12-7** | EPA 8260 | MSV/3441 | | |
| **255708001** | **SPL-12-1** | ASTM D2974-87 | PMST/1428 | | |
| **255708002** | **SPL-12-2** | ASTM D2974-87 | PMST/1428 | | |
| **255708003** | **SPL-12-3** | ASTM D2974-87 | PMST/1428 | | |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Olympia Soils
Pace Project No.: 255708

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255708004** | **SPL-12-4** | ASTM D2974-87 | PMST/1428 | | |
| **255708005** | **SPL-12-5** | ASTM D2974-87 | PMST/1428 | | |
| **255708006** | **SPL-12-6** | ASTM D2974-87 | PMST/1428 | | |
| **255708007** | **SPL-12-7** | ASTM D2974-87 | PMST/1428 | | |



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# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell  Project # 255708

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

Tracking #: 8738 8211 5071

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No  Seals intact: ☑ Yes ☐ No

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank Yes / No _____

Thermometer Used 132013 or 101731962 or 226099  Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.2c  Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 1/12/10 CW

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. ASAP |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☑No ☐N/A | 12. Recvd trip blank not on COC |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☑Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____  Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JENNI GROSS  Date: _____

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255708

Page: 1 of 1

1318949

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW Ste 420 Olympia WA
Email To: jturk@brownald.com
Phone: 360-534-1206 Fax: 3609437513
Requested Due Date/TAT: ASAP, Dioxins-10d

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: Olympia Soils
Project Number:

**Section C** Invoice Information:

Attention: Josh Johnson
Company Name: Brown + Caldwell
Address: 724 Columbia
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other $H_2O$ | Analysis Test (Y/N): Arsenic, Ni, Cu, Pb | Dioxin/Furan | TPH-Dx SG | cPAH, Naphthalene | TPH-Gx, BTEX SG | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-12-1 | SL | G | | | 11/10/10 | 15:20 | | 7 | X | | | | | | X | X | X | X | X | X | X | | |
| 2 | SPL-12-2 | ↓ | ↓ | | | 11/10/10 | 15:40 | | ↓ | ↓ | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 3 | SPL-12-3 | ↓ | ↓ | | | 11/10/10 | 16:00 | | ↓ | ↓ | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 4 | SPL-12-4 | ↓ | ↓ | | | 11/10/10 | 16:15 | | ↓ | ↓ | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 5 | SPL-12-5 | ↓ | ↓ | | | 11/11/10 | 8:15 | | ↓ | ↓ | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 6 | SPL-12-6 | ↓ | ↓ | | | 11/11/10 | 8:30 | | ↓ | ↓ | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 7 | SPL-12-7 | ↓ | ↓ | | | 11/11/10 | 9:15 | | ↓ | ↓ | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Relinquished to FEDEX | [signature] (BC) | 11/11/10 | 13:15 | Charlotte Weaver / PACE | 111210 | 0903 | 2.2c | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/11/10

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

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

# Sample Container Count

255708

Pace Analytical
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CLIENT: Brown & Caldwell

COC PAGE 1 of 1
COC ID# 1318949

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9U | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 4 | | 1 | 2 | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | trip blanks not on COC |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? Yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

November 29, 2010

## Report Information:

**Pace Project #: 10143216**
**Sample Receipt Date: 11/13/2010**
**Client Project #: 255708 Brown & Caldwell**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

November 30, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on seven samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 57-96%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Values above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. Sample levels similar to the corresponding blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 87-126%, with relative percent differences (RPDs) of 4.2-26.4%. These results indicate generally high degrees of accuracy and precision for these determinations. Somewhat variable background-subtracted recovery (153-252%) and RPD (26.4%) results were obtained for OCDD in the matrix spike samples, possibly due to sample inhomogeneity; these values were above the 70-130% target recovery range and the 0-20% target RPD range. The RPD results may indicate an elevated degree of precision for OCDD in these determinations.



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Pace Analytical Services, Inc.
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10143216

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 255708 **Workorder Name:** Olympia Soils **Owner Received Date:** 11/12/2010 **Results Requested By:** ~~11/24/2010~~ 11/26/10

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | 6020 As, Pb, Cu, & Ni | + Dioxins / Furans | Dry Weights OK 11/12/10 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-12-1 | PS | 11/10/2010 15:20 | 255708001 | Solid | 2 | X | + | X | |
| 2 | SPL-12-2 | PS | 11/10/2010 15:40 | 255708002 | Solid | 2 | X | X | X | |
| 3 | SPL-12-3 | PS | 11/10/2010 16:00 | 255708003 | Solid | 2 | X | X | X | |
| 4 | SPL-12-4 | PS | 11/10/2010 16:15 | 255708004 | Solid | 2 | X | X | X | |
| 5 | SPL-12-5 | PS | 11/11/2010 08:15 | 255708005 | Solid | 2 | X | X | X | |
| 6 | SPL-12-6 | PS | 11/11/2010 08:30 | 255708006 | Solid | 2 | X | X | X | |
| 7 | SPL-12-7 | PS | 11/11/2010 09:15 | 255708007 | Solid | 2 | X | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Jennifer Sing | 11/12/10 | [illegible] Pace | 11/12/10 11:24 |
| 2 | | | | |
| 3 | | | | |

**Comments**

10-Day RUSH - due 11/26/10
Seattle will analyze dry weights OK 11/12/10

**Cooler Temperature on Receipt** 0.1 °C | **Custody Seal** Y or (N) | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

Pace Analytical

# Sample Condition Upon Receipt

**Client Name:** PACE WA **Project #** 10143216

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

**Tracking #:** 7941 1391 1350

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes X No _____

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 0.1 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: 11-13-10 TK

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☒Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☒Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☒Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☒No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☒Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☒No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☒No ☐N/A | 7. |
| Sufficient Volume: | ☒Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☒Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☒Yes ☐No ☐N/A | |
| Containers Intact: | ☒Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☒N/A | 11. |
| Sample Labels match COC: | ☒Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☒N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☒N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☐No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☒N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☒N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☒N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☒N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Jenny Gross Date/Time: 11/12/10 @ 15:52

Comments/ Resolution:

— Due 11/30/10 per 9 day rush TAT per Scott's 11/12/10 @ 16:02 email, despite note on COC

**Project Manager Review:** NAH **Date:** 11/16/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 5541

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Minneapolis, MN 55414

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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-1 | | | |
| Lab Sample ID | 255708001 | | | |
| Filename | U101124A_09 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 9.2 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/10/2010 | 15:20 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 18:45 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.62 | ----- | 0.086 | J | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 9.50 | ----- | 0.086 | B | 2,3,7,8-TCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 70 |
| 2,3,7,8-TCDD | ----- | 0.15 | 0.081 | I | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 4.40 | ----- | 0.081 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDF | ----- | 0.38 | 0.160 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ----- | 0.74 | 0.230 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 6.30 | ----- | 0.190 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | ----- | 0.56 | 0.240 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 84 |
| Total PeCDD | 3.00 | ----- | 0.240 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 71 |
| 1,2,3,4,7,8-HxCDF | 0.41 | ----- | 0.088 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 85 |
| 1,2,3,6,7,8-HxCDF | 0.50 | ----- | 0.110 | BJ | OCDD-13C | 4.00 | 67 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.43 | 0.068 | I | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.21 | 0.120 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4.80 | ----- | 0.094 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.47 | ----- | 0.170 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 89 |
| 1,2,3,6,7,8-HxCDD | 1.30 | ----- | 0.200 | BJ | | | |
| 1,2,3,7,8,9-HxCDD | 0.78 | ----- | 0.190 | J | | | |
| Total HxCDD | 12.00 | ----- | 0.190 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 6.20 | ----- | 0.063 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.54 | ----- | 0.080 | BJ | Equivalence: 1.1 ng/Kg | | |
| Total HpCDF | 21.00 | ----- | 0.072 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 27.00 | ----- | 0.140 | | | | |
| Total HpCDD | 52.00 | ----- | 0.140 | | | | |
| OCDF | 22.00 | ----- | 0.120 | | | | |
| OCDD | 330.00 | ----- | 0.180 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-2 | | | |
| Lab Sample ID | 255708002 | | | |
| Filename | U101124A_14 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.1 g | Matrix | Solid | |
| % Moisture | 6.5 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 11/10/2010 | 15:40 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 22:30 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 4.3 | ----- | 0.070 | | 2,3,7,8-TCDF-13C | 2.00 | 69 |
| Total TCDF | 72.0 | ----- | 0.070 | | 2,3,7,8-TCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 70 |
| 2,3,7,8-TCDD | 1.3 | ----- | 0.074 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 91.0 | ----- | 0.074 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDF | ----- | 5.1 | 0.450 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 14.0 | ----- | 0.470 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 140.0 | ----- | 0.460 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | 4.3 | ----- | 0.200 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 80 |
| Total PeCDD | 100.0 | ----- | 0.200 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 75 |
| 1,2,3,4,7,8-HxCDF | ----- | 28.0 | 0.340 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 89 |
| 1,2,3,6,7,8-HxCDF | 12.0 | ----- | 0.290 | | OCDD-13C | 4.00 | 77 |
| 2,3,4,6,7,8-HxCDF | 7.3 | ----- | 0.320 | | | | |
| 1,2,3,7,8,9-HxCDF | 8.8 | ----- | 0.300 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 300.0 | ----- | 0.310 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 6.3 | ----- | 0.120 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 89 |
| 1,2,3,6,7,8-HxCDD | 29.0 | ----- | 0.300 | | | | |
| 1,2,3,7,8,9-HxCDD | 12.0 | ----- | 0.240 | | | | |
| Total HxCDD | 200.0 | ----- | 0.220 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 290.0 | ----- | 0.540 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 28.0 | ----- | 0.810 | | Equivalence: 32 ng/Kg | | |
| Total HpCDF | 1300.0 | ----- | 0.680 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 820.0 | ----- | 0.860 | | | | |
| Total HpCDD | 1300.0 | ----- | 0.860 | | | | |
| OCDF | 1300.0 | ----- | 0.690 | | | | |
| OCDD | 10000.0 | ----- | 1.200 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-3 | | | |
| Lab Sample ID | 255708003 | | | |
| Filename | U101124A_10 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 13.0 g | Matrix | Solid | |
| % Moisture | 22.0 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/10/2010 | 16:00 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 19:30 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.50 | ----- | 0.110 | | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 35.00 | ----- | 0.110 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | 0.57 | ----- | 0.092 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 63 |
| Total TCDD | 41.00 | ----- | 0.092 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 67 |
| 1,2,3,7,8-PeCDF | 3.00 | ----- | 0.380 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 67 |
| 2,3,4,7,8-PeCDF | 7.60 | ----- | 0.440 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 93.00 | ----- | 0.410 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 3.50 | ----- | 0.180 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 70 |
| Total PeCDD | 50.00 | ----- | 0.180 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | ----- | 50 | 0.360 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | 8.70 | ----- | 0.520 | | OCDD-13C | 4.00 | 62 |
| 2,3,4,6,7,8-HxCDF | 4.50 | ----- | 0.420 | J | | | |
| 1,2,3,7,8,9-HxCDF | 5.90 | ----- | 0.510 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 170.00 | ----- | 0.450 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 4.70 | ----- | 0.240 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | 26.00 | ----- | 0.240 | | | | |
| 1,2,3,7,8,9-HxCDD | 7.90 | ----- | 0.220 | | | | |
| Total HxCDD | 150.00 | ----- | 0.230 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 330.00 | ----- | 0.580 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 25.00 | ----- | 0.660 | | Equivalence: 28 ng/Kg | | |
| Total HpCDF | 650.00 | ----- | 0.620 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 820.00 | ----- | 0.790 | | | | |
| Total HpCDD | 1300.00 | ----- | 0.790 | | | | |
| OCDF | 1600.00 | ----- | 0.091 | | | | |
| OCDD | 9400.00 | ----- | 0.094 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-4 | | | |
| Lab Sample ID | 255708004 | | | |
| Filename | U101124A_15 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.0 g | Matrix | Solid | |
| % Moisture | 7.6 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/10/2010 | 16:15 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 23:15 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.6 | ----- | 0.097 | | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 65.0 | ----- | 0.097 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | 1.1 | ----- | 0.180 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 86.0 | ----- | 0.180 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDF | 5.1 | ----- | 0.370 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 67 |
| 2,3,4,7,8-PeCDF | 11.0 | ----- | 0.270 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 65 |
| Total PeCDF | 160.0 | ----- | 0.320 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDD | 4.3 | ----- | 0.280 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 89.0 | ----- | 0.280 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 |
| 1,2,3,4,7,8-HxCDF | ----- | 70 | 0.470 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | 15.0 | ----- | 0.460 | | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 9.2 | ----- | 0.470 | | | | |
| 1,2,3,7,8,9-HxCDF | 10.0 | ----- | 0.340 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 370.0 | ----- | 0.430 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 6.9 | ----- | 0.380 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 34.0 | ----- | 0.530 | | | | |
| 1,2,3,7,8,9-HxCDD | 14.0 | ----- | 0.260 | | | | |
| Total HxCDD | 210.0 | ----- | 0.390 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 360.0 | ----- | 0.700 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 34.0 | ----- | 0.690 | | Equivalence: 35 ng/Kg | | |
| Total HpCDF | 1500.0 | ----- | 0.700 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 930.0 | ----- | 0.900 | | | | |
| Total HpCDD | 1500.0 | ----- | 0.900 | | | | |
| OCDF | 1500.0 | ----- | 0.690 | | | | |
| OCDD | 11000.0 | ----- | 3.000 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-5 | | | |
| Lab Sample ID | 255708005 | | | |
| Filename | U101124A_11 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.1 g | Matrix | Solid | |
| % Moisture | 8.8 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 11/11/2010 | 08:15 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 20:15 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.40 | ----- | 0.17 | J | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 6.40 | ----- | 0.17 | B | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 72 |
| 2,3,7,8-TCDD | ND | ----- | 0.16 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| Total TCDD | 1.40 | ----- | 0.16 | B | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDF | 0.30 | ----- | 0.20 | BJ | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 0.55 | ----- | 0.25 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 4.60 | ----- | 0.23 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 0.36 | ----- | 0.16 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 83 |
| Total PeCDD | 1.90 | ----- | 0.16 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.82 | 0.14 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 89 |
| 1,2,3,6,7,8-HxCDF | 0.39 | ----- | 0.15 | BJ | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.29 | 0.14 | I | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.19 | 0.14 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4.30 | ----- | 0.14 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.22 | 0.16 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 0.73 | ----- | 0.11 | BJ | | | |
| 1,2,3,7,8,9-HxCDD | 0.44 | ----- | 0.19 | J | | | |
| Total HxCDD | 5.90 | ----- | 0.15 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 5.70 | ----- | 0.23 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.64 | ----- | 0.16 | BJ | Equivalence: 1.2 ng/Kg | | |
| Total HpCDF | 24.00 | ----- | 0.19 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 20.00 | ----- | 0.23 | | | | |
| Total HpCDD | 36.00 | ----- | 0.23 | | | | |
| OCDF | 31.00 | ----- | 0.21 | | | | |
| OCDD | 270.00 | ----- | 0.43 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-6 | | | |
| Lab Sample ID | 255708006 | | | |
| Filename | U101124A_12 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.5 g | Matrix | Solid | |
| % Moisture | 8.6 | Dilution | NA | |
| Dry Weight Extracted | 10.5 g | Collected | 11/11/2010 | 08:30 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 21:00 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.450 | ----- | 0.160 | J | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| Total TCDF | 5.300 | ----- | 0.160 | B | 2,3,7,8-TCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | 0.094 | ----- | 0.093 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| Total TCDD | 2.500 | ----- | 0.093 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | 0.360 | ----- | 0.150 | BJ | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 0.850 | ----- | 0.200 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 6.500 | ----- | 0.170 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDD | 0.330 | ----- | 0.150 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 86 |
| Total PeCDD | 4.000 | ----- | 0.150 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 82 |
| 1,2,3,4,7,8-HxCDF | 1.200 | ----- | 0.160 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 94 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.38 | 0.140 | I | OCDD-13C | 4.00 | 77 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.32 | 0.140 | I | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.28 | 0.100 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4.700 | ----- | 0.140 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.370 | ----- | 0.150 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 |
| 1,2,3,6,7,8-HxCDD | 1.500 | ----- | 0.150 | BJ | | | |
| 1,2,3,7,8,9-HxCDD | 0.580 | ----- | 0.140 | J | | | |
| Total HxCDD | 12.000 | ----- | 0.150 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 7.900 | ----- | 0.180 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.540 | ----- | 0.200 | BJ | Equivalence: 1.8 ng/Kg | | |
| Total HpCDF | 30.000 | ----- | 0.190 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 44.000 | ----- | 0.280 | | | | |
| Total HpCDD | 81.000 | ----- | 0.280 | | | | |
| OCDF | 33.000 | ----- | 0.200 | | | | |
| OCDD | 530.000 | ----- | 0.820 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-12-7 | | | |
| Lab Sample ID | 255708007 | | | |
| Filename | U101124A_13 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 10.8 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 11/11/2010 | 09:15 |
| ICAL ID | U100929 | Received | 11/13/2010 | 11:24 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Extracted | 11/22/2010 | 13:45 |
| Method Blank ID | BLANK-27052 | Analyzed | 11/24/2010 | 21:45 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.36 | ----- | 0.130 | J | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| Total TCDF | 4.00 | ----- | 0.130 | B | 2,3,7,8-TCDD-13C | 2.00 | 93 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.084 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | 0.50 | ----- | 0.084 | BJ | 1,2,3,7,8-PeCDD-13C | 2.00 | 93 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | 0.20 | ----- | 0.120 | BJ | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 0.39 | ----- | 0.110 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 4.00 | ----- | 0.110 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDD | 0.24 | ----- | 0.220 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 88 |
| Total PeCDD | 3.00 | ----- | 0.220 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 79 |
| 1,2,3,4,7,8-HxCDF | 0.24 | ----- | 0.120 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 96 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.24 | 0.094 | I | OCDD-13C | 4.00 | 78 |
| 2,3,4,6,7,8-HxCDF | 0.29 | ----- | 0.098 | BJ | | | |
| 1,2,3,7,8,9-HxCDF | 0.16 | ----- | 0.110 | BJ | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 2.90 | ----- | 0.110 | BJ | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.26 | ----- | 0.110 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 88 |
| 1,2,3,6,7,8-HxCDD | 0.57 | ----- | 0.150 | BJ | | | |
| 1,2,3,7,8,9-HxCDD | 0.35 | ----- | 0.092 | J | | | |
| Total HxCDD | 4.80 | ----- | 0.120 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 3.30 | ----- | 0.150 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.39 | ----- | 0.140 | BJ | Equivalence: 0.84 ng/Kg | | |
| Total HpCDF | 15.00 | ----- | 0.140 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 12.00 | ----- | 0.200 | | | | |
| Total HpCDD | 23.00 | ----- | 0.200 | | | | |
| OCDF | 11.00 | ----- | 0.100 | | | | |
| OCDD | 160.00 | ----- | 0.270 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27052 | Matrix | Solid |
| Filename | U101124A_08 | Dilution | NA |
| Total Amount Extracted | 10.1 g | Extracted | 11/22/2010 13:45 |
| ICAL ID | U100929 | Analyzed | 11/24/2010 18:00 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.130 | | 2,3,7,8-TCDF-13C | 2.00 | 65 |
| Total TCDF | 1.70 | ----- | 0.130 | J | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 68 |
| 2,3,7,8-TCDD | ND | ----- | 0.110 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 0.18 | ----- | 0.110 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 69 |
| 1,2,3,7,8-PeCDF | 0.21 | ----- | 0.160 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.160 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 0.21 | ----- | 0.160 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 81 |
| Total PeCDD | ND | ----- | 0.190 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.21 | 0.093 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 84 |
| 1,2,3,6,7,8-HxCDF | 0.20 | ----- | 0.090 | J | OCDD-13C | 4.00 | 67 |
| 2,3,4,6,7,8-HxCDF | 0.21 | ----- | 0.096 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.35 | ----- | 0.110 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.75 | ----- | 0.097 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.12 | 0.065 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 0.18 | ----- | 0.085 | J | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.13 | 0.086 | I | | | |
| Total HxCDD | 0.18 | ----- | 0.078 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.35 | 0.096 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.37 | ----- | 0.100 | J | Equivalence: 0.30 ng/Kg | | |
| Total HpCDF | 0.37 | ----- | 0.098 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ----- | 0.31 | 0.092 | I | | | |
| Total HpCDD | 0.24 | ----- | 0.092 | J | | | |
| OCDF | 1.00 | ----- | 0.120 | J | | | |
| OCDD | 1.70 | ----- | 0.095 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27053 | | |
| Filename | U101124A_02 | Matrix | Solid |
| Total Amount Extracted | 10.2 g | Dilution | NA |
| ICAL ID | U100929 | Extracted | 11/22/2010 13:45 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Analyzed | 11/24/2010 13:32 |
| Method Blank ID | BLANK-27052 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.21 | 105 | 2,3,7,8-TCDF-13C | 2.0 | 63 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 76 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 69 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 93 | 2,3,4,7,8-PeCDF-13C | 2.0 | 72 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 85 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 71 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.0 | 102 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 69 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.00 | 100 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 68 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 67 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 79 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.93 | 93 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 80 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 77 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 77 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 0.99 | 99 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 88 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 106 | OCDD-13C | 4.0 | 74 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.0 | 103 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.96 | 96 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 0.99 | 99 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.00 | 100 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.0 | 104 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 104 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.94 | 94 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.0 | 102 | | | |
| OCDD | 2.0 | 2.1 | 106 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-12-1-MS | | |
| Lab Sample ID | 255708001-MS | | |
| Filename | U101124A_03 | Matrix | Solid |
| Total Amount Extracted | 11.1 g | Dilution | NA |
| ICAL ID | U100929 | Extracted | 11/22/2010 13:45 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Analyzed | 11/24/2010 14:15 |
| Method Blank ID | BLANK-27052 | Injected By | SMT |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 113 | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 70 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 94 | 2,3,4,7,8-PeCDF-13C | 2.00 | 70 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.05 | 105 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.01 | 101 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.95 | 95 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 73 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.06 | 106 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.08 | 108 | OCDD-13C | 4.00 | 65 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.05 | 105 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.07 | 107 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.00 | 100 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.04 | 104 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.02 | 102 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.19 | 119 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.06 | 106 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.53 | 153 | | | |
| OCDF | 2.00 | 2.49 | 125 | | | |
| OCDD | 2.00 | 8.39 | 419 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-12-1-MSD | | |
| Lab Sample ID | 255708001-MSD | | |
| Filename | U101124A_04 | Matrix | Solid |
| Total Amount Extracted | 11.2 g | Dilution | NA |
| ICAL ID | U100929 | Extracted | 11/22/2010 13:45 |
| CCal Filename(s) | U101124A_01 & U101124A_17 | Analyzed | 11/24/2010 15:00 |
| Method Blank ID | BLANK-27052 | Injected By | SMT |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.22 | 108 | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 94 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 74 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 88 | 2,3,4,7,8-PeCDF-13C | 2.00 | 75 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | 1.00 | 0.98 | 98 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 1.00 | 0.97 | 97 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 83 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.90 | 90 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 84 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.00 | 100 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 88 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.02 | 102 | OCDD-13C | 4.00 | 73 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.00 | 100 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.00 | 100 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 0.93 | 93 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 87 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 0.98 | 98 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 0.96 | 96 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.10 | 110 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 0.99 | 99 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.29 | 129 | | | |
| OCDF | 2.00 | 2.26 | 113 | | | |
| OCDD | 2.00 | 6.43 | 322 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-12-1 | | | Dry Weights | |
| Lab Sample ID | 255708001 | Sample Filename | U101124A_09 | Sample Amount | 10.2 g |
| MS ID | 255708001-MS | MS Filename | U101124A_03 | MS Amount | 10.1 g |
| MSD ID | 255708001-MSD | MSD Filename | U101124A_04 | MSD Amount | 10.2 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.623 | 0.20 | 0.23 | 0.22 | 4.6 | 110 | 105 | 4.8 |
| 2,3,7,8-TCDD | 0.000 | 0.20 | 0.19 | 0.18 | 6.7 | 94 | 87 | 6.7 |
| 1,2,3,7,8-PeCDF | 0.000 | 1.00 | 1.05 | 0.98 | 6.0 | 104 | 98 | 6.1 |
| 2,3,4,7,8-PeCDF | 0.000 | 1.00 | 1.01 | 0.97 | 4.2 | 100 | 96 | 4.3 |
| 1,2,3,7,8-PeCDD | 0.000 | 1.00 | 0.95 | 0.90 | 5.6 | 95 | 89 | 5.7 |
| 1,2,3,4,7,8-HxCDF | 0.408 | 1.00 | 1.06 | 1.00 | 5.1 | 105 | 100 | 5.1 |
| 1,2,3,6,7,8-HxCDF | 0.500 | 1.00 | 1.08 | 1.02 | 5.6 | 107 | 101 | 5.6 |
| 2,3,4,6,7,8-HxCDF | 0.000 | 1.00 | 1.05 | 1.00 | 5.0 | 105 | 100 | 5.0 |
| 1,2,3,7,8,9-HxCDF | 0.000 | 1.00 | 1.07 | 1.00 | 6.3 | 107 | 100 | 6.3 |
| 1,2,3,4,7,8-HxCDD | 0.473 | 1.00 | 1.00 | 0.93 | 7.6 | 99 | 92 | 7.7 |
| 1,2,3,6,7,8-HxCDD | 1.325 | 1.00 | 1.04 | 0.98 | 5.2 | 102 | 97 | 5.2 |
| 1,2,3,7,8,9-HxCDD | 0.782 | 1.00 | 1.02 | 0.96 | 6.3 | 101 | 95 | 6.4 |
| 1,2,3,4,6,7,8-HpCDF | 6.200 | 1.00 | 1.19 | 1.10 | 7.8 | 113 | 104 | 8.4 |
| 1,2,3,4,7,8,9-HpCDF | 0.535 | 1.00 | 1.06 | 0.99 | 6.2 | 105 | 99 | 6.3 |
| 1,2,3,4,6,7,8-HpCDD | 27.221 | 1.00 | 1.53 | 1.29 | 17.3 | 126 | 101 | 21.8 |
| OCDF | 21.845 | 2.00 | 2.49 | 2.26 | 10.0 | 114 | 102 | 11.1 |
| OCDD | 331.572 | 2.00 | 8.39 | 6.43 | 26.4 | 252 | 153 | 48.9 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

December 17, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255893

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 03, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: John Turk, Brown & Caldwell



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940 South Harney
Seattle, WA 98108
(206)767-5060

# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255893001** | **SPL-13-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893002** | **SPL-13-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893003** | **SPL-13-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893004** | **SPL-13-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893005** | **SPL-13-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893006** | **SPL-13-6** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893007** | **SPL-13-7** | NWTPH-Dx | AY1 | 4 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255893008** | **TB-1318560** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-1** **Lab ID: 255893001** Collected: 12/03/10 13:10 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.7 | 1 | 12/08/10 12:45 | 12/10/10 19:10 | | |
| Motor Oil Range SG | ND | mg/kg | 83.0 | 1 | 12/08/10 12:45 | 12/10/10 19:10 | 64742-65-0 | |
| n-Octacosane (S) SG | 97 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 19:10 | 630-02-4 | |
| o-Terphenyl (S) SG | 82 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 19:10 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.6 | 1 | 12/09/10 10:00 | 12/09/10 15:42 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 15:42 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 97 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 15:42 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.5** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:00 | 7440-38-2 | |
| Cadmium | **0.092** | mg/kg | 0.071 | 20 | 12/08/10 16:42 | 12/16/10 00:00 | 7440-43-9 | |
| Copper | **18.5** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:00 | 7440-50-8 | |
| Lead | **7.4** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:00 | 7439-92-1 | |
| Nickel | **29.9** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:00 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 208-96-8 | |
| Anthracene | **13.1** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 120-12-7 | |
| Benzo(a)anthracene | **19.4** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 56-55-3 | |
| Benzo(a)pyrene | **23.4** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 50-32-8 | |
| Benzo(b)fluoranthene | **13.9** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 205-99-2 | |
| Benzo(g,h,i)perylene | **17.4** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 191-24-2 | |
| Benzo(k)fluoranthene | **16.7** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 207-08-9 | |
| Chrysene | **23.8** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 53-70-3 | |
| Fluoranthene | **32.6** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **11.0** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 193-39-5 | |
| 1-Methylnaphthalene | **14.2** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 90-12-0 | |
| 2-Methylnaphthalene | **27.1** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 91-57-6 | |
| Naphthalene | **10.8** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 91-20-3 | |
| Phenanthrene | **40.0** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 85-01-8 | |
| Pyrene | **51.0** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 65 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 321-60-8 | |
| Terphenyl-d14 (S) | 71 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 19:10 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.5 | 1 | | 12/07/10 12:57 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.5 | 1 | | 12/07/10 12:57 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.5 | 1 | | 12/07/10 12:57 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.5 | 1 | | 12/07/10 12:57 | 1330-20-7 | |
| Dibromofluoromethane (S) | 106 | % | 80-136 | 1 | | 12/07/10 12:57 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-1** **Lab ID: 255893001** Collected: 12/03/10 13:10 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 12/07/10 12:57 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 115 | % | 72-122 | 1 | | 12/07/10 12:57 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 111 | % | 80-143 | 1 | | 12/07/10 12:57 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.5** | % | 0.10 | 1 | | 12/06/10 17:18 | | |

**Sample: SPL-13-2** **Lab ID: 255893002** Collected: 12/03/10 13:15 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.0 | 1 | 12/08/10 12:45 | 12/10/10 20:20 | | |
| Motor Oil Range SG | ND | mg/kg | 83.8 | 1 | 12/08/10 12:45 | 12/10/10 20:20 | 64742-65-0 | |
| n-Octacosane (S) SG | 95 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 20:20 | 630-02-4 | |
| o-Terphenyl (S) SG | 81 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 20:20 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.4 | 1 | 12/09/10 10:00 | 12/09/10 16:05 | | |
| a,a,a-Trifluorotoluene (S) | 91 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 16:05 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 73 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 16:05 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.4** | mg/kg | 0.39 | 20 | 12/08/10 16:42 | 12/16/10 00:10 | 7440-38-2 | |
| Cadmium | **0.065** | mg/kg | 0.063 | 20 | 12/08/10 16:42 | 12/16/10 00:10 | 7440-43-9 | |
| Copper | **30.5** | mg/kg | 0.39 | 20 | 12/08/10 16:42 | 12/16/10 00:10 | 7440-50-8 | |
| Lead | **8.2** | mg/kg | 0.39 | 20 | 12/08/10 16:42 | 12/16/10 00:10 | 7439-92-1 | |
| Nickel | **27.7** | mg/kg | 0.39 | 20 | 12/08/10 16:42 | 12/16/10 00:10 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 208-96-8 | |
| Anthracene | **9.5** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 120-12-7 | |
| Benzo(a)anthracene | **8.9** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 56-55-3 | |
| Benzo(a)pyrene | **12.8** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 50-32-8 | |
| Benzo(b)fluoranthene | **11.3** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 205-99-2 | |
| Benzo(g,h,i)perylene | **9.5** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 191-24-2 | |
| Benzo(k)fluoranthene | **7.8** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 207-08-9 | |
| Chrysene | **12.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 53-70-3 | |
| Fluoranthene | **13.3** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-2** **Lab ID: 255893002** Collected: 12/03/10 13:15 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **15.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 90-12-0 | |
| 2-Methylnaphthalene | **25.9** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 91-57-6 | |
| Naphthalene | **11.8** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 91-20-3 | |
| Phenanthrene | **22.1** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 85-01-8 | |
| Pyrene | **24.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 321-60-8 | |
| Terphenyl-d14 (S) | 67 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 19:25 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.6 | 1 | | 12/07/10 13:15 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.6 | 1 | | 12/07/10 13:15 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.6 | 1 | | 12/07/10 13:15 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.7 | 1 | | 12/07/10 13:15 | 1330-20-7 | |
| Dibromofluoromethane (S) | 106 | % | 80-136 | 1 | | 12/07/10 13:15 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 12/07/10 13:15 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 12/07/10 13:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 108 | % | 80-143 | 1 | | 12/07/10 13:15 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.3** | % | 0.10 | 1 | | 12/06/10 17:19 | | |

**Sample: SPL-13-3** **Lab ID: 255893003** Collected: 12/03/10 13:30 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.5 | 1 | 12/08/10 12:45 | 12/10/10 20:43 | | |
| Motor Oil Range SG | ND | mg/kg | 85.8 | 1 | 12/08/10 12:45 | 12/10/10 20:43 | 64742-65-0 | |
| n-Octacosane (S) SG | 98 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 20:43 | 630-02-4 | |
| o-Terphenyl (S) SG | 83 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 20:43 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.3 | 1 | 12/09/10 10:00 | 12/09/10 16:29 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 16:29 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 95 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 16:29 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.3** | mg/kg | 0.38 | 20 | 12/08/10 16:42 | 12/16/10 00:32 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.061 | 20 | 12/08/10 16:42 | 12/16/10 00:32 | 7440-43-9 | |
| Copper | **16.4** | mg/kg | 0.38 | 20 | 12/08/10 16:42 | 12/16/10 00:32 | 7440-50-8 | |
| Lead | **4.3** | mg/kg | 0.38 | 20 | 12/08/10 16:42 | 12/16/10 00:32 | 7439-92-1 | |
| Nickel | **29.2** | mg/kg | 0.38 | 20 | 12/08/10 16:42 | 12/16/10 00:32 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-3** **Lab ID: 255893003** Collected: 12/03/10 13:30 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 120-12-7 | |
| Benzo(a)anthracene | **9.3** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 56-55-3 | |
| Benzo(a)pyrene | **12.5** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 50-32-8 | |
| Benzo(b)fluoranthene | **8.2** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 205-99-2 | |
| Benzo(g,h,i)perylene | **8.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 191-24-2 | |
| Benzo(k)fluoranthene | **10.0** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 207-08-9 | |
| Chrysene | **11.7** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 53-70-3 | |
| Fluoranthene | **24.8** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 91-20-3 | |
| Phenanthrene | **18.8** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 85-01-8 | |
| Pyrene | **32.1** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 321-60-8 | |
| Terphenyl-d14 (S) | 77 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 19:41 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 12/07/10 13:34 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 12/07/10 13:34 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 12/07/10 13:34 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.7 | 1 | | 12/07/10 13:34 | 1330-20-7 | |
| Dibromofluoromethane (S) | 82 | % | 80-136 | 1 | | 12/07/10 13:34 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 12/07/10 13:34 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 108 | % | 72-122 | 1 | | 12/07/10 13:34 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 12/07/10 13:34 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.8** | % | 0.10 | 1 | | 12/06/10 17:20 | | |

**Sample: SPL-13-4** **Lab ID: 255893004** Collected: 12/03/10 14:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 26.0 | 1 | 12/08/10 12:45 | 12/10/10 21:07 | | |
| Motor Oil Range SG | ND | mg/kg | 104 | 1 | 12/08/10 12:45 | 12/10/10 21:07 | 64742-65-0 | |
| n-Octacosane (S) SG | 91 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 21:07 | 630-02-4 | |
| o-Terphenyl (S) SG | 78 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 21:07 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-4** **Lab ID: 255893004** Collected: 12/03/10 14:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.4 | 1 | 12/09/10 10:00 | 12/09/10 16:52 | | |
| a,a,a-Trifluorotoluene (S) | 89 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 16:52 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 88 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 16:52 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.4** | mg/kg | 0.59 | 20 | 12/08/10 16:42 | 12/16/10 00:42 | 7440-38-2 | |
| Cadmium | **0.29** | mg/kg | 0.094 | 20 | 12/08/10 16:42 | 12/16/10 00:42 | 7440-43-9 | |
| Copper | **28.1** | mg/kg | 0.59 | 20 | 12/08/10 16:42 | 12/16/10 00:42 | 7440-50-8 | |
| Lead | **9.6** | mg/kg | 0.59 | 20 | 12/08/10 16:42 | 12/16/10 00:42 | 7439-92-1 | |
| Nickel | **35.1** | mg/kg | 0.59 | 20 | 12/08/10 16:42 | 12/16/10 00:42 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **9.2** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 208-96-8 | |
| Anthracene | ND | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 120-12-7 | |
| Benzo(a)anthracene | **8.9** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 56-55-3 | |
| Benzo(a)pyrene | **10** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 50-32-8 | |
| Benzo(b)fluoranthene | **10.3** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 207-08-9 | |
| Chrysene | **18.6** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 53-70-3 | |
| Fluoranthene | **39.8** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 206-44-0 | |
| Fluorene | **10.8** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 193-39-5 | |
| 1-Methylnaphthalene | **23.6** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 90-12-0 | |
| 2-Methylnaphthalene | **39.7** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 91-57-6 | |
| Naphthalene | **16.5** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 91-20-3 | |
| Phenanthrene | **38.9** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 85-01-8 | |
| Pyrene | **43.1** | ug/kg | 8.7 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 321-60-8 | |
| Terphenyl-d14 (S) | 72 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 19:57 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 4.3 | 1 | | 12/07/10 13:53 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 4.3 | 1 | | 12/07/10 13:53 | 100-41-4 | |
| Toluene | ND | ug/kg | 4.3 | 1 | | 12/07/10 13:53 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 12.8 | 1 | | 12/07/10 13:53 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 12/07/10 13:53 | 1868-53-7 | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 12/07/10 13:53 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 121 | % | 72-122 | 1 | | 12/07/10 13:53 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 112 | % | 80-143 | 1 | | 12/07/10 13:53 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **23.5** | % | 0.10 | 1 | | 12/06/10 17:21 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-5** **Lab ID: 255893005** Collected: 12/03/10 14:20 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.2 | 1 | 12/08/10 12:45 | 12/10/10 21:30 | | |
| Motor Oil Range SG | ND | mg/kg | 84.9 | 1 | 12/08/10 12:45 | 12/10/10 21:30 | 64742-65-0 | |
| n-Octacosane (S) SG | 95 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 21:30 | 630-02-4 | |
| o-Terphenyl (S) SG | 81 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 21:30 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 12/09/10 10:00 | 12/09/10 18:03 | | |
| a,a,a-Trifluorotoluene (S) | 93 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 18:03 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 18:03 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.1** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:51 | 7440-38-2 | |
| Cadmium | **0.084** | mg/kg | 0.070 | 20 | 12/08/10 16:42 | 12/16/10 00:51 | 7440-43-9 | |
| Copper | **24.4** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:51 | 7440-50-8 | |
| Lead | **8.1** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:51 | 7439-92-1 | |
| Nickel | **33.5** | mg/kg | 0.44 | 20 | 12/08/10 16:42 | 12/16/10 00:51 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **8.7** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 208-96-8 | |
| Anthracene | **7.3** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 120-12-7 | |
| Benzo(a)anthracene | **9.1** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 56-55-3 | |
| Benzo(a)pyrene | **11.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 50-32-8 | |
| Benzo(b)fluoranthene | **9.3** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 205-99-2 | |
| Benzo(g,h,i)perylene | **8.6** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 191-24-2 | |
| Benzo(k)fluoranthene | **7.5** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 207-08-9 | |
| Chrysene | **11.4** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 53-70-3 | |
| Fluoranthene | **18.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 91-57-6 | |
| Naphthalene | **10.4** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 91-20-3 | |
| Phenanthrene | **23.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 85-01-8 | |
| Pyrene | **24.5** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 71 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 321-60-8 | |
| Terphenyl-d14 (S) | 75 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 20:13 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.2 | 1 | | 12/07/10 14:12 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.2 | 1 | | 12/07/10 14:12 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.2 | 1 | | 12/07/10 14:12 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.5 | 1 | | 12/07/10 14:12 | 1330-20-7 | |
| Dibromofluoromethane (S) | 109 | % | 80-136 | 1 | | 12/07/10 14:12 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-5** **Lab ID: 255893005** Collected: 12/03/10 14:20 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 12/07/10 14:12 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 12/07/10 14:12 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 115 | % | 80-143 | 1 | | 12/07/10 14:12 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.5** | % | 0.10 | 1 | | 12/06/10 17:22 | | |

**Sample: SPL-13-6** **Lab ID: 255893006** Collected: 12/03/10 14:40 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.7 | 1 | 12/08/10 12:45 | 12/10/10 21:53 | | |
| Motor Oil Range SG | **125** | mg/kg | 82.7 | 1 | 12/08/10 12:45 | 12/10/10 21:53 | 64742-65-0 | |
| n-Octacosane (S) SG | 91 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 21:53 | 630-02-4 | |
| o-Terphenyl (S) SG | 77 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 21:53 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.2 | 1 | 12/09/10 10:00 | 12/09/10 18:27 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 18:27 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 94 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 18:27 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **9.6** | mg/kg | 0.52 | 20 | 12/08/10 16:42 | 12/16/10 23:49 | 7440-38-2 | |
| Cadmium | **0.18** | mg/kg | 0.083 | 20 | 12/08/10 16:42 | 12/16/10 23:49 | 7440-43-9 | |
| Copper | **24.9** | mg/kg | 0.52 | 20 | 12/08/10 16:42 | 12/16/10 23:49 | 7440-50-8 | |
| Lead | **7.0** | mg/kg | 0.52 | 20 | 12/08/10 16:42 | 12/16/10 23:49 | 7439-92-1 | |
| Nickel | **41.2** | mg/kg | 0.52 | 20 | 12/08/10 16:42 | 12/16/10 23:49 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 56-55-3 | |
| Benzo(a)pyrene | **11.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 50-32-8 | |
| Benzo(b)fluoranthene | **8.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 205-99-2 | |
| Benzo(g,h,i)perylene | **10.1** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 191-24-2 | |
| Benzo(k)fluoranthene | **7.3** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 207-08-9 | |
| Chrysene | **10.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 53-70-3 | |
| Fluoranthene | **10.3** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-6** **Lab ID: 255893006** Collected: 12/03/10 14:40 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 90-12-0 | |
| 2-Methylnaphthalene | **8.0** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 91-20-3 | |
| Phenanthrene | **9.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 85-01-8 | |
| Pyrene | **16.4** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 321-60-8 | |
| Terphenyl-d14 (S) | 80 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 20:28 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.8 | 1 | | 12/07/10 14:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.8 | 1 | | 12/07/10 14:31 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.8 | 1 | | 12/07/10 14:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 11.4 | 1 | | 12/07/10 14:31 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 12/07/10 14:31 | 1868-53-7 | |
| Toluene-d8 (S) | 112 | % | 80-120 | 1 | | 12/07/10 14:31 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 116 | % | 72-122 | 1 | | 12/07/10 14:31 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 113 | % | 80-143 | 1 | | 12/07/10 14:31 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.4** | % | 0.10 | 1 | | 12/06/10 17:23 | | |

**Sample: SPL-13-7** **Lab ID: 255893007** Collected: 12/03/10 15:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.3 | 1 | 12/08/10 12:45 | 12/10/10 22:40 | | |
| Motor Oil Range SG | **128** | mg/kg | 81.3 | 1 | 12/08/10 12:45 | 12/10/10 22:40 | 64742-65-0 | |
| n-Octacosane (S) SG | 96 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 22:40 | 630-02-4 | |
| o-Terphenyl (S) SG | 82 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 22:40 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 12/09/10 10:00 | 12/09/10 19:14 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 19:14 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 19:14 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.0** | mg/kg | 0.48 | 20 | 12/08/10 16:42 | 12/16/10 01:00 | 7440-38-2 | |
| Cadmium | **0.23** | mg/kg | 0.076 | 20 | 12/08/10 16:42 | 12/16/10 01:00 | 7440-43-9 | |
| Copper | **23.4** | mg/kg | 0.48 | 20 | 12/08/10 16:42 | 12/16/10 01:00 | 7440-50-8 | M6 |
| Lead | **10.4** | mg/kg | 0.48 | 20 | 12/08/10 16:42 | 12/16/10 01:00 | 7439-92-1 | |
| Nickel | **31.8** | mg/kg | 0.48 | 20 | 12/08/10 16:42 | 12/16/10 01:00 | 7440-02-0 | M6 |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: SPL-13-7** **Lab ID: 255893007** Collected: 12/03/10 15:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 120-12-7 | |
| Benzo(a)anthracene | **19.0** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 56-55-3 | |
| Benzo(a)pyrene | **23.6** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 50-32-8 | |
| Benzo(b)fluoranthene | **14.9** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 205-99-2 | |
| Benzo(g,h,i)perylene | **18.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 191-24-2 | |
| Benzo(k)fluoranthene | **16.9** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 207-08-9 | |
| Chrysene | **23.7** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 53-70-3 | |
| Fluoranthene | **32.3** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **13.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 91-20-3 | |
| Phenanthrene | **24.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 85-01-8 | |
| Pyrene | **46.7** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 321-60-8 | |
| Terphenyl-d14 (S) | 69 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 20:44 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 12/07/10 14:50 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 12/07/10 14:50 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 12/07/10 14:50 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 12/07/10 14:50 | 1330-20-7 | |
| Dibromofluoromethane (S) | 105 | % | 80-136 | 1 | | 12/07/10 14:50 | 1868-53-7 | |
| Toluene-d8 (S) | 110 | % | 80-120 | 1 | | 12/07/10 14:50 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 125 | % | 72-122 | 1 | | 12/07/10 14:50 | 460-00-4 | S3 |
| 1,2-Dichloroethane-d4 (S) | 109 | % | 80-143 | 1 | | 12/07/10 14:50 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.0** | % | 0.10 | 1 | | 12/06/10 17:24 | | |

**Sample: TB-1318560** **Lab ID: 255893008** Collected: 12/03/10 00:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 12/09/10 10:00 | 12/09/10 14:31 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 14:31 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 14:31 | 460-00-4 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

**Sample: TB-1318560** **Lab ID: 255893008** Collected: 12/03/10 00:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 12/07/10 09:29 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 12/07/10 09:29 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 12/07/10 09:29 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 12/07/10 09:29 | 1330-20-7 | |
| Dibromofluoromethane (S) | 105 | % | 80-136 | 1 | | 12/07/10 09:29 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 12/07/10 09:29 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 72-122 | 1 | | 12/07/10 09:29 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 111 | % | 80-143 | 1 | | 12/07/10 09:29 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

QC Batch: OEXT/3071 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

METHOD BLANK: 51572 Matrix: Solid
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 12/10/10 16:03 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 12/10/10 16:03 | |
| n-Octacosane (S) SG | % | 89 | 50-150 | 12/10/10 16:03 | |
| o-Terphenyl (S) SG | % | 75 | 50-150 | 12/10/10 16:03 | |

LABORATORY CONTROL SAMPLE: 51573

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 422 | 84 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 443 | 89 | 50-150 | |
| n-Octacosane (S) SG | % | | | 95 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 51574

| Parameter | Units | 255892001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.6 | | |
| Motor Oil Range SG | mg/kg | ND | 73.6J | | |
| n-Octacosane (S) SG | % | 96 | 98 | .9 | |
| o-Terphenyl (S) SG | % | 81 | 82 | 1 | |

SAMPLE DUPLICATE: 51575

| Parameter | Units | 255893006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 11.7J | | |
| Motor Oil Range SG | mg/kg | 125 | 100 | 22 | |
| n-Octacosane (S) SG | % | 91 | 94 | 7 | |
| o-Terphenyl (S) SG | % | 77 | 80 | 7 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

QC Batch: GCV/2069 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007, 255893008

METHOD BLANK: 51697 Matrix: Solid
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007, 255893008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 12/09/10 12:31 | |
| 4-Bromofluorobenzene (S) | % | 103 | 50-150 | 12/09/10 12:31 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 50-150 | 12/09/10 12:31 | |

LABORATORY CONTROL SAMPLE: 51698

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.2 | 105 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 119 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 107 | 50-150 | |

SAMPLE DUPLICATE: 51583

| Parameter | Units | 255893004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.3J | | |
| 4-Bromofluorobenzene (S) | % | 88 | 94 | 6 | |
| a,a,a-Trifluorotoluene (S) | % | 89 | 99 | 10 | |

SAMPLE DUPLICATE: 51843

| Parameter | Units | 255893006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .58J | | |
| 4-Bromofluorobenzene (S) | % | 94 | 95 | .4 | |
| a,a,a-Trifluorotoluene (S) | % | 97 | 97 | .03 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

QC Batch: ICPM/23886 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

METHOD BLANK: 902297 Matrix: Solid
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.43 | 12/16/10 23:54 | |
| Cadmium | mg/kg | ND | 0.069 | 12/16/10 23:54 | |
| Copper | mg/kg | ND | 0.43 | 12/16/10 23:54 | |
| Lead | mg/kg | ND | 0.43 | 12/16/10 23:54 | |
| Nickel | mg/kg | ND | 0.43 | 12/16/10 23:54 | |

LABORATORY CONTROL SAMPLE: 902298

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 15.7 | 14.7 | 93 | 75-125 | |
| Cadmium | mg/kg | 15.7 | 15.4 | 98 | 75-125 | |
| Copper | mg/kg | 15.7 | 15.9 | 101 | 75-125 | |
| Lead | mg/kg | 15.7 | 15.9 | 101 | 75-125 | |
| Nickel | mg/kg | 15.7 | 15.6 | 99 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 902299 902300

| Parameter | Units | 10144652007 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 5.8 | 17.1 | 16.8 | 21.9 | 21.6 | 94 | 94 | 75-125 | 2 | |
| Cadmium | mg/kg | 0.25 | 17.1 | 16.8 | 20.6 | 19.9 | 119 | 117 | 75-125 | 3 | |
| Copper | mg/kg | 11.2 | 17.1 | 16.8 | 25.9 | 25.9 | 86 | 88 | 75-125 | .05 | |
| Lead | mg/kg | 9.1 | 17.1 | 16.8 | 25.1 | 24.4 | 94 | 91 | 75-125 | 3 | |
| Nickel | mg/kg | 15.7 | 17.1 | 16.8 | 28.2 | 28.7 | 73 | 77 | 75-125 | 2 | M6 |

MATRIX SPIKE SAMPLE: 902301

| Parameter | Units | 255893007 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.0 | 18.9 | 23.5 | 103 | 75-125 | |
| Cadmium | mg/kg | 0.23 | 18.9 | 23.3 | 122 | 75-125 | |
| Copper | mg/kg | 23.4 | 18.9 | 35.8 | 65 | 75-125 | M6 |
| Lead | mg/kg | 10.4 | 18.9 | 29.9 | 103 | 75-125 | |
| Nickel | mg/kg | 31.8 | 18.9 | 37.8 | 32 | 75-125 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

QC Batch: OEXT/3070 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

METHOD BLANK: 51521 Matrix: Solid
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Acenaphthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Anthracene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Chrysene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Fluoranthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Fluorene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Naphthalene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Phenanthrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Pyrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| 2-Fluorobiphenyl (S) | % | 64 | 31-131 | 12/09/10 15:45 | |
| Terphenyl-d14 (S) | % | 80 | 30-133 | 12/09/10 15:45 | |

LABORATORY CONTROL SAMPLE: 51522

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 80.3 | 60 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 81.2 | 61 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 85.2 | 64 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 87.1 | 65 | 31-134 | |
| Anthracene | ug/kg | 133 | 94.6 | 71 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 95.9 | 72 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 112 | 84 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 103 | 77 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 85.9 | 64 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 103 | 77 | 45-147 | |
| Chrysene | ug/kg | 133 | 97.2 | 73 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 87.2 | 65 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 92.8 | 70 | 44-143 | |
| Fluorene | ug/kg | 133 | 88.0 | 66 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 88.4 | 66 | 47-140 | |
| Naphthalene | ug/kg | 133 | 80.3 | 60 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 88.4 | 66 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

LABORATORY CONTROL SAMPLE: 51522

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 98.2 | 74 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 67 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 79 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51523 51524

| Parameter | Units | 255892001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 13.8 | 146 | 147 | 127 | 113 | 78 | 67 | 31-123 | 12 | |
| 2-Methylnaphthalene | ug/kg | 22.7 | 146 | 147 | 141 | 125 | 81 | 69 | 15-146 | 12 | |
| Acenaphthene | ug/kg | 9.0 | 146 | 147 | 131 | 112 | 84 | 70 | 19-141 | 16 | |
| Acenaphthylene | ug/kg | 23.1 | 146 | 147 | 141 | 130 | 81 | 73 | 30-142 | 8 | |
| Anthracene | ug/kg | 42.0 | 146 | 147 | 234 | 154 | 132 | 76 | 38-137 | 41 | R1 |
| Benzo(a)anthracene | ug/kg | 83.6 | 146 | 147 | 295 | 193 | 145 | 75 | 37-143 | 41 | M1,R1 |
| Benzo(a)pyrene | ug/kg | 102 | 146 | 147 | 330 | 212 | 157 | 75 | 33-147 | 43 | M1,R1 |
| Benzo(b)fluoranthene | ug/kg | 53.1 | 146 | 147 | 186 | 131 | 91 | 53 | 25-156 | 34 | R1 |
| Benzo(g,h,i)perylene | ug/kg | 58.5 | 146 | 147 | 215 | 151 | 107 | 63 | 26-142 | 35 | R1 |
| Benzo(k)fluoranthene | ug/kg | 61.3 | 146 | 147 | 245 | 168 | 126 | 73 | 35-142 | 37 | R1 |
| Chrysene | ug/kg | 97.4 | 146 | 147 | 330 | 214 | 159 | 79 | 23-150 | 42 | M1,R1 |
| Dibenz(a,h)anthracene | ug/kg | 18.5 | 146 | 147 | 134 | 110 | 79 | 62 | 41-140 | 20 | R1 |
| Fluoranthene | ug/kg | 136 | 146 | 147 | 391 | 245 | 175 | 74 | 25-155 | 46 | M1,R1 |
| Fluorene | ug/kg | 27.1 | 146 | 147 | 164 | 132 | 94 | 71 | 33-152 | 22 | R1 |
| Indeno(1,2,3-cd)pyrene | ug/kg | 46.4 | 146 | 147 | 196 | 139 | 103 | 63 | 36-139 | 34 | R1 |
| Naphthalene | ug/kg | 29.0 | 146 | 147 | 142 | 129 | 77 | 68 | 25-121 | 9 | |
| Phenanthrene | ug/kg | 148 | 146 | 147 | 487 | 279 | 233 | 90 | 29-141 | 54 | M1,R1 |
| Pyrene | ug/kg | 225 | 146 | 147 | 595 | 364 | 254 | 94 | 36-145 | 48 | M1,R1 |
| 2-Fluorobiphenyl (S) | % | | | | | | 68 | 63 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 75 | 68 | 30-133 | | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

QC Batch: MSV/3555 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007, 255893008

METHOD BLANK: 51309 Matrix: Solid
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007, 255893008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 12/07/10 08:36 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 12/07/10 08:36 | |
| Toluene | ug/kg | ND | 3.0 | 12/07/10 08:36 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 12/07/10 08:36 | |
| 1,2-Dichloroethane-d4 (S) | % | 108 | 80-143 | 12/07/10 08:36 | |
| 4-Bromofluorobenzene (S) | % | 105 | 72-122 | 12/07/10 08:36 | |
| Dibromofluoromethane (S) | % | 103 | 80-136 | 12/07/10 08:36 | |
| Toluene-d8 (S) | % | 112 | 80-120 | 12/07/10 08:36 | |

LABORATORY CONTROL SAMPLE & LCSD: 51310 51311

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 45.8 | 45.8 | 92 | 92 | 75-133 | .1 | 30 | |
| Ethylbenzene | ug/kg | 50 | 50.8 | 51.5 | 102 | 103 | 68-131 | 1 | 30 | |
| Toluene | ug/kg | 50 | 53.2 | 54.0 | 106 | 108 | 73-124 | 2 | 30 | |
| Xylene (Total) | ug/kg | 150 | 142 | 144 | 95 | 96 | 68-130 | 1 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 111 | 106 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 110 | 111 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 107 | 103 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 112 | 111 | 80-120 | | | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

QC Batch: PMST/1445 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255893001, 255893002, 255893003, 255893004, 255893005, 255893006, 255893007

SAMPLE DUPLICATE: 51381

| Parameter | Units | 255906001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 23.8 | 23.6 | .9 | |

SAMPLE DUPLICATE: 51382

| Parameter | Units | 255893003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 9.8 | 9.1 | 7 | |



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Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255893

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255893001** | **SPL-13-1** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893002** | **SPL-13-2** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893003** | **SPL-13-3** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893004** | **SPL-13-4** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893005** | **SPL-13-5** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893006** | **SPL-13-6** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893007** | **SPL-13-7** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255893001** | **SPL-13-1** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893002** | **SPL-13-2** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893003** | **SPL-13-3** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893004** | **SPL-13-4** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893005** | **SPL-13-5** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893006** | **SPL-13-6** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893007** | **SPL-13-7** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893008** | **TB-1318560** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255893001** | **SPL-13-1** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893002** | **SPL-13-2** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893003** | **SPL-13-3** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893004** | **SPL-13-4** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893005** | **SPL-13-5** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893006** | **SPL-13-6** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893007** | **SPL-13-7** | EPA 6020 | ICPM/23886 | EPA 6020 | ICPM/9694 |
| **255893001** | **SPL-13-1** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893002** | **SPL-13-2** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893003** | **SPL-13-3** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893004** | **SPL-13-4** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893005** | **SPL-13-5** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893006** | **SPL-13-6** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893007** | **SPL-13-7** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255893001** | **SPL-13-1** | EPA 8260 | MSV/3555 | | |
| **255893002** | **SPL-13-2** | EPA 8260 | MSV/3555 | | |
| **255893003** | **SPL-13-3** | EPA 8260 | MSV/3555 | | |
| **255893004** | **SPL-13-4** | EPA 8260 | MSV/3555 | | |
| **255893005** | **SPL-13-5** | EPA 8260 | MSV/3555 | | |
| **255893006** | **SPL-13-6** | EPA 8260 | MSV/3555 | | |
| **255893007** | **SPL-13-7** | EPA 8260 | MSV/3555 | | |
| **255893008** | **TB-1318560** | EPA 8260 | MSV/3555 | | |
| **255893001** | **SPL-13-1** | ASTM D2974-87 | PMST/1445 | | |
| **255893002** | **SPL-13-2** | ASTM D2974-87 | PMST/1445 | | |
| **255893003** | **SPL-13-3** | ASTM D2974-87 | PMST/1445 | | |
| **255893004** | **SPL-13-4** | ASTM D2974-87 | PMST/1445 | | |
| **255893005** | **SPL-13-5** | ASTM D2974-87 | PMST/1445 | | |
| **255893006** | **SPL-13-6** | ASTM D2974-87 | PMST/1445 | | |
| **255893007** | **SPL-13-7** | ASTM D2974-87 | PMST/1445 | | |



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# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 255893

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) _____ No _____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 12.1°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 12/9/10

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☐Yes ☑No ☐N/A | 10. DI Water preserved vials for SP2-13-4 received broken, subsampled in lab on 12/09/10 NJS. 13:00 |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☑No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JENNI GROSS Date: 12/16/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1318560

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW #420, Olympia WA 98501
Email To: jturk@brumcald.com
Phone: 360-943-7727 Fax: 360-943-7513
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 135130

**Section C** Invoice Information:

Attention: Jon Turk
Company Name: see A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER ECY

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Dioxin, furans | TPH-D, TPH-HO | PAH, Naphthalene | Pb, Ni, Zn, Cu, Cd | BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Preservatives | | | | | | | | Y/N | | SG | | | SG | | |
| 1 | SPL-13-1 | SL | G | | | 12/2/10 | 13:10 | | 7 | X | | | | | | X | X | | | | | | | | 255893 |
| 2 | SPL-13-2 | | | | | | 13:15 | | | | | | | | | | | | | | | | | | |
| 3 | SPL-13-3 | | | | | | 13:30 | | | | | | | | | | | | | | | | | | |
| 4 | SPL-13-4 | | | | | | 14:00 | | | | | | | | | | | | | | | | | | |
| 5 | SPL-13-5 | | | | | | 14:20 | | | | | | | | | | | | | | | | | | |
| 6 | SPL-13-6 | | | | | | 14:40 | | | | | | | | | | | | | | | | | | |
| 7 | SPL-13-7 | | | | | | 15:00 | | | | | | | | | | | | | | | | | | |
| 8 | TB-13185660 | OT | | | | — | — | | 3 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Kate Green BC | 12/3/10 | 11:00 | custody seal - courtesy transport to PACE | | | | | | |
| | | | | Jyothi Swamy PACE | 12/03/10 | 1610 | 1.1 | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kate Green

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/2/10

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

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

# Sample Container Count

CLIENT: Brown & Caldwell

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COC PAGE 1 of 1
COC ID# 13185560

255893

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 4 | | 1 | 2 | | |
| 2 | | | | | | | | | | 4 | | ↓ | ↓ | | |
| 3 | | | | | | | | | | 4 | | ↓ | ↓ | | |
| 4 | | | | | | | | | | 4 | | 1 | 0 | | |
| 5 | | | | | | | | | | 4 | | 1 | 2 | | |
| 6 | | | | | | | | | | 4 | | ↓ | ↓ | | |
| 7 | | | | | | | | | | 4 | | ↓ | ↓ | | |
| 8 | | | | | | | | | | | | ↓ | ↓ | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

December 17, 2010

## Report Information:

**Pace Project #: 10144557**
**Sample Receipt Date: 12/04/2010**
**Client Project #: 255893**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

December 17, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on seven samples submitted by a representative of Pace Analytica Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 43-89%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected value were flagged "I" where incorrect isotope ratios were obtained. Concentrations above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show the blanks to contain trace levels of selected congeners. These were below the calibration range of the method. The levels reported for the affected congeners in the field samples were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory spike samples were also prepared with the sample batches using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 91-121%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the extraction batches using sample materials from separate projects; results from these analyses will be provided upon request.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10144557

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 255893 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 12/3/2010 **Results Requested By:** ~~12/15/2010~~ 12/17/10

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | As, Ni, Cu, Pb, Cd by 6020 | Dioxin Furans | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-13-1 | PS | 12/3/2010 13:10 | 255893001 | Solid | 2 | X | X | |
| 2 | SPL-13-2 | PS | 12/3/2010 13:15 | 255893002 | Solid | 2 | X | X | |
| 3 | SPL-13-3 | PS | 12/3/2010 13:30 | 255893003 | Solid | 2 | X | X | |
| 4 | SPL-13-4 | PS | 12/3/2010 14:00 | 255893004 | Solid | 2 | X | X | |
| 5 | SPL-13-5 | PS | 12/3/2010 14:20 | 255893005 | Solid | 2 | X | X | |
| 6 | SPL-13-6 | PS | 12/3/2010 14:40 | 255893006 | Solid | 2 | X | X | |
| 7 | SPL-13-7 | PS | 12/3/2010 15:00 | 255893007 | Solid | 2 | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | [illegible] | 12/3 1700 | [illegible] Pace | 12/4 0711:52 |
| 2 | | | | |
| 3 | | | | |

**Comments**

Dioxins are Rush

**Cooler Temperature on Receipt** 3.7 °C **Custody Seal** Y or (N) **Received on Ice** (Y) or N **Samples Intact** (Y) or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE WA **Project #** 10144557

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

**Tracking #:** 7965 1627 0611

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes X No _____

**Thermometer Used** ~~80344042 or~~ 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 3.7 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and Initials of person examining contents:** 12-9-10 K

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☒Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☒Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☒Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☒Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☒Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☒No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☒No ☐N/A | 7. |
| Sufficient Volume: | ☒Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☒Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☒Yes ☐No ☐N/A | |
| Containers Intact: | ☒Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☒N/A | 11. |
| Sample Labels match COC: | ☒Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☒N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☒N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☐No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☒N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☒N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☒N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☒N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** **Field Data Required?** Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 12/6/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-1 | | | |
| Lab Sample ID | 255893001 | | | |
| Filename | F101211B_03 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 9.5 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 12/03/2010 | 13:10 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211B_01 & F101211B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 16:48 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.74 | | 2,3,7,8-TCDF-13C | 2.00 | 75 | |
| Total TCDF | 27.0 | ----- | 0.74 | | 2,3,7,8-TCDD-13C | 2.00 | 89 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 79 | |
| 2,3,7,8-TCDD | ND | ----- | 1.00 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 77 | |
| Total TCDD | 39.0 | ----- | 1.00 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 | |
| 1,2,3,7,8-PeCDF | 4.9 | ----- | 0.66 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 83 | |
| 2,3,4,7,8-PeCDF | 13.0 | ----- | 0.88 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 | |
| Total PeCDF | 100.0 | ----- | 0.77 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 83 | |
| 1,2,3,7,8-PeCDD | 4.5 | ----- | 0.51 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 | |
| Total PeCDD | 56.0 | ----- | 0.51 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 67 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 59 | |
| 1,2,3,4,7,8-HxCDF | 24.0 | ----- | 0.80 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 73 | |
| 1,2,3,6,7,8-HxCDF | 9.2 | ----- | 1.30 | | OCDD-13C | 4.00 | 70 | Y |
| 2,3,4,6,7,8-HxCDF | 13.0 | ----- | 1.40 | | | | | |
| 1,2,3,7,8,9-HxCDF | 9.3 | ----- | 1.50 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 430.0 | ----- | 1.20 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 5.7 | ----- | 1.20 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 | |
| 1,2,3,6,7,8-HxCDD | 23.0 | ----- | 1.30 | | | | | |
| 1,2,3,7,8,9-HxCDD | 10.0 | ----- | 0.77 | | | | | |
| Total HxCDD | 180.0 | ----- | 1.10 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 210.0 | ----- | 0.84 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 22.0 | ----- | 1.60 | | Equivalence: 31 ng/Kg | | | |
| Total HpCDF | 900.0 | ----- | 1.20 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 680.0 | ----- | 2.60 | | | | | |
| Total HpCDD | 1200.0 | ----- | 2.60 | | | | | |
| OCDF | 780.0 | ----- | 1.40 | | | | | |
| OCDD | 10000.0 | ----- | 1.50 | E | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
E = Exceeds calibration range
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-2 | | | |
| Lab Sample ID | 255893002 | | | |
| Filename | F101211B_04 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 9.3 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 12/03/2010 | 13:15 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211B_01 & F101211B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 17:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.3 | ----- | 0.77 | | 2,3,7,8-TCDF-13C | 2.00 | 53 | |
| Total TCDF | 41.0 | ----- | 0.77 | | 2,3,7,8-TCDD-13C | 2.00 | 65 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 55 | |
| 2,3,7,8-TCDD | ND | ----- | 0.78 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 50 | |
| Total TCDD | 40.0 | ----- | 0.78 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 58 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 | |
| 1,2,3,7,8-PeCDF | 6.5 | ----- | 0.76 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 61 | |
| 2,3,4,7,8-PeCDF | 15.0 | ----- | 0.52 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 48 | |
| Total PeCDF | 130.0 | ----- | 0.64 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 55 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 65 | |
| 1,2,3,7,8-PeCDD | 4.0 | ----- | 0.66 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 | |
| Total PeCDD | 59.0 | ----- | 0.66 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 55 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 49 | |
| 1,2,3,4,7,8-HxCDF | 23.0 | ----- | 1.30 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 63 | |
| 1,2,3,6,7,8-HxCDF | 7.3 | ----- | 0.86 | | OCDD-13C | 4.00 | 60 | Y |
| 2,3,4,6,7,8-HxCDF | 12.0 | ----- | 1.80 | | | | | |
| 1,2,3,7,8,9-HxCDF | 9.2 | ----- | 1.80 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 400.0 | ----- | 1.40 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 5.1 | ----- | 1.10 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 | |
| 1,2,3,6,7,8-HxCDD | 28.0 | ----- | 0.85 | | | | | |
| 1,2,3,7,8,9-HxCDD | 8.3 | ----- | 0.74 | | | | | |
| Total HxCDD | 170.0 | ----- | 0.89 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 160.0 | ----- | 1.20 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 14.0 | ----- | 1.60 | | Equivalence: 29 ng/Kg | | | |
| Total HpCDF | 640.0 | ----- | 1.40 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 660.0 | ----- | 2.40 | | | | | |
| Total HpCDD | 1100.0 | ----- | 2.40 | | | | | |
| OCDF | 530.0 | ----- | 3.70 | | | | | |
| OCDD | 6900.0 | ----- | 1.90 | E | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
E = Exceeds calibration range
Y = Calculated using average of daily RFs

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-3 | | | |
| Lab Sample ID | 255893003-R | | | |
| Filename | U101216B_06 | | | |
| Injected By | SMT | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 9.8 | Dilution | NA | |
| Dry Weight Extracted | 11.2 g | Collected | 12/03/2010 | 13:30 |
| ICAL ID | U101204A | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | U101216B_02 & U101216B_17 | Extracted | 12/14/2010 | 17:00 |
| Method Blank ID | BLANK-27272 | Analyzed | 12/16/2010 | 18:06 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.60 | ----- | 0.053 | | 2,3,7,8-TCDF-13C | 2.00 | 56 |
| Total TCDF | 27.00 | ----- | 0.053 | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 57 |
| 2,3,7,8-TCDD | 0.34 | ----- | 0.067 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 57 |
| Total TCDD | 28.00 | ----- | 0.067 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDF | 1.60 | ----- | 0.110 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 60 |
| 2,3,4,7,8-PeCDF | 3.90 | ----- | 0.087 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 60 |
| Total PeCDF | 34.00 | ----- | 0.099 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDD | 1.80 | ----- | 0.060 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 73 |
| Total PeCDD | 38.00 | ----- | 0.060 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 62 |
| 1,2,3,4,7,8-HxCDF | 6.00 | ----- | 0.083 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 81 |
| 1,2,3,6,7,8-HxCDF | 2.80 | ----- | 0.130 | J | OCDD-13C | 4.00 | 53 |
| 2,3,4,6,7,8-HxCDF | 3.30 | ----- | 0.110 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.50 | ----- | 0.120 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 72.00 | ----- | 0.110 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.70 | ----- | 0.170 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 7.70 | ----- | 0.170 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.60 | ----- | 0.160 | | | | |
| Total HxCDD | 77.00 | ----- | 0.170 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 39.00 | ----- | 0.210 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 3.40 | ----- | 0.200 | J | Equivalence: 9.4 ng/Kg | | |
| Total HpCDF | 150.00 | ----- | 0.200 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 190.00 | ----- | 0.490 | | | | |
| Total HpCDD | 350.00 | ----- | 0.490 | | | | |
| OCDF | 120.00 | ----- | 0.120 | | | | |
| OCDD | 2200.00 | ----- | 0.180 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-4 | | | |
| Lab Sample ID | 255893004 | | | |
| Filename | F101211B_06 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 14.6 g | Matrix | Solid | |
| % Moisture | 23.5 | Dilution | NA | |
| Dry Weight Extracted | 11.2 g | Collected | 12/03/2010 | 14:00 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211B_01 & F101211B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 19:12 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 1.1 | 0.47 | I | 2,3,7,8-TCDF-13C | 2.00 | 49 |
| Total TCDF | 6.7 | ----- | 0.47 | | 2,3,7,8-TCDD-13C | 2.00 | 58 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 54 |
| 2,3,7,8-TCDD | ND | ----- | 0.85 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 50 |
| Total TCDD | 16.0 | ----- | 0.85 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 54 |
| 1,2,3,7,8-PeCDF | 2.6 | ----- | 0.45 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 57 |
| 2,3,4,7,8-PeCDF | 5.6 | ----- | 0.71 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 46 |
| Total PeCDF | 39.0 | ----- | 0.58 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 50 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 52 |
| 1,2,3,7,8-PeCDD | 2.8 | ----- | 0.63 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 57 |
| Total PeCDD | 23.0 | ----- | 0.63 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 48 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 43 |
| 1,2,3,4,7,8-HxCDF | 13.0 | ----- | 1.00 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 52 |
| 1,2,3,6,7,8-HxCDF | 5.0 | ----- | 0.55 | | OCDD-13C | 4.00 | 53 Y |
| 2,3,4,6,7,8-HxCDF | 4.9 | ----- | 0.84 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.8 | ----- | 1.50 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 150.0 | ----- | 0.98 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.0 | ----- | 0.85 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 55 |
| 1,2,3,6,7,8-HxCDD | 13.0 | ----- | 1.10 | | | | |
| 1,2,3,7,8,9-HxCDD | 8.0 | ----- | 0.90 | | | | |
| Total HxCDD | 95.0 | ----- | 0.94 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 72.0 | ----- | 0.79 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.3 | ----- | 0.94 | | Equivalence: 16 ng/Kg | | |
| Total HpCDF | 270.0 | ----- | 0.86 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 390.0 | ----- | 2.20 | | | | |
| Total HpCDD | 760.0 | ----- | 2.20 | | | | |
| OCDF | 230.0 | ----- | 1.60 | | | | |
| OCDD | 4600.0 | ----- | 1.20 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present
Y = Calculated using average of daily RFs

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-5 | | | |
| Lab Sample ID | 255893005 | | | |
| Filename | F101211B_07 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 8.5 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 12/03/2010 | 14:20 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211B_01 & F101211B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 20:00 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.0 | ----- | 0.83 | | 2,3,7,8-TCDF-13C | 2.00 | 56 | |
| Total TCDF | 28.0 | ----- | 0.83 | | 2,3,7,8-TCDD-13C | 2.00 | 64 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 59 | |
| 2,3,7,8-TCDD | ND | ----- | 0.90 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 57 | |
| Total TCDD | 24.0 | ----- | 0.90 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 67 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 60 | |
| 1,2,3,7,8-PeCDF | 2.0 | ----- | 0.75 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 58 | |
| 2,3,4,7,8-PeCDF | 4.9 | ----- | 0.93 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 50 | |
| Total PeCDF | 45.0 | ----- | 0.84 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 57 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 59 | |
| 1,2,3,7,8-PeCDD | 1.8 | ----- | 0.68 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 64 | |
| Total PeCDD | 44.0 | ----- | 0.68 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 50 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 48 | |
| 1,2,3,4,7,8-HxCDF | 7.7 | ----- | 1.00 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 58 | |
| 1,2,3,6,7,8-HxCDF | 2.8 | ----- | 1.10 | J | OCDD-13C | 4.00 | 55 | Y |
| 2,3,4,6,7,8-HxCDF | 3.8 | ----- | 1.20 | J | | | | |
| 1,2,3,7,8,9-HxCDF | 2.2 | ----- | 1.80 | J | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 120.0 | ----- | 1.30 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 2.7 | ----- | 0.99 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 | |
| 1,2,3,6,7,8-HxCDD | 7.4 | ----- | 1.00 | | | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 2.9 | 1.00 | I | | | | |
| Total HxCDD | 84.0 | ----- | 1.00 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 57.0 | ----- | 1.10 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 4.9 | ----- | 2.10 | | Equivalence: 10 ng/Kg | | | |
| Total HpCDF | 240.0 | ----- | 1.60 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 200.0 | ----- | 2.10 | | | | | |
| Total HpCDD | 360.0 | ----- | 2.10 | | | | | |
| OCDF | 210.0 | ----- | 3.00 | | | | | |
| OCDD | 2300.0 | ----- | 1.30 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-6 | | | |
| Lab Sample ID | 255893006 | | | |
| Filename | F101211B_08 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 12.6 g | Matrix | Solid | |
| % Moisture | 8.4 | Dilution | NA | |
| Dry Weight Extracted | 11.5 g | Collected | 12/03/2010 | 14:40 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211B_01 & F101211B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 20:48 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.85 | | 2,3,7,8-TCDF-13C | 2.00 | 69 |
| Total TCDF | 3.6 | ----- | 0.85 | | 2,3,7,8-TCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.97 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 75 |
| Total TCDD | 12.0 | ----- | 0.97 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | 1.2 | ----- | 0.56 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 3.1 | ----- | 0.38 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 64 |
| Total PeCDF | 20.0 | ----- | 0.47 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDD | ----- | 1.1 | 0.79 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 80 |
| Total PeCDD | 4.9 | ----- | 0.79 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | 5.3 | ----- | 0.51 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 79 |
| 1,2,3,6,7,8-HxCDF | 2.6 | ----- | 0.74 | J | OCDD-13C | 4.00 | 76 Y |
| 2,3,4,6,7,8-HxCDF | 2.4 | ----- | 0.56 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.3 | ----- | 0.66 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 60.0 | ----- | 0.62 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.6 | ----- | 0.75 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 77 |
| 1,2,3,6,7,8-HxCDD | 5.8 | ----- | 0.79 | | | | |
| 1,2,3,7,8,9-HxCDD | 2.3 | ----- | 0.80 | J | | | |
| Total HxCDD | 45.0 | ----- | 0.78 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 24.0 | ----- | 0.64 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.0 | ----- | 1.20 | J | Equivalence: 5.9 ng/Kg | | |
| Total HpCDF | 87.0 | ----- | 0.91 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 120.0 | ----- | 1.50 | | | | |
| Total HpCDD | 210.0 | ----- | 1.50 | | | | |
| OCDF | 66.0 | ----- | 1.50 | | | | |
| OCDD | 1200.0 | ----- | 2.70 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-13-7 | | | |
| Lab Sample ID | 255893007 | | | |
| Filename | F101211B_09 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.1 g | Matrix | Solid | |
| % Moisture | 9.0 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 12/03/2010 | 15:00 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211B_01 & F101211B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 21:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 5.9 | ----- | 0.98 | | 2,3,7,8-TCDF-13C | 2.00 | 66 | |
| Total TCDF | 66.0 | ----- | 0.98 | | 2,3,7,8-TCDD-13C | 2.00 | 81 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 | |
| 2,3,7,8-TCDD | 1.1 | ----- | 1.00 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 | |
| Total TCDD | 68.0 | ----- | 1.00 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 74 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 | |
| 1,2,3,7,8-PeCDF | 11.0 | ----- | 0.96 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 | |
| 2,3,4,7,8-PeCDF | 31.0 | ----- | 0.93 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 | |
| Total PeCDF | 260.0 | ----- | 0.95 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 73 | |
| 1,2,3,7,8-PeCDD | 6.7 | ----- | 1.00 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 | |
| Total PeCDD | 100.0 | ----- | 1.00 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 | |
| 1,2,3,4,7,8-HxCDF | 51.0 | ----- | 0.94 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 | |
| 1,2,3,6,7,8-HxCDF | 20.0 | ----- | 0.78 | | OCDD-13C | 4.00 | 63 | Y |
| 2,3,4,6,7,8-HxCDF | 23.0 | ----- | 1.20 | | | | | |
| 1,2,3,7,8,9-HxCDF | 16.0 | ----- | 2.70 | | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 820.0 | ----- | 1.40 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ----- | 8.9 | 1.10 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 | |
| 1,2,3,6,7,8-HxCDD | 61.0 | ----- | 1.40 | | | | | |
| 1,2,3,7,8,9-HxCDD | 20.0 | ----- | 1.60 | | | | | |
| Total HxCDD | 300.0 | ----- | 1.40 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 360.0 | ----- | 1.80 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 30.0 | ----- | 2.50 | | Equivalence: 61 ng/Kg | | | |
| Total HpCDF | 1400.0 | ----- | 2.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 1500.0 | ----- | 5.90 | | | | | |
| Total HpCDD | 2500.0 | ----- | 5.90 | | | | | |
| OCDF | 1100.0 | ----- | 2.00 | | | | | |
| OCDD | 14000.0 | ----- | 1.40 | E | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = Exceeds calibration range
I = Interference present
Y = Calculated using average of daily RFs

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27185 | Matrix | Solid |
| Filename | F101210B_10 | Dilution | NA |
| Total Amount Extracted | 20.1 g | Extracted | 12/08/2010 18:00 |
| ICAL ID | F101206 | Analyzed | 12/10/2010 23:59 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Injected By | CVS |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.21 | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | ND | ----- | 0.21 | 2,3,7,8-TCDD-13C | 2.00 | 82 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | 2,3,4,7,8-PeCDF-13C | 2.00 | 60 |
| Total TCDD | ND | ----- | 0.25 | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.21 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 82 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.19 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | ND | ----- | 0.20 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.19 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 81 |
| Total PeCDD | ND | ----- | 0.19 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 53 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.21 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 62 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.20 | OCDD-13C | 4.00 | 46 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.26 | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.40 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.27 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.24 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.30 | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.28 | | | |
| Total HxCDD | ND | ----- | 0.28 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.29 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.49 | Equivalence: 0.36 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.39 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.44 | | | |
| Total HpCDD | ND | ----- | 0.44 | | | |
| OCDF | ND | ----- | 0.74 | | | |
| OCDD | 2.2 | ----- | 1.00 J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27272 | Matrix | Solid |
| Filename | U101216B_05 | Dilution | NA |
| Total Amount Extracted | 10.2 g | Extracted | 12/14/2010 17:00 |
| ICAL ID | U101204A | Analyzed | 12/16/2010 17:17 |
| CCal Filename(s) | U101216B_02 & U101216B_17 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.063 | | 2,3,7,8-TCDF-13C | 2.00 | 52 |
| Total TCDF | ND | ----- | 0.063 | | 2,3,7,8-TCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 58 |
| 2,3,7,8-TCDD | ND | ----- | 0.066 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 58 |
| Total TCDD | ND | ----- | 0.066 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.065 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 62 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.063 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 60 |
| Total PeCDF | 0.120 | ----- | 0.064 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 55 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.056 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | ND | ----- | 0.056 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 64 |
| 1,2,3,4,7,8-HxCDF | 0.078 | ----- | 0.047 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 85 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.074 | 0.051 | I | OCDD-13C | 4.00 | 61 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.077 | 0.047 | I | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.065 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 0.078 | ----- | 0.053 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.057 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.057 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.056 | | | | |
| Total HxCDD | ND | ----- | 0.057 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.370 | ----- | 0.110 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.140 | | Equivalence: 0.11 ng/Kg | | |
| Total HpCDF | 0.370 | ----- | 0.120 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.190 | ----- | 0.089 | J | | | |
| Total HpCDD | 0.400 | ----- | 0.089 | J | | | |
| OCDF | ----- | 0.200 | 0.180 | I | | | |
| OCDD | 1.100 | ----- | 0.310 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27186 | | |
| Filename | F101211A_02 | Matrix | Solid |
| Total Amount Extracted | 20.1 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/08/2010 18:00 |
| CCal Filename(s) | F101211A_01 & F101211A_14 | Analyzed | 12/11/2010 04:47 |
| Method Blank ID | BLANK-27185 | Injected By | CVS |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 121 | 2,3,7,8-TCDF-13C | 2.0 | 68 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 78 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 69 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 98 | 2,3,4,7,8-PeCDF-13C | 2.0 | 62 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 75 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 73 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 113 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 70 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 112 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 63 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 69 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 77 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 69 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 62 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 60 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 112 | OCDD-13C | 4.0 | 54 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 106 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 112 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.0 | 103 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 108 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.1 | 108 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 106 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 101 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.96 | 96 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.1 | 106 | | | |
| OCDD | 2.0 | 2.2 | 108 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27273 | | |
| Filename | U101216B_16 | Matrix | Solid |
| Total Amount Extracted | 10.5 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 12/14/2010 17:00 |
| CCal Filename(s) | U101216B_02 & U101216B_17 | Analyzed | 12/17/2010 02:08 |
| Method Blank ID | BLANK-27272 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 118 | 2,3,7,8-TCDF-13C | 2.0 | 54 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 74 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 54 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 94 | 2,3,4,7,8-PeCDF-13C | 2.0 | 58 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 73 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 108 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 62 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 107 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 58 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 53 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 84 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.91 | 91 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 75 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 69 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 60 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.0 | 103 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 86 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 111 | OCDD-13C | 4.0 | 58 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 108 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 113 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.0 | 101 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 69 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.0 | 103 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 0.99 | 99 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 109 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 104 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.95 | 95 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.0 | 99 | | | |
| OCDD | 2.0 | 2.3 | 113 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Seattle, WA 98108
(206)767-5060

December 16, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255892

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 03, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: John Turk, Brown & Caldwell



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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(206)767-5060

## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255892001** | **SPL-14-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255892002** | **SPL-14-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255892003** | **SPL-14-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255892004** | **SPL-14-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255892005** | **SPL-14-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255892006** | **TB_1391100** | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-1** **Lab ID: 255892001** Collected: 12/03/10 08:40 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.5 | 1 | 12/08/10 12:45 | 12/10/10 16:50 | | |
| Motor Oil Range SG | ND | mg/kg | 81.9 | 1 | 12/08/10 12:45 | 12/10/10 16:50 | 64742-65-0 | |
| n-Octacosane (S) SG | 96 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 16:50 | 630-02-4 | |
| o-Terphenyl (S) SG | 81 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 16:50 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.4 | 1 | 12/07/10 10:00 | 12/08/10 00:12 | | |
| a,a,a-Trifluorotoluene (S) | 106 | % | 50-150 | 1 | 12/07/10 10:00 | 12/08/10 00:12 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 103 | % | 50-150 | 1 | 12/07/10 10:00 | 12/08/10 00:12 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.1** | mg/kg | 0.41 | 20 | 12/07/10 16:52 | 12/11/10 04:50 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.066 | 20 | 12/07/10 16:52 | 12/11/10 04:50 | 7440-43-9 | |
| Copper | **15.3** | mg/kg | 0.41 | 20 | 12/07/10 16:52 | 12/11/10 04:50 | 7440-50-8 | M6 |
| Lead | **5.4** | mg/kg | 0.41 | 20 | 12/07/10 16:52 | 12/11/10 04:50 | 7439-92-1 | |
| Nickel | **15.6** | mg/kg | 0.41 | 20 | 12/07/10 16:52 | 12/11/10 04:50 | 7440-02-0 | M6 |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **9.0** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 83-32-9 | |
| Acenaphthylene | **23.1** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 208-96-8 | |
| Anthracene | **42.0** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 120-12-7 | |
| Benzo(a)anthracene | **83.6** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 56-55-3 | |
| Benzo(a)pyrene | **102** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 50-32-8 | |
| Benzo(b)fluoranthene | **53.1** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 205-99-2 | |
| Benzo(g,h,i)perylene | **58.5** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 191-24-2 | |
| Benzo(k)fluoranthene | **61.3** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 207-08-9 | |
| Chrysene | **97.4** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 218-01-9 | |
| Dibenz(a,h)anthracene | **18.5** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 53-70-3 | |
| Fluoranthene | **136** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 206-44-0 | |
| Fluorene | **27.1** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **46.4** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 193-39-5 | |
| 1-Methylnaphthalene | **13.8** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 90-12-0 | |
| 2-Methylnaphthalene | **22.7** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 91-57-6 | |
| Naphthalene | **29.0** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 91-20-3 | |
| Phenanthrene | **148** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 85-01-8 | |
| Pyrene | **225** | ug/kg | 7.3 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 321-60-8 | |
| Terphenyl-d14 (S) | 73 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 17:19 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.5 | 1 | | 12/07/10 11:22 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.5 | 1 | | 12/07/10 11:22 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.5 | 1 | | 12/07/10 11:22 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.5 | 1 | | 12/07/10 11:22 | 1330-20-7 | |
| Dibromofluoromethane (S) | 108 | % | 80-136 | 1 | | 12/07/10 11:22 | 1868-53-7 | |



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Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-1** **Lab ID: 255892001** Collected: 12/03/10 08:40 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 12/07/10 11:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 12/07/10 11:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 113 | % | 80-143 | 1 | | 12/07/10 11:22 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.1** | % | 0.10 | 1 | | 12/06/10 17:13 | | |

**Sample: SPL-14-2** **Lab ID: 255892002** Collected: 12/03/10 09:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.6 | 1 | 12/08/10 12:45 | 12/10/10 17:37 | | |
| Motor Oil Range SG | ND | mg/kg | 86.3 | 1 | 12/08/10 12:45 | 12/10/10 17:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 103 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 17:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 81 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 17:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 12/07/10 10:00 | 12/07/10 23:48 | | |
| a,a,a-Trifluorotoluene (S) | 107 | % | 50-150 | 1 | 12/07/10 10:00 | 12/07/10 23:48 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 103 | % | 50-150 | 1 | 12/07/10 10:00 | 12/07/10 23:48 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 0.44 | 20 | 12/07/10 16:52 | 12/11/10 05:17 | 7440-38-2 | |
| Cadmium | **0.083** | mg/kg | 0.070 | 20 | 12/07/10 16:52 | 12/11/10 05:17 | 7440-43-9 | |
| Copper | **21.4** | mg/kg | 0.44 | 20 | 12/07/10 16:52 | 12/11/10 05:17 | 7440-50-8 | |
| Lead | **8.6** | mg/kg | 0.44 | 20 | 12/07/10 16:52 | 12/11/10 05:17 | 7439-92-1 | |
| Nickel | **22.2** | mg/kg | 0.44 | 20 | 12/07/10 16:52 | 12/11/10 05:17 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **24.9** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 83-32-9 | |
| Acenaphthylene | **183** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 208-96-8 | |
| Anthracene | **236** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 120-12-7 | |
| Benzo(a)anthracene | **502** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 56-55-3 | |
| Benzo(a)pyrene | **498** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 50-32-8 | |
| Benzo(b)fluoranthene | **261** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 205-99-2 | |
| Benzo(g,h,i)perylene | **255** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 191-24-2 | |
| Benzo(k)fluoranthene | **336** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 207-08-9 | |
| Chrysene | **562** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 218-01-9 | |
| Dibenz(a,h)anthracene | **86.9** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 53-70-3 | |
| Fluoranthene | **725** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 206-44-0 | |
| Fluorene | **93.4** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **234** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-2** **Lab ID: 255892002** Collected: 12/03/10 09:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **18.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 90-12-0 | |
| 2-Methylnaphthalene | **24.8** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 91-57-6 | |
| Naphthalene | **48.0** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 91-20-3 | |
| Phenanthrene | **971** | ug/kg | 72.0 | 10 | 12/08/10 12:10 | 12/10/10 17:04 | 85-01-8 | |
| Pyrene | **1130** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 321-60-8 | |
| Terphenyl-d14 (S) | 80 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 18:07 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.6 | 1 | | 12/07/10 11:41 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.6 | 1 | | 12/07/10 11:41 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.6 | 1 | | 12/07/10 11:41 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.9 | 1 | | 12/07/10 11:41 | 1330-20-7 | |
| Dibromofluoromethane (S) | 107 | % | 80-136 | 1 | | 12/07/10 11:41 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 12/07/10 11:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 72-122 | 1 | | 12/07/10 11:41 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 112 | % | 80-143 | 1 | | 12/07/10 11:41 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.8** | % | 0.10 | 1 | | 12/06/10 17:14 | | |

**Sample: SPL-14-3** **Lab ID: 255892003** Collected: 12/03/10 09:20 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.5 | 1 | 12/08/10 12:45 | 12/10/10 18:00 | | |
| Motor Oil Range SG | **103** | mg/kg | 85.9 | 1 | 12/08/10 12:45 | 12/10/10 18:00 | 64742-65-0 | |
| n-Octacosane (S) SG | 101 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 18:00 | 630-02-4 | |
| o-Terphenyl (S) SG | 86 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 18:00 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 12/07/10 10:00 | 12/08/10 00:35 | | |
| a,a,a-Trifluorotoluene (S) | 116 | % | 50-150 | 1 | 12/07/10 10:00 | 12/08/10 00:35 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 112 | % | 50-150 | 1 | 12/07/10 10:00 | 12/08/10 00:35 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.2** | mg/kg | 0.40 | 20 | 12/07/10 16:52 | 12/11/10 05:26 | 7440-38-2 | |
| Cadmium | **0.084** | mg/kg | 0.064 | 20 | 12/07/10 16:52 | 12/11/10 05:26 | 7440-43-9 | |
| Copper | **17.3** | mg/kg | 0.40 | 20 | 12/07/10 16:52 | 12/11/10 05:26 | 7440-50-8 | |
| Lead | **6.3** | mg/kg | 0.40 | 20 | 12/07/10 16:52 | 12/11/10 05:26 | 7439-92-1 | |
| Nickel | **25.1** | mg/kg | 0.40 | 20 | 12/07/10 16:52 | 12/11/10 05:26 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-3** **Lab ID: 255892003** Collected: 12/03/10 09:20 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 83-32-9 | |
| Acenaphthylene | **20.3** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 208-96-8 | |
| Anthracene | **31.5** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 120-12-7 | |
| Benzo(a)anthracene | **56.8** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 56-55-3 | |
| Benzo(a)pyrene | **71.9** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 50-32-8 | |
| Benzo(b)fluoranthene | **46.1** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 205-99-2 | |
| Benzo(g,h,i)perylene | **45.0** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 191-24-2 | |
| Benzo(k)fluoranthene | **40.6** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 207-08-9 | |
| Chrysene | **69.3** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 218-01-9 | |
| Dibenz(a,h)anthracene | **13.3** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 53-70-3 | |
| Fluoranthene | **82.0** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 206-44-0 | |
| Fluorene | **9.8** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **33.9** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 193-39-5 | |
| 1-Methylnaphthalene | **8.6** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 90-12-0 | |
| 2-Methylnaphthalene | **11.8** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 91-57-6 | |
| Naphthalene | **14.1** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 91-20-3 | |
| Phenanthrene | **76.8** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 85-01-8 | |
| Pyrene | **124** | ug/kg | 7.4 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 321-60-8 | |
| Terphenyl-d14 (S) | 71 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 18:22 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 12/07/10 12:00 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 12/07/10 12:00 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 12/07/10 12:00 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 12/07/10 12:00 | 1330-20-7 | |
| Dibromofluoromethane (S) | 110 | % | 80-136 | 1 | | 12/07/10 12:00 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 12/07/10 12:00 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 118 | % | 72-122 | 1 | | 12/07/10 12:00 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 114 | % | 80-143 | 1 | | 12/07/10 12:00 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.6** | % | 0.10 | 1 | | 12/06/10 17:15 | | |

**Sample: SPL-14-4** **Lab ID: 255892004** Collected: 12/03/10 09:40 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **52.2** | mg/kg | 21.3 | 1 | 12/08/10 12:45 | 12/10/10 18:23 | | |
| Motor Oil Range SG | **165** | mg/kg | 85.4 | 1 | 12/08/10 12:45 | 12/10/10 18:23 | 64742-65-0 | |
| n-Octacosane (S) SG | 96 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 18:23 | 630-02-4 | |
| o-Terphenyl (S) SG | 81 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 18:23 | 84-15-1 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-4** **Lab ID: 255892004** Collected: 12/03/10 09:40 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.7 | 1 | 12/09/10 10:00 | 12/09/10 14:54 | | |
| a,a,a-Trifluorotoluene (S) | 107 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 14:54 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 107 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 14:54 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.0** | mg/kg | 0.42 | 20 | 12/07/10 16:52 | 12/11/10 05:35 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.068 | 20 | 12/07/10 16:52 | 12/11/10 05:35 | 7440-43-9 | |
| Copper | **17.3** | mg/kg | 0.42 | 20 | 12/07/10 16:52 | 12/11/10 05:35 | 7440-50-8 | |
| Lead | **7.4** | mg/kg | 0.42 | 20 | 12/07/10 16:52 | 12/11/10 05:35 | 7439-92-1 | |
| Nickel | **21.6** | mg/kg | 0.42 | 20 | 12/07/10 16:52 | 12/11/10 05:35 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **7.7** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 83-32-9 | |
| Acenaphthylene | **27.9** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 208-96-8 | |
| Anthracene | **44.0** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 120-12-7 | |
| Benzo(a)anthracene | **93.1** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 56-55-3 | |
| Benzo(a)pyrene | **109** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 50-32-8 | |
| Benzo(b)fluoranthene | **57.0** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 205-99-2 | |
| Benzo(g,h,i)perylene | **62.7** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 191-24-2 | |
| Benzo(k)fluoranthene | **65.6** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 207-08-9 | |
| Chrysene | **109** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 218-01-9 | |
| Dibenz(a,h)anthracene | **19.5** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 53-70-3 | |
| Fluoranthene | **133** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 206-44-0 | |
| Fluorene | **18.3** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **49.9** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 193-39-5 | |
| 1-Methylnaphthalene | **13.7** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 90-12-0 | |
| 2-Methylnaphthalene | **23.9** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 91-57-6 | |
| Naphthalene | **24.5** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 91-20-3 | |
| Phenanthrene | **128** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 85-01-8 | |
| Pyrene | **220** | ug/kg | 7.5 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 64 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 321-60-8 | |
| Terphenyl-d14 (S) | 70 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 18:38 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.2 | 1 | | 12/07/10 12:19 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.2 | 1 | | 12/07/10 12:19 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.2 | 1 | | 12/07/10 12:19 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.7 | 1 | | 12/07/10 12:19 | 1330-20-7 | |
| Dibromofluoromethane (S) | 106 | % | 80-136 | 1 | | 12/07/10 12:19 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 12/07/10 12:19 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 122 | % | 72-122 | 1 | | 12/07/10 12:19 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 112 | % | 80-143 | 1 | | 12/07/10 12:19 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.4** | % | 0.10 | 1 | | 12/06/10 17:16 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-5** **Lab ID: 255892005** Collected: 12/03/10 10:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **37.4** | mg/kg | 20.5 | 1 | 12/08/10 12:45 | 12/10/10 18:47 | | |
| Motor Oil Range SG | **138** | mg/kg | 82.1 | 1 | 12/08/10 12:45 | 12/10/10 18:47 | 64742-65-0 | |
| n-Octacosane (S) SG | 104 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 18:47 | 630-02-4 | |
| o-Terphenyl (S) SG | 82 | % | 50-150 | 1 | 12/08/10 12:45 | 12/10/10 18:47 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 12/09/10 10:00 | 12/09/10 15:18 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 15:18 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 94 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 15:18 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.0** | mg/kg | 0.49 | 20 | 12/07/10 16:52 | 12/11/10 05:44 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.079 | 20 | 12/07/10 16:52 | 12/11/10 05:44 | 7440-43-9 | |
| Copper | **27.4** | mg/kg | 0.49 | 20 | 12/07/10 16:52 | 12/11/10 05:44 | 7440-50-8 | |
| Lead | **7.7** | mg/kg | 0.49 | 20 | 12/07/10 16:52 | 12/11/10 05:44 | 7439-92-1 | |
| Nickel | **26.2** | mg/kg | 0.49 | 20 | 12/07/10 16:52 | 12/11/10 05:44 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **17.1** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 83-32-9 | |
| Acenaphthylene | **42.4** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 208-96-8 | |
| Anthracene | **89.2** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 120-12-7 | |
| Benzo(a)anthracene | **145** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 56-55-3 | |
| Benzo(a)pyrene | **182** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 50-32-8 | |
| Benzo(b)fluoranthene | **81.9** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 205-99-2 | |
| Benzo(g,h,i)perylene | **99.8** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 191-24-2 | |
| Benzo(k)fluoranthene | **125** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 207-08-9 | |
| Chrysene | **168** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 218-01-9 | |
| Dibenz(a,h)anthracene | **40.3** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 53-70-3 | |
| Fluoranthene | **246** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 206-44-0 | |
| Fluorene | **51.1** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **85.5** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 193-39-5 | |
| 1-Methylnaphthalene | **29.7** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 90-12-0 | |
| 2-Methylnaphthalene | **48.8** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 91-57-6 | |
| Naphthalene | **45.8** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 91-20-3 | |
| Phenanthrene | **300** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 85-01-8 | |
| Pyrene | **363** | ug/kg | 7.2 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 61 | % | 31-131 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 321-60-8 | |
| Terphenyl-d14 (S) | 64 | % | 30-133 | 1 | 12/08/10 12:10 | 12/09/10 18:54 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 12/07/10 12:38 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 12/07/10 12:38 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 12/07/10 12:38 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.3 | 1 | | 12/07/10 12:38 | 1330-20-7 | |
| Dibromofluoromethane (S) | 84 | % | 80-136 | 1 | | 12/07/10 12:38 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

**Sample: SPL-14-5** **Lab ID: 255892005** Collected: 12/03/10 10:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 12/07/10 12:38 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 109 | % | 72-122 | 1 | | 12/07/10 12:38 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 12/07/10 12:38 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.8** | % | 0.10 | 1 | | 12/06/10 17:17 | | |

**Sample: TB_1391100** **Lab ID: 255892006** Collected: 12/03/10 00:00 Received: 12/03/10 16:10 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 12/09/10 10:00 | 12/09/10 14:07 | | |
| a,a,a-Trifluorotoluene (S) | 107 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 14:07 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 102 | % | 50-150 | 1 | 12/09/10 10:00 | 12/09/10 14:07 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 12/07/10 09:10 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 12/07/10 09:10 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 12/07/10 09:10 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 12/07/10 09:10 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 12/07/10 09:10 | 1868-53-7 | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 12/07/10 09:10 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 110 | % | 72-122 | 1 | | 12/07/10 09:10 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 80-143 | 1 | | 12/07/10 09:10 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: OEXT/3071 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

METHOD BLANK: 51572 Matrix: Solid
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 12/10/10 16:03 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 12/10/10 16:03 | |
| n-Octacosane (S) SG | % | 89 | 50-150 | 12/10/10 16:03 | |
| o-Terphenyl (S) SG | % | 75 | 50-150 | 12/10/10 16:03 | |

LABORATORY CONTROL SAMPLE: 51573

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 422 | 84 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 443 | 89 | 50-150 | |
| n-Octacosane (S) SG | % | | | 95 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 51574

| Parameter | Units | 255892001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.6 | | |
| Motor Oil Range SG | mg/kg | ND | 73.6J | | |
| n-Octacosane (S) SG | % | 96 | 98 | .9 | |
| o-Terphenyl (S) SG | % | 81 | 82 | 1 | |

SAMPLE DUPLICATE: 51575

| Parameter | Units | 255893006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 11.7J | | |
| Motor Oil Range SG | mg/kg | 125 | 100 | 22 | |
| n-Octacosane (S) SG | % | 91 | 94 | 7 | |
| o-Terphenyl (S) SG | % | 77 | 80 | 7 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: GCV/2066 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255892001, 255892002, 255892003

METHOD BLANK: 51423 Matrix: Solid
Associated Lab Samples: 255892001, 255892002, 255892003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 12/07/10 21:05 | |
| 4-Bromofluorobenzene (S) | % | 99 | 50-150 | 12/07/10 21:05 | |
| a,a,a-Trifluorotoluene (S) | % | 92 | 50-150 | 12/07/10 21:05 | |

LABORATORY CONTROL SAMPLE: 51424

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.2 | 106 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 128 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 114 | 50-150 | |

SAMPLE DUPLICATE: 51582

| Parameter | Units | 255892002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 4.1J | | |
| 4-Bromofluorobenzene (S) | % | 103 | 99 | 4 | |
| a,a,a-Trifluorotoluene (S) | % | 107 | 99 | 8 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: GCV/2069 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255892004, 255892005, 255892006

METHOD BLANK: 51697 Matrix: Solid
Associated Lab Samples: 255892004, 255892005, 255892006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 12/09/10 12:31 | |
| 4-Bromofluorobenzene (S) | % | 103 | 50-150 | 12/09/10 12:31 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 50-150 | 12/09/10 12:31 | |

LABORATORY CONTROL SAMPLE: 51698

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.2 | 105 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 119 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 107 | 50-150 | |

SAMPLE DUPLICATE: 51583

| Parameter | Units | 255893004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.3J | | |
| 4-Bromofluorobenzene (S) | % | 88 | 94 | 6 | |
| a,a,a-Trifluorotoluene (S) | % | 89 | 99 | 10 | |

SAMPLE DUPLICATE: 51843

| Parameter | Units | 255893006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .58J | | |
| 4-Bromofluorobenzene (S) | % | 94 | 95 | .4 | |
| a,a,a-Trifluorotoluene (S) | % | 97 | 97 | .03 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: ICPM/23872 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

METHOD BLANK: 901817 Matrix: Solid
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.50 | 12/11/10 02:27 | |
| Cadmium | mg/kg | ND | 0.079 | 12/11/10 02:27 | |
| Copper | mg/kg | ND | 0.50 | 12/11/10 02:27 | |
| Lead | mg/kg | ND | 0.50 | 12/11/10 02:27 | |
| Nickel | mg/kg | ND | 0.50 | 12/11/10 02:27 | |

LABORATORY CONTROL SAMPLE: 901818

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 14.8 | 14.1 | 95 | 75-125 | |
| Cadmium | mg/kg | 14.8 | 14.1 | 95 | 75-125 | |
| Copper | mg/kg | 14.8 | 14.3 | 97 | 75-125 | |
| Lead | mg/kg | 14.8 | 14.5 | 98 | 75-125 | |
| Nickel | mg/kg | 14.8 | 14.2 | 96 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 901819 901820

| Parameter | Units | 10144578006 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.8 | 19.6 | 20.2 | 22.9 | 24.3 | 93 | 97 | 75-125 | 6 | |
| Cadmium | mg/kg | 0.17 | 19.6 | 20.2 | 18.5 | 18.8 | 93 | 92 | 75-125 | 2 | |
| Copper | mg/kg | 10.2 | 19.6 | 20.2 | 28.4 | 30.6 | 93 | 101 | 75-125 | 7 | |
| Lead | mg/kg | 7.7 | 19.6 | 20.2 | 26.8 | 28.5 | 98 | 103 | 75-125 | 6 | |
| Nickel | mg/kg | 13.9 | 19.6 | 20.2 | 33.9 | 36.8 | 102 | 114 | 75-125 | 8 | |

MATRIX SPIKE SAMPLE: 901821

| Parameter | Units | 255892001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.1 | 18.6 | 23.1 | 102 | 75-125 | |
| Cadmium | mg/kg | ND | 18.6 | 17.3 | 93 | 75-125 | |
| Copper | mg/kg | 15.3 | 18.6 | 43.9 | 154 | 75-125 | M6 |
| Lead | mg/kg | 5.4 | 18.6 | 25.4 | 108 | 75-125 | |
| Nickel | mg/kg | 15.6 | 18.6 | 46.9 | 169 | 75-125 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: OEXT/3070 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

METHOD BLANK: 51521 | Matrix: Solid
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Acenaphthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Anthracene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Chrysene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Fluoranthene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Fluorene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Naphthalene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Phenanthrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| Pyrene | ug/kg | ND | 6.7 | 12/09/10 15:45 | |
| 2-Fluorobiphenyl (S) | % | 64 | 31-131 | 12/09/10 15:45 | |
| Terphenyl-d14 (S) | % | 80 | 30-133 | 12/09/10 15:45 | |

LABORATORY CONTROL SAMPLE: 51522

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 80.3 | 60 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 81.2 | 61 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 85.2 | 64 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 87.1 | 65 | 31-134 | |
| Anthracene | ug/kg | 133 | 94.6 | 71 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 95.9 | 72 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 112 | 84 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 103 | 77 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 85.9 | 64 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 103 | 77 | 45-147 | |
| Chrysene | ug/kg | 133 | 97.2 | 73 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 87.2 | 65 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 92.8 | 70 | 44-143 | |
| Fluorene | ug/kg | 133 | 88.0 | 66 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 88.4 | 66 | 47-140 | |
| Naphthalene | ug/kg | 133 | 80.3 | 60 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 88.4 | 66 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

LABORATORY CONTROL SAMPLE: 51522

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 98.2 | 74 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 67 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 79 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51523 51524

| Parameter | Units | 255892001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 13.8 | 146 | 147 | 127 | 113 | 78 | 67 | 31-123 | 12 | |
| 2-Methylnaphthalene | ug/kg | 22.7 | 146 | 147 | 141 | 125 | 81 | 69 | 15-146 | 12 | |
| Acenaphthene | ug/kg | 9.0 | 146 | 147 | 131 | 112 | 84 | 70 | 19-141 | 16 | |
| Acenaphthylene | ug/kg | 23.1 | 146 | 147 | 141 | 130 | 81 | 73 | 30-142 | 8 | |
| Anthracene | ug/kg | 42.0 | 146 | 147 | 234 | 154 | 132 | 76 | 38-137 | 41 | R1 |
| Benzo(a)anthracene | ug/kg | 83.6 | 146 | 147 | 295 | 193 | 145 | 75 | 37-143 | 41 | M1,R1 |
| Benzo(a)pyrene | ug/kg | 102 | 146 | 147 | 330 | 212 | 157 | 75 | 33-147 | 43 | M1,R1 |
| Benzo(b)fluoranthene | ug/kg | 53.1 | 146 | 147 | 186 | 131 | 91 | 53 | 25-156 | 34 | R1 |
| Benzo(g,h,i)perylene | ug/kg | 58.5 | 146 | 147 | 215 | 151 | 107 | 63 | 26-142 | 35 | R1 |
| Benzo(k)fluoranthene | ug/kg | 61.3 | 146 | 147 | 245 | 168 | 126 | 73 | 35-142 | 37 | R1 |
| Chrysene | ug/kg | 97.4 | 146 | 147 | 330 | 214 | 159 | 79 | 23-150 | 42 | M1,R1 |
| Dibenz(a,h)anthracene | ug/kg | 18.5 | 146 | 147 | 134 | 110 | 79 | 62 | 41-140 | 20 | R1 |
| Fluoranthene | ug/kg | 136 | 146 | 147 | 391 | 245 | 175 | 74 | 25-155 | 46 | M1,R1 |
| Fluorene | ug/kg | 27.1 | 146 | 147 | 164 | 132 | 94 | 71 | 33-152 | 22 | R1 |
| Indeno(1,2,3-cd)pyrene | ug/kg | 46.4 | 146 | 147 | 196 | 139 | 103 | 63 | 36-139 | 34 | R1 |
| Naphthalene | ug/kg | 29.0 | 146 | 147 | 142 | 129 | 77 | 68 | 25-121 | 9 | |
| Phenanthrene | ug/kg | 148 | 146 | 147 | 487 | 279 | 233 | 90 | 29-141 | 54 | M1,R1 |
| Pyrene | ug/kg | 225 | 146 | 147 | 595 | 364 | 254 | 94 | 36-145 | 48 | M1,R1 |
| 2-Fluorobiphenyl (S) | % | | | | | | 68 | 63 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 75 | 68 | 30-133 | | |



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Pace Analytical Services, Inc.
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: MSV/3555 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005, 255892006

METHOD BLANK: 51309 Matrix: Solid
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005, 255892006

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 12/07/10 08:36 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 12/07/10 08:36 | |
| Toluene | ug/kg | ND | 3.0 | 12/07/10 08:36 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 12/07/10 08:36 | |
| 1,2-Dichloroethane-d4 (S) | % | 108 | 80-143 | 12/07/10 08:36 | |
| 4-Bromofluorobenzene (S) | % | 105 | 72-122 | 12/07/10 08:36 | |
| Dibromofluoromethane (S) | % | 103 | 80-136 | 12/07/10 08:36 | |
| Toluene-d8 (S) | % | 112 | 80-120 | 12/07/10 08:36 | |

LABORATORY CONTROL SAMPLE & LCSD: 51310 51311

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 45.8 | 45.8 | 92 | 92 | 75-133 | .1 | 30 | |
| Ethylbenzene | ug/kg | 50 | 50.8 | 51.5 | 102 | 103 | 68-131 | 1 | 30 | |
| Toluene | ug/kg | 50 | 53.2 | 54.0 | 106 | 108 | 73-124 | 2 | 30 | |
| Xylene (Total) | ug/kg | 150 | 142 | 144 | 95 | 96 | 68-130 | 1 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 111 | 106 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 110 | 111 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 107 | 103 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 112 | 111 | 80-120 | | | |



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Seattle, WA 98108
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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

QC Batch: PMST/1445 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255892001, 255892002, 255892003, 255892004, 255892005

SAMPLE DUPLICATE: 51381

| Parameter | Units | 255906001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 23.8 | 23.6 | .9 | |

SAMPLE DUPLICATE: 51382

| Parameter | Units | 255893003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 9.8 | 9.1 | 7 | |



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Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255892

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255892001** | **SPL-14-1** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255892002** | **SPL-14-2** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255892003** | **SPL-14-3** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255892004** | **SPL-14-4** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255892005** | **SPL-14-5** | EPA 3546 | OEXT/3071 | NWTPH-Dx | GCSV/2136 |
| **255892001** | **SPL-14-1** | NWTPH-Gx | GCV/2066 | NWTPH-Gx | GCV/2070 |
| **255892002** | **SPL-14-2** | NWTPH-Gx | GCV/2066 | NWTPH-Gx | GCV/2070 |
| **255892003** | **SPL-14-3** | NWTPH-Gx | GCV/2066 | NWTPH-Gx | GCV/2070 |
| **255892004** | **SPL-14-4** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255892005** | **SPL-14-5** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255892006** | **TB_1391100** | NWTPH-Gx | GCV/2069 | NWTPH-Gx | GCV/2073 |
| **255892001** | **SPL-14-1** | EPA 6020 | ICPM/23872 | EPA 6020 | ICPM/9675 |
| **255892002** | **SPL-14-2** | EPA 6020 | ICPM/23872 | EPA 6020 | ICPM/9675 |
| **255892003** | **SPL-14-3** | EPA 6020 | ICPM/23872 | EPA 6020 | ICPM/9675 |
| **255892004** | **SPL-14-4** | EPA 6020 | ICPM/23872 | EPA 6020 | ICPM/9675 |
| **255892005** | **SPL-14-5** | EPA 6020 | ICPM/23872 | EPA 6020 | ICPM/9675 |
| **255892001** | **SPL-14-1** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255892002** | **SPL-14-2** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255892003** | **SPL-14-3** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255892004** | **SPL-14-4** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255892005** | **SPL-14-5** | EPA 3546 | OEXT/3070 | EPA 8270 by SIM | MSSV/1463 |
| **255892001** | **SPL-14-1** | EPA 8260 | MSV/3555 | | |
| **255892002** | **SPL-14-2** | EPA 8260 | MSV/3555 | | |
| **255892003** | **SPL-14-3** | EPA 8260 | MSV/3555 | | |
| **255892004** | **SPL-14-4** | EPA 8260 | MSV/3555 | | |
| **255892005** | **SPL-14-5** | EPA 8260 | MSV/3555 | | |
| **255892006** | **TB_1391100** | EPA 8260 | MSV/3555 | | |
| **255892001** | **SPL-14-1** | ASTM D2974-87 | PMST/1445 | | |
| **255892002** | **SPL-14-2** | ASTM D2974-87 | PMST/1445 | | |
| **255892003** | **SPL-14-3** | ASTM D2974-87 | PMST/1445 | | |
| **255892004** | **SPL-14-4** | ASTM D2974-87 | PMST/1445 | | |
| **255892005** | **SPL-14-5** | ASTM D2974-87 | PMST/1445 | | |



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# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 255892

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.3°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 12/3/10

Temp should be above freezing ≤ 6°C

| | | Comments: | |
|---|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. | |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. | |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. | |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. | |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. | |
| Short Hold Time Analysis (<72hr): | ☐Yes ☑No ☐N/A | 6. | |
| Rush Turn Around Time Requested: | ☐Yes ☑No ☐N/A | 7. | |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. | |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. | |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. | |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. | |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. | |
| -Includes date/time/ID/Analysis Matrix: Soil | | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed | Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. | |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. | |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. | |
| Trip Blank Custody Seals Present | ☐Yes ☑No ☐N/A | | |
| Pace Trip Blank Lot # (if purchased): _____ | | | |

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JENNI GROSS Date: 12/6/10

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

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

255892

Page: of

1391160

**Section A** Required Client Information:

Company: Braun + Caldwell
Address: 724 Columbia St NW #420, Olympia WA 98501
Email To: jturk@braincaid.com
Phone: Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 135136

**Section C** Invoice Information:

Attention: Jon Turk
Company Name: see A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER BCX

Site Location STATE: WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other DI water | Analysis Test (Y/N) | TPH-Dx, TPH-D (SG) | Dioxin, Furan | chlor, Naphthalene | Cu, Cd, Pb, Ni, As | BTEX, TPH-G (SG) | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-14-1 | SL | G | | | 12/3/10 | 8:40 | | 7 | X | | | | | | X | X | | | | | | | | |
| 2 | SPL-14-2 | | | | | | 9:00 | | | | | | | | | | | | | | | | | | |
| 3 | SPL-14-3 | | | | | | 9:20 | | | | | | | | | | | | | | | | | | |
| 4 | SPL-14-4 | | | | | | 9:40 | | | | | | | | | | | | | | | | | | |
| 5 | SPL-14-5 | | | | | | 10:00 | | | | | | | | | | | | | | | | | | |
| 6 | TB-139111LAB | OT | | | | | — | | 3 | | | | | | | X | X | | | | | X | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Kate Green BC | 12/3/10 | 11:00 | custody seal - courier Pace | | | | | | |
| | | | | Jyothi Swamy | 12/3/10 | 16:10 | 1.3 | 4 | 4 | 4 |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kate Green

SIGNATURE of SAMPLER: Kate Green

DATE Signed (MM/DD/YY): 12/3/2010

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

CLIENT: Brown & Caldwell

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COC PAGE 1 of 1
COC ID# 1391160

255892

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VGaw | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 4 | | 1 | 2 | | |
| 2 | | | | | | | | | | 4 | | | | | |
| 3 | | | | | | | | | | 4 | | | | | |
| 4 | | | | | | | | | | 4 | | | | | |
| 5 | | | | | | | | | | 4 | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

**Pace Analytical Services, Inc.**
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www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

December 14, 2010

## Report Information:

**Pace Project #: 10144556**
**Sample Receipt Date: 12/04/2010**
**Client Project #: 255892**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

December 14, 2010

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on five samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 32-89%. With the exceptions of four low values, which were flagged "R" on the results tables, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected value were flagged "I" where incorrect isotope ratios were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits, with the exception of a trace level of OCDD. This was below the calibration range of the method. The OCDD levels reported for the field samples were higher than the OCDD level in the blank by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 86-121%, with relative percent differences of 0.1-14.7%. These results indicate generally high degrees of accuracy and precision for these determinations. The background-subtracted recovery value obtained for OCDD in the matrix spike duplicate sample was above the 70-130% target range and may indicate a high bias for this congener in these determinations.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

# Chain of Custody

10144556

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**Workorder:** 255892 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 12/3/2010 **Results Requested By:** ~~12/15/2010~~ 12/17/10

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxins, Furans | 6020 As, Ni, Cu, Cd, Pb | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-14-1 | PS | 12/3/2010 08:40 | 255892001 | Solid | 2 | X | X | |
| 2 | SPL-14-2 | PS | 12/3/2010 09:00 | 255892002 | Solid | 2 | X | X | |
| 3 | SPL-14-3 | PS | 12/3/2010 09:20 | 255892003 | Solid | 2 | X | X | |
| 4 | SPL-14-4 | PS | 12/3/2010 09:40 | 255892004 | Solid | 2 | X | X | |
| 5 | SPL-14-5 | PS | 12/3/2010 10:00 | 255892005 | Solid | 2 | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | [signature] | 12/3 1700 | [signature] Pace | 12/4/10 11:55 |
| 2 | | | | |
| 3 | | | | |

**Comments**

Dioxins are Rush!

**Cooler Temperature on Receipt** 3.7 °C **Custody Seal** Y or (N) **Received on Ice** (Y) or N **Samples Intact** (Y) or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE WA **Project #** 10144556

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

**Tracking #:** 7965 1627 0611

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes X No _____

**Thermometer Used** ~~80344042 or~~ 179425 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 3.7 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and Initials of person examining contents:** 12-9-10 JL

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☒Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☒Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☒Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☒Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☒Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☒No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☒No ☐N/A | 7. |
| Sufficient Volume: | ☒Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☒Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☒Yes ☐No ☐N/A | |
| Containers Intact: | ☒Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☒N/A | 11. |
| Sample Labels match COC: | ☒Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☒N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☒N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☐No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☒N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☒N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☒N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☒N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 12/6/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-14-1 | | | |
| Lab Sample ID | 255892001 | | | |
| Filename | F101211A_07 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 10.1 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 12/03/2010 | 08:40 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211A_01 & F101211A_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 08:47 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.2 | ----- | 1.30 | | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 17.0 | ----- | 1.30 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 50 |
| 2,3,7,8-TCDD | ND | ----- | 1.30 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 43 |
| Total TCDD | 8.4 | ----- | 1.30 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDF | 3.4 | ----- | 1.40 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 2.8 | ----- | 1.60 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | 46.0 | ----- | 1.50 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | ND | ----- | 1.00 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 69 |
| Total PeCDD | 16.0 | ----- | 1.00 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 48 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 40 |
| 1,2,3,4,7,8-HxCDF | ----- | 3.1 | 1.00 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 58 |
| 1,2,3,6,7,8-HxCDF | 2.2 | ----- | 0.84 | J | OCDD-13C | 4.00 | 34 R |
| 2,3,4,6,7,8-HxCDF | 3.6 | ----- | 1.50 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 2.30 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 54.0 | ----- | 1.40 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 1.40 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 4.6 | ----- | 1.80 | J | | | |
| 1,2,3,7,8,9-HxCDD | 3.1 | ----- | 1.60 | J | | | |
| Total HxCDD | 50.0 | ----- | 1.60 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 37.0 | ----- | 1.70 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 2.80 | | Equivalence: 6.3 ng/Kg | | |
| Total HpCDF | 140.0 | ----- | 2.30 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 150.0 | ----- | 2.20 | | | | |
| Total HpCDD | 320.0 | ----- | 2.20 | | | | |
| OCDF | 120.0 | ----- | 3.80 | | | | |
| OCDD | 1600.0 | ----- | 10.00 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-14-2 | | | |
| Lab Sample ID | 255892002 | | | |
| Filename | F101210B_11 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 8.8 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 12/03/2010 | 09:00 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 00:47 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.10 | ----- | 0.32 | | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 11.00 | ----- | 0.32 | | 2,3,7,8-TCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 55 |
| 2,3,7,8-TCDD | 0.65 | ----- | 0.44 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 53 |
| Total TCDD | 12.00 | ----- | 0.44 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDF | ----- | 0.74 | 0.28 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 82 |
| 2,3,4,7,8-PeCDF | 1.90 | ----- | 0.36 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 18.00 | ----- | 0.32 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDD | 1.00 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 |
| Total PeCDD | 16.00 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 58 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 52 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.59 | 0.34 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 64 |
| 1,2,3,6,7,8-HxCDF | 0.98 | ----- | 0.38 | J | OCDD-13C | 4.00 | 51 |
| 2,3,4,6,7,8-HxCDF | 1.60 | ----- | 0.65 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.68 | ----- | 0.29 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 23.00 | ----- | 0.42 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.95 | ----- | 0.30 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 72 |
| 1,2,3,6,7,8-HxCDD | 2.20 | ----- | 0.37 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.30 | ----- | 0.47 | J | | | |
| Total HxCDD | 32.00 | ----- | 0.38 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 11.00 | ----- | 0.46 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.63 | | Equivalence: 4.1 ng/Kg | | |
| Total HpCDF | 34.00 | ----- | 0.55 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 61.00 | ----- | 0.95 | | | | |
| Total HpCDD | 170.00 | ----- | 0.95 | | | | |
| OCDF | 35.00 | ----- | 1.30 | | | | |
| OCDD | 610.00 | ----- | 2.50 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-14-3 | | | |
| Lab Sample ID | 255892003 | | | |
| Filename | F101210B_12 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.5 g | Matrix | Solid | |
| % Moisture | 10.6 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 12/03/2010 | 09:20 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 01:35 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.4 | ----- | 0.40 | | 2,3,7,8-TCDF-13C | 2.00 | 62 |
| Total TCDF | 17.0 | ----- | 0.40 | | 2,3,7,8-TCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 59 |
| 2,3,7,8-TCDD | ND | ----- | 0.37 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 59 |
| Total TCDD | 14.0 | ----- | 0.37 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDF | 1.1 | ----- | 0.57 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 66 |
| 2,3,4,7,8-PeCDF | 2.4 | ----- | 0.31 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 53 |
| Total PeCDF | 27.0 | ----- | 0.44 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 58 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 70 |
| 1,2,3,7,8-PeCDD | 1.8 | ----- | 0.45 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| Total PeCDD | 18.0 | ----- | 0.45 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 51 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 47 |
| 1,2,3,4,7,8-HxCDF | 2.1 | ----- | 1.20 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 55 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.85 | 0.39 | I | OCDD-13C | 4.00 | 46 |
| 2,3,4,6,7,8-HxCDF | 2.0 | ----- | 0.43 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.85 | 0.67 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 55.0 | ----- | 0.67 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.2 | ----- | 0.74 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 70 |
| 1,2,3,6,7,8-HxCDD | 7.8 | ----- | 0.70 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.0 | ----- | 0.95 | J | | | |
| Total HxCDD | 71.0 | ----- | 0.80 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 29.0 | ----- | 1.10 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 2.20 | | Equivalence: 8.1 ng/Kg | | |
| Total HpCDF | 95.0 | ----- | 1.70 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 240.0 | ----- | 3.90 | | | | |
| Total HpCDD | 560.0 | ----- | 3.90 | | | | |
| OCDF | 82.0 | ----- | 3.30 | | | | |
| OCDD | 2100.0 | ----- | 3.60 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-14-4 | | | |
| Lab Sample ID | 255892004 | | | |
| Filename | F101210B_13 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 11.4 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 12/03/2010 | 09:40 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 02:23 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.9 | ----- | 1.20 | | 2,3,7,8-TCDF-13C | 2.00 | 40 |
| Total TCDF | 41.0 | ----- | 1.20 | | 2,3,7,8-TCDD-13C | 2.00 | 44 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 44 |
| 2,3,7,8-TCDD | ND | ----- | 1.00 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 42 |
| Total TCDD | 36.0 | ----- | 1.00 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 45 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | ----- | 1.6 | 0.55 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 52 |
| 2,3,4,7,8-PeCDF | ----- | 3.6 | 0.60 | I | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 49 |
| Total PeCDF | 30.0 | ----- | 0.57 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 47 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDD | ----- | 2.4 | 0.55 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 52 |
| Total PeCDD | 37.0 | ----- | 0.55 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 38 R |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 34 R |
| 1,2,3,4,7,8-HxCDF | 1.8 | ----- | 1.20 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 42 |
| 1,2,3,6,7,8-HxCDF | 2.4 | ----- | 1.10 | J | OCDD-13C | 4.00 | 32 R |
| 2,3,4,6,7,8-HxCDF | 3.2 | ----- | 1.30 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 1.5 | 1.40 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 58.0 | ----- | 1.30 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.9 | ----- | 1.10 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 39 |
| 1,2,3,6,7,8-HxCDD | ----- | 5.6 | 0.90 | I | | | |
| 1,2,3,7,8,9-HxCDD | 2.8 | ----- | 1.40 | J | | | |
| Total HxCDD | 53.0 | ----- | 1.10 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 38.0 | ----- | 0.95 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.6 | ----- | 1.30 | J | Equivalence: 5.9 ng/Kg | | |
| Total HpCDF | 160.0 | ----- | 1.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 200.0 | ----- | 3.30 | | | | |
| Total HpCDD | 450.0 | ----- | 3.30 | | | | |
| OCDF | 160.0 | ----- | 3.10 | | | | |
| OCDD | 2900.0 | ----- | 3.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-14-5 | | | |
| Lab Sample ID | 255892005 | | | |
| Filename | F101211A_06 | | | |
| Injected By | CVS | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 9.8 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 12/03/2010 | 10:00 |
| ICAL ID | F101206 | Received | 12/04/2010 | 11:55 |
| CCal Filename(s) | F101211A_01 & F101211A_14 | Extracted | 12/08/2010 | 18:00 |
| Method Blank ID | BLANK-27185 | Analyzed | 12/11/2010 | 07:59 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 1.7 | 0.49 | I | 2,3,7,8-TCDF-13C | 2.00 | 56 |
| Total TCDF | 15.0 | ----- | 0.49 | | 2,3,7,8-TCDD-13C | 2.00 | 65 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 51 |
| 2,3,7,8-TCDD | ND | ----- | 0.65 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 54 |
| Total TCDD | 8.0 | ----- | 0.65 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 63 |
| 1,2,3,7,8-PeCDF | 2.2 | ----- | 0.74 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 61 |
| 2,3,4,7,8-PeCDF | 3.7 | ----- | 0.57 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 49 |
| Total PeCDF | 37.0 | ----- | 0.65 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 54 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDD | 1.8 | ----- | 0.52 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 59 |
| Total PeCDD | 17.0 | ----- | 0.52 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 48 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 46 |
| 1,2,3,4,7,8-HxCDF | 5.1 | ----- | 0.83 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 54 |
| 1,2,3,6,7,8-HxCDF | 4.1 | ----- | 1.00 | J | OCDD-13C | 4.00 | 42 |
| 2,3,4,6,7,8-HxCDF | 6.7 | ----- | 1.50 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.5 | ----- | 1.10 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 73.0 | ----- | 1.10 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.9 | ----- | 0.82 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 63 |
| 1,2,3,6,7,8-HxCDD | 6.0 | ----- | 0.55 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.5 | ----- | 0.61 | J | | | |
| Total HxCDD | 52.0 | ----- | 0.66 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 44.0 | ----- | 1.30 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.8 | ----- | 1.80 | J | Equivalence: 8.9 ng/Kg | | |
| Total HpCDF | 120.0 | ----- | 1.50 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 140.0 | ----- | 2.10 | | | | |
| Total HpCDD | 310.0 | ----- | 2.10 | | | | |
| OCDF | 110.0 | ----- | 2.70 | | | | |
| OCDD | 1500.0 | ----- | 1.80 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27185 | Matrix | Solid |
| Filename | F101210B_10 | Dilution | NA |
| Total Amount Extracted | 20.1 g | Extracted | 12/08/2010 18:00 |
| ICAL ID | F101206 | Analyzed | 12/10/2010 23:59 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Injected By | CVS |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **EDL** ng/Kg | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.21 | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | ND | ----- | 0.21 | 2,3,7,8-TCDD-13C | 2.00 | 82 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | 2,3,4,7,8-PeCDF-13C | 2.00 | 60 |
| Total TCDD | ND | ----- | 0.25 | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.21 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 82 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.19 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | ND | ----- | 0.20 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.19 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 81 |
| Total PeCDD | ND | ----- | 0.19 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 57 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 53 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.21 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 62 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.20 | OCDD-13C | 4.00 | 46 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.26 | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.40 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.27 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.24 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.30 | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.28 | | | |
| Total HxCDD | ND | ----- | 0.28 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.29 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.49 | Equivalence: 0.36 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.39 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.44 | | | |
| Total HpCDD | ND | ----- | 0.44 | | | |
| OCDF | ND | ----- | 0.74 | | | |
| OCDD | 2.2 | ----- | 1.00 J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27186 | | |
| Filename | F101211A_02 | Matrix | Solid |
| Total Amount Extracted | 20.1 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/08/2010 18:00 |
| CCal Filename(s) | F101211A_01 & F101211A_14 | Analyzed | 12/11/2010 04:47 |
| Method Blank ID | BLANK-27185 | Injected By | CVS |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 121 | 2,3,7,8-TCDF-13C | 2.0 | 68 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 78 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 69 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 98 | 2,3,4,7,8-PeCDF-13C | 2.0 | 62 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 75 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 73 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 113 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 70 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 112 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 63 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 69 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 77 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 69 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 62 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 60 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 112 | OCDD-13C | 4.0 | 54 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 106 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 112 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.0 | 103 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 108 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.1 | 108 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 106 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 101 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.96 | 96 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.1 | 106 | | | |
| OCDD | 2.0 | 2.2 | 108 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-14-2-MS | | |
| Lab Sample ID | 255892002-MS | | |
| Filename | F101210B_04 | Matrix | Solid |
| Total Amount Extracted | 11.1 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/08/2010 18:00 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Analyzed | 12/10/2010 19:11 |
| Method Blank ID | BLANK-27185 | Injected By | CVS |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 120 | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 54 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 97 | 2,3,4,7,8-PeCDF-13C | 2.00 | 60 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 71 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.11 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.06 | 106 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.93 | 93 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 74 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 54 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 48 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.09 | 109 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 60 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.14 | 114 | OCDD-13C | 4.00 | 43 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.03 | 103 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.08 | 108 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.03 | 103 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 72 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.06 | 106 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.03 | 103 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.26 | 126 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.02 | 102 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.52 | 152 | | | |
| OCDF | 2.00 | 2.46 | 123 | | | |
| OCDD | 2.00 | 7.92 | 396 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-14-2-MSD | | |
| Lab Sample ID | 255892002-MSD | | |
| Filename | F101210B_05 | Matrix | Solid |
| Total Amount Extracted | 11.2 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 12/08/2010 18:00 |
| CCal Filename(s) | F101210B_02 & F101210B_14 | Analyzed | 12/10/2010 20:00 |
| Method Blank ID | BLANK-27185 | Injected By | CVS |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 122 | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 52 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 99 | 2,3,4,7,8-PeCDF-13C | 2.00 | 63 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 100 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.18 | 118 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 59 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.06 | 106 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 60 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 54 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 97 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.94 | 94 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 59 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 49 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 55 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.14 | 114 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 0.99 | 99 | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.14 | 114 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.03 | 103 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.02 | 102 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.04 | 104 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.04 | 104 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.30 | 130 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.00 | 100 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 1.63 | 163 | | | |
| OCDF | 2.00 | 2.38 | 119 | | | |
| OCDD | 2.00 | 9.05 | 453 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-14-2 | | | Dry Weights | |
| Lab Sample ID | 255892002 | Sample Filename | F101210B_11 | Sample Amount | 10.4 g |
| MS ID | 255892002-MS | MS Filename | F101210B_04 | MS Amount | 10.1 g |
| MSD ID | 255892002-MSD | MSD Filename | F101210B_05 | MSD Amount | 10.2 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.143 | 0.20 | 0.24 | 0.24 | 2.2 | 114 | 117 | 2.3 |
| 2,3,7,8-TCDD | 0.652 | 0.20 | 0.19 | 0.20 | 1.2 | 94 | 95 | 1.2 |
| 1,2,3,7,8-PeCDF | 0.000 | 1.00 | 1.11 | 1.18 | 6.2 | 110 | 117 | 6.2 |
| 2,3,4,7,8-PeCDF | 1.918 | 1.00 | 1.06 | 1.06 | 0.1 | 104 | 104 | 0.1 |
| 1,2,3,7,8-PeCDD | 1.021 | 1.00 | 0.93 | 0.94 | 2.0 | 92 | 93 | 2.0 |
| 1,2,3,4,7,8-HxCDF | 0.000 | 1.00 | 1.09 | 1.14 | 4.5 | 109 | 114 | 4.5 |
| 1,2,3,6,7,8-HxCDF | 0.979 | 1.00 | 1.14 | 0.99 | 14.7 | 113 | 98 | 14.8 |
| 2,3,4,6,7,8-HxCDF | 1.559 | 1.00 | 1.03 | 1.14 | 10.1 | 102 | 113 | 10.3 |
| 1,2,3,7,8,9-HxCDF | 0.677 | 1.00 | 1.08 | 1.03 | 4.8 | 107 | 102 | 4.8 |
| 1,2,3,4,7,8-HxCDD | 0.953 | 1.00 | 1.03 | 1.02 | 1.0 | 102 | 101 | 1.0 |
| 1,2,3,6,7,8-HxCDD | 2.151 | 1.00 | 1.06 | 1.04 | 2.0 | 104 | 102 | 2.0 |
| 1,2,3,7,8,9-HxCDD | 1.343 | 1.00 | 1.03 | 1.04 | 0.5 | 102 | 102 | 0.5 |
| 1,2,3,4,6,7,8-HpCDF | 11.238 | 1.00 | 1.26 | 1.30 | 3.3 | 114 | 118 | 3.5 |
| 1,2,3,4,7,8,9-HpCDF | 0.000 | 1.00 | 1.02 | 1.00 | 2.0 | 102 | 100 | 2.0 |
| 1,2,3,4,6,7,8-HpCDD | 60.590 | 1.00 | 1.52 | 1.63 | 7.3 | 91 | 102 | 11.4 |
| OCDF | 35.442 | 2.00 | 2.46 | 2.38 | 3.3 | 105 | 101 | 4.0 |
| OCDD | 612.907 | 2.00 | 7.92 | 9.05 | 13.4 | 86 | 140 | 47.9 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

**Pace Analytical Services, Inc.**
940 South Harney
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December 27, 2010

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 255985

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 11, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: John Turk, Brown & Caldwell



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **255985001** | **SPL-15-1** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255985002** | **SPL-15-2** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |
| **255985003** | **SPL-15-3** | NWTPH-Dx | DMT | 4 | PASI-S |
| | | NWTPH-Gx | AY1 | 3 | PASI-S |
| | | EPA 6020 | RJS | 5 | PASI-M |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | KJ1 | 1 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

**Sample: SPL-15-1** **Lab ID: 255985001** Collected: 12/10/10 11:15 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **26.0** | mg/kg | 21.6 | 1 | 12/13/10 12:50 | 12/14/10 12:44 | | |
| Motor Oil Range SG | **97.3** | mg/kg | 86.4 | 1 | 12/13/10 12:50 | 12/14/10 12:44 | 64742-65-0 | |
| n-Octacosane (S) SG | 107 | % | 50-150 | 1 | 12/13/10 12:50 | 12/14/10 12:44 | 630-02-4 | |
| o-Terphenyl (S) SG | 90 | % | 50-150 | 1 | 12/13/10 12:50 | 12/14/10 12:44 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.7 | 1 | 12/15/10 10:00 | 12/15/10 22:44 | | |
| a,a,a-Trifluorotoluene (S) | 84 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 22:44 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 73 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 22:44 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.0** | mg/kg | 0.48 | 20 | 12/22/10 09:06 | 12/24/10 00:08 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.077 | 20 | 12/22/10 09:06 | 12/24/10 00:08 | 7440-43-9 | |
| Copper | **22.9** | mg/kg | 0.48 | 20 | 12/22/10 09:06 | 12/24/10 00:08 | 7440-50-8 | |
| Lead | **10.9** | mg/kg | 0.48 | 20 | 12/22/10 09:06 | 12/24/10 00:08 | 7439-92-1 | |
| Nickel | **28.2** | mg/kg | 0.48 | 20 | 12/22/10 09:06 | 12/24/10 00:08 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **7.2** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 83-32-9 | |
| Acenaphthylene | **52.9** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 208-96-8 | |
| Anthracene | **54.0** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 120-12-7 | |
| Benzo(a)anthracene | **120** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 56-55-3 | |
| Benzo(a)pyrene | **153** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 50-32-8 | |
| Benzo(b)fluoranthene | **79.5** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 205-99-2 | |
| Benzo(g,h,i)perylene | **88.1** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 191-24-2 | |
| Benzo(k)fluoranthene | **104** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 207-08-9 | |
| Chrysene | **153** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 218-01-9 | |
| Dibenz(a,h)anthracene | **27.5** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 53-70-3 | |
| Fluoranthene | **237** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 206-44-0 | |
| Fluorene | **22.0** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **73.4** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 193-39-5 | |
| 1-Methylnaphthalene | **20.5** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 90-12-0 | |
| 2-Methylnaphthalene | **30.6** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 91-57-6 | |
| Naphthalene | **36.5** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 91-20-3 | |
| Phenanthrene | **182** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 85-01-8 | |
| Pyrene | **302** | ug/kg | 7.2 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 66 | % | 31-131 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 321-60-8 | |
| Terphenyl-d14 (S) | 72 | % | 30-133 | 1 | 12/13/10 12:45 | 12/13/10 18:59 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 12/16/10 14:15 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 12/16/10 14:15 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 12/16/10 14:15 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.2 | 1 | | 12/16/10 14:15 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 12/16/10 14:15 | 1868-53-7 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

**Sample: SPL-15-1** **Lab ID: 255985001** Collected: 12/10/10 11:15 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 12/16/10 14:15 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 120 | % | 72-122 | 1 | | 12/16/10 14:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 80-143 | 1 | | 12/16/10 14:15 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.5** | % | 0.10 | 1 | | 12/13/10 17:04 | | |

**Sample: SPL-15-2** **Lab ID: 255985002** Collected: 12/10/10 11:15 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.8 | 1 | 12/13/10 12:50 | 12/14/10 13:31 | | |
| Motor Oil Range SG | ND | mg/kg | 87.3 | 1 | 12/13/10 12:50 | 12/14/10 13:31 | 64742-65-0 | |
| n-Octacosane (S) SG | 101 | % | 50-150 | 1 | 12/13/10 12:50 | 12/14/10 13:31 | 630-02-4 | |
| o-Terphenyl (S) SG | 91 | % | 50-150 | 1 | 12/13/10 12:50 | 12/14/10 13:31 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 4.9 | 1 | 12/15/10 10:00 | 12/15/10 23:07 | | |
| a,a,a-Trifluorotoluene (S) | 83 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 23:07 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 72 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 23:07 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.7** | mg/kg | 0.50 | 20 | 12/22/10 09:06 | 12/24/10 00:17 | 7440-38-2 | |
| Cadmium | **0.087** | mg/kg | 0.080 | 20 | 12/22/10 09:06 | 12/24/10 00:17 | 7440-43-9 | |
| Copper | **20.6** | mg/kg | 0.50 | 20 | 12/22/10 09:06 | 12/24/10 00:17 | 7440-50-8 | |
| Lead | **10.4** | mg/kg | 0.50 | 20 | 12/22/10 09:06 | 12/24/10 00:17 | 7439-92-1 | |
| Nickel | **20.9** | mg/kg | 0.50 | 20 | 12/22/10 09:06 | 12/24/10 00:17 | 7440-02-0 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **10.3** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 83-32-9 | |
| Acenaphthylene | **42.6** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 208-96-8 | |
| Anthracene | **59.9** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 120-12-7 | |
| Benzo(a)anthracene | **133** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 56-55-3 | |
| Benzo(a)pyrene | **168** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 50-32-8 | |
| Benzo(b)fluoranthene | **82.4** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 205-99-2 | |
| Benzo(g,h,i)perylene | **98.6** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 191-24-2 | |
| Benzo(k)fluoranthene | **118** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 207-08-9 | |
| Chrysene | **159** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 218-01-9 | |
| Dibenz(a,h)anthracene | **32.0** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 53-70-3 | |
| Fluoranthene | **264** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 206-44-0 | |
| Fluorene | **26.6** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **85.5** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 193-39-5 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

**Sample: SPL-15-2** **Lab ID: 255985002** Collected: 12/10/10 11:15 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 1-Methylnaphthalene | **12.4** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 90-12-0 | |
| 2-Methylnaphthalene | **16.3** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 91-57-6 | |
| Naphthalene | **32.0** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 91-20-3 | |
| Phenanthrene | **195** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 85-01-8 | |
| Pyrene | **392** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 72 | % | 31-131 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 321-60-8 | |
| Terphenyl-d14 (S) | 94 | % | 30-133 | 1 | 12/13/10 12:45 | 12/13/10 19:15 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.7 | 1 | | 12/16/10 14:35 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.7 | 1 | | 12/16/10 14:35 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.7 | 1 | | 12/16/10 14:35 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.1 | 1 | | 12/16/10 14:35 | 1330-20-7 | |
| Dibromofluoromethane (S) | 97 | % | 80-136 | 1 | | 12/16/10 14:35 | 1868-53-7 | |
| Toluene-d8 (S) | 112 | % | 80-120 | 1 | | 12/16/10 14:35 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 119 | % | 72-122 | 1 | | 12/16/10 14:35 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 80-143 | 1 | | 12/16/10 14:35 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.6** | % | 0.10 | 1 | | 12/13/10 17:05 | | |

**Sample: SPL-15-3** **Lab ID: 255985003** Collected: 12/10/10 11:15 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **29.5** | mg/kg | 21.3 | 1 | 12/13/10 12:50 | 12/14/10 13:55 | | |
| Motor Oil Range SG | ND | mg/kg | 85.2 | 1 | 12/13/10 12:50 | 12/14/10 13:55 | 64742-65-0 | |
| n-Octacosane (S) SG | 118 | % | 50-150 | 1 | 12/13/10 12:50 | 12/14/10 13:55 | 630-02-4 | |
| o-Terphenyl (S) SG | 91 | % | 50-150 | 1 | 12/13/10 12:50 | 12/14/10 13:55 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 12/15/10 10:00 | 12/15/10 23:30 | | |
| a,a,a-Trifluorotoluene (S) | 82 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 23:30 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 71 | % | 50-150 | 1 | 12/15/10 10:00 | 12/15/10 23:30 | 460-00-4 | |
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.7** | mg/kg | 0.46 | 20 | 12/22/10 09:06 | 12/24/10 00:26 | 7440-38-2 | |
| Cadmium | **0.082** | mg/kg | 0.074 | 20 | 12/22/10 09:06 | 12/24/10 00:26 | 7440-43-9 | |
| Copper | **24.2** | mg/kg | 0.46 | 20 | 12/22/10 09:06 | 12/24/10 00:26 | 7440-50-8 | |
| Lead | **9.2** | mg/kg | 0.46 | 20 | 12/22/10 09:06 | 12/24/10 00:26 | 7439-92-1 | |
| Nickel | **25.1** | mg/kg | 0.46 | 20 | 12/22/10 09:06 | 12/24/10 00:26 | 7440-02-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

**Sample: SPL-15-3** **Lab ID: 255985003** Collected: 12/10/10 11:15 Received: 12/11/10 09:26 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **61.1** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 83-32-9 | |
| Acenaphthylene | **48.9** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 208-96-8 | |
| Anthracene | **104** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 120-12-7 | |
| Benzo(a)anthracene | **246** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 56-55-3 | |
| Benzo(a)pyrene | **274** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 50-32-8 | |
| Benzo(b)fluoranthene | **147** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 205-99-2 | |
| Benzo(g,h,i)perylene | **145** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 191-24-2 | |
| Benzo(k)fluoranthene | **183** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 207-08-9 | |
| Chrysene | **282** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 218-01-9 | |
| Dibenz(a,h)anthracene | **45.8** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 53-70-3 | |
| Fluoranthene | **558** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 206-44-0 | |
| Fluorene | **65.7** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **128** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 193-39-5 | |
| 1-Methylnaphthalene | **15.5** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 90-12-0 | |
| 2-Methylnaphthalene | **18.8** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 91-57-6 | |
| Naphthalene | **31.0** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 91-20-3 | |
| Phenanthrene | **429** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 85-01-8 | |
| Pyrene | **792** | ug/kg | 7.3 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 321-60-8 | |
| Terphenyl-d14 (S) | 99 | % | 30-133 | 1 | 12/13/10 12:45 | 12/14/10 14:16 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 12/16/10 14:55 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 12/16/10 14:55 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 12/16/10 14:55 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 12/16/10 14:55 | 1330-20-7 | |
| Dibromofluoromethane (S) | 103 | % | 80-136 | 1 | | 12/16/10 14:55 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 12/16/10 14:55 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 116 | % | 72-122 | 1 | | 12/16/10 14:55 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 80-143 | 1 | | 12/16/10 14:55 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.3** | % | 0.10 | 1 | | 12/13/10 17:06 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

QC Batch: OEXT/3090 | Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 | Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 255985001, 255985002, 255985003

METHOD BLANK: 52068 | Matrix: Solid
Associated Lab Samples: 255985001, 255985002, 255985003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 12/14/10 11:57 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 12/14/10 11:57 | |
| n-Octacosane (S) SG | % | 103 | 50-150 | 12/14/10 11:57 | |
| o-Terphenyl (S) SG | % | 88 | 50-150 | 12/14/10 11:57 | |

LABORATORY CONTROL SAMPLE: 52069

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 440 | 88 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 455 | 91 | 50-150 | |
| n-Octacosane (S) SG | % | | | 103 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 127 | 50-150 | |

SAMPLE DUPLICATE: 52070

| Parameter | Units | 255985001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 26.0 | 19.3J | | |
| Motor Oil Range SG | mg/kg | 97.3 | 81J | | |
| n-Octacosane (S) SG | % | 107 | 109 | 1 | |
| o-Terphenyl (S) SG | % | 90 | 91 | .1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

QC Batch: GCV/2080 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 255985001, 255985002, 255985003

METHOD BLANK: 52268 Matrix: Solid
Associated Lab Samples: 255985001, 255985002, 255985003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 12/15/10 20:24 | |
| 4-Bromofluorobenzene (S) | % | 101 | 50-150 | 12/15/10 20:24 | |
| a,a,a-Trifluorotoluene (S) | % | 109 | 50-150 | 12/15/10 20:24 | |

LABORATORY CONTROL SAMPLE: 52269

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.6 | 101 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 122 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 52395

| Parameter | Units | 255986006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .77J | | |
| 4-Bromofluorobenzene (S) | % | 76 | 79 | 5 | |
| a,a,a-Trifluorotoluene (S) | % | 86 | 88 | 2 | |

SAMPLE DUPLICATE: 52396

| Parameter | Units | 255986008 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.3J | | |
| 4-Bromofluorobenzene (S) | % | 73 | 78 | 8 | |
| a,a,a-Trifluorotoluene (S) | % | 84 | 85 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

QC Batch: ICPM/24074 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 255985001, 255985002, 255985003

METHOD BLANK: 908668 Matrix: Solid
Associated Lab Samples: 255985001, 255985002, 255985003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.47 | 12/23/10 23:14 | |
| Cadmium | mg/kg | ND | 0.075 | 12/23/10 23:14 | |
| Copper | mg/kg | ND | 0.47 | 12/23/10 23:14 | |
| Lead | mg/kg | ND | 0.47 | 12/23/10 23:14 | |
| Nickel | mg/kg | ND | 0.47 | 12/23/10 23:14 | |

LABORATORY CONTROL SAMPLE: 908669

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.2 | 18.6 | 97 | 75-125 | |
| Cadmium | mg/kg | 19.2 | 18.6 | 97 | 75-125 | |
| Copper | mg/kg | 19.2 | 19.1 | 99 | 75-125 | |
| Lead | mg/kg | 19.2 | 19.1 | 99 | 75-125 | |
| Nickel | mg/kg | 19.2 | 18.9 | 98 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 908670 908671

| Parameter | Units | 5044293001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 17.2 | 17.7 | 18.2 | 18.0 | 104 | 100 | 75-125 | 1 | |
| Cadmium | mg/kg | 0.098 | 17.2 | 17.7 | 17.7 | 18.0 | 102 | 101 | 75-125 | 1 | |
| Copper | mg/kg | 1.1 | 17.2 | 17.7 | 18.3 | 18.0 | 100 | 96 | 75-125 | 2 | |
| Lead | mg/kg | ND | 17.2 | 17.7 | 16.5 | 16.0 | 94 | 89 | 75-125 | 3 | |
| Nickel | mg/kg | 0.92 | 17.2 | 17.7 | 18.3 | 18.6 | 101 | 100 | 75-125 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

QC Batch: OEXT/3087 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 255985001, 255985002, 255985003

METHOD BLANK: 52032 | Matrix: Solid
Associated Lab Samples: 255985001, 255985002, 255985003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Acenaphthene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Anthracene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Chrysene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Fluoranthene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Fluorene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Naphthalene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Phenanthrene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| Pyrene | ug/kg | ND | 6.7 | 12/13/10 16:05 | |
| 2-Fluorobiphenyl (S) | % | 58 | 31-131 | 12/13/10 16:05 | |
| Terphenyl-d14 (S) | % | 63 | 30-133 | 12/13/10 16:05 | |

LABORATORY CONTROL SAMPLE: 52033

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 69.2 | 52 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 72.6 | 54 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 75.3 | 56 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 74.9 | 56 | 31-134 | |
| Anthracene | ug/kg | 133 | 82.4 | 62 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 81.8 | 61 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 88.6 | 66 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 77.6 | 58 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 83.9 | 63 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 83.9 | 63 | 45-147 | |
| Chrysene | ug/kg | 133 | 88.1 | 66 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 85.5 | 64 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 81.2 | 61 | 44-143 | |
| Fluorene | ug/kg | 133 | 76.2 | 57 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 86.9 | 65 | 47-140 | |
| Naphthalene | ug/kg | 133 | 73.4 | 55 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 78.9 | 59 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

LABORATORY CONTROL SAMPLE: 52033

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 83.8 | 63 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 56 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 63 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52034 52035

| Parameter | Units | 255915001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 17100 | 167 | 165 | 17900 | 20200 | 473 | 1880 | 31-123 | 12 | M3 |
| 2-Methylnaphthalene | ug/kg | 55100 | 167 | 165 | 35700 | 37700 | -11700 | -10500 | 15-146 | 6 | M3 |
| Acenaphthene | ug/kg | 2240 | 167 | 165 | 2350 | 2790 | 63 | 328 | 19-141 | 17 | M3 |
| Acenaphthylene | ug/kg | 508 | 167 | 165 | 865 | 888 | 214 | 229 | 30-142 | 3 | M3 |
| Anthracene | ug/kg | 1240 | 167 | 165 | 1270 | 1530 | 17 | 177 | 38-137 | 19 | M3 |
| Benzo(a)anthracene | ug/kg | 23.0 | 167 | 165 | 115 | 144 | 55 | 73 | 37-143 | 23 | R1 |
| Benzo(a)pyrene | ug/kg | ND | 167 | 165 | 100 | 94.3 | 59 | 56 | 33-147 | 6 | |
| Benzo(b)fluoranthene | ug/kg | ND | 167 | 165 | 74.1 | 82.9 | 45 | 50 | 25-156 | 11 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 167 | 165 | 114 | 85.6 | 69 | 52 | 26-142 | 29 | R1 |
| Benzo(k)fluoranthene | ug/kg | ND | 167 | 165 | 85.9 | 89.0 | 52 | 54 | 35-142 | 4 | |
| Chrysene | ug/kg | 136 | 167 | 165 | 223 | 232 | 52 | 58 | 23-150 | 4 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 167 | 165 | 113 | 85.8 | 68 | 52 | 41-140 | 28 | R1 |
| Fluoranthene | ug/kg | 317 | 167 | 165 | 420 | 447 | 62 | 78 | 25-155 | 6 | |
| Fluorene | ug/kg | 4450 | 167 | 165 | 5310 | 5050 | 517 | 363 | 33-152 | 5 | M3 |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 167 | 165 | 114 | 87.4 | 68 | 53 | 36-139 | 26 | R1 |
| Naphthalene | ug/kg | 16500 | 167 | 165 | 17200 | 18300 | 436 | 1110 | 25-121 | 6 | M3 |
| Phenanthrene | ug/kg | 12000 | 167 | 165 | 10700 | 11500 | -786 | -265 | 29-141 | 8 | M3 |
| Pyrene | ug/kg | 732 | 167 | 165 | 895 | 809 | 98 | 46 | 36-145 | 10 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 70 | 62 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 78 | 82 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

QC Batch: MSV/3610 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 255985001, 255985002, 255985003

METHOD BLANK: 52353 | Matrix: Solid
Associated Lab Samples: 255985001, 255985002, 255985003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 12/16/10 11:59 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 12/16/10 11:59 | |
| Toluene | ug/kg | ND | 3.0 | 12/16/10 11:59 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 12/16/10 11:59 | |
| 1,2-Dichloroethane-d4 (S) | % | 108 | 80-143 | 12/16/10 11:59 | |
| 4-Bromofluorobenzene (S) | % | 104 | 72-122 | 12/16/10 11:59 | |
| Dibromofluoromethane (S) | % | 106 | 80-136 | 12/16/10 11:59 | |
| Toluene-d8 (S) | % | 104 | 80-120 | 12/16/10 11:59 | |

LABORATORY CONTROL SAMPLE & LCSD: 52354 52355

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 56.0 | 53.3 | 112 | 107 | 75-133 | 5 | 30 | |
| Ethylbenzene | ug/kg | 50 | 55.9 | 52.8 | 112 | 106 | 68-131 | 6 | 30 | |
| Toluene | ug/kg | 50 | 56.9 | 55.3 | 114 | 111 | 73-124 | 3 | 30 | |
| Xylene (Total) | ug/kg | 150 | 165 | 155 | 110 | 103 | 68-130 | 7 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 102 | 102 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 105 | 110 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 105 | 101 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 112 | 111 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

QC Batch: PMST/1451 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 255985001, 255985002, 255985003

SAMPLE DUPLICATE: 52119

| Parameter | Units | 255983001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 11.9 | 11.6 | 2 | |

SAMPLE DUPLICATE: 52120

| Parameter | Units | 255985001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 8.5 | 9.1 | 7 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M3 | Matrix spike recovery was outside laboratory control limits due to matrix interferences. |
| R1 | RPD value was outside control limits. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 255985

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **255985001** | **SPL-15-1** | EPA 3546 | OEXT/3090 | NWTPH-Dx | GCSV/2141 |
| **255985002** | **SPL-15-2** | EPA 3546 | OEXT/3090 | NWTPH-Dx | GCSV/2141 |
| **255985003** | **SPL-15-3** | EPA 3546 | OEXT/3090 | NWTPH-Dx | GCSV/2141 |
| **255985001** | **SPL-15-1** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255985002** | **SPL-15-2** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255985003** | **SPL-15-3** | NWTPH-Gx | GCV/2080 | NWTPH-Gx | GCV/2084 |
| **255985001** | **SPL-15-1** | EPA 6020 | ICPM/24074 | EPA 6020 | ICPM/9759 |
| **255985002** | **SPL-15-2** | EPA 6020 | ICPM/24074 | EPA 6020 | ICPM/9759 |
| **255985003** | **SPL-15-3** | EPA 6020 | ICPM/24074 | EPA 6020 | ICPM/9759 |
| **255985001** | **SPL-15-1** | EPA 3546 | OEXT/3087 | EPA 8270 by SIM | MSSV/1467 |
| **255985002** | **SPL-15-2** | EPA 3546 | OEXT/3087 | EPA 8270 by SIM | MSSV/1467 |
| **255985003** | **SPL-15-3** | EPA 3546 | OEXT/3087 | EPA 8270 by SIM | MSSV/1467 |
| **255985001** | **SPL-15-1** | EPA 8260 | MSV/3610 | | |
| **255985002** | **SPL-15-2** | EPA 8260 | MSV/3610 | | |
| **255985003** | **SPL-15-3** | EPA 8260 | MSV/3610 | | |
| **255985001** | **SPL-15-1** | ASTM D2974-87 | PMST/1451 | | |
| **255985002** | **SPL-15-2** | ASTM D2974-87 | PMST/1451 | | |
| **255985003** | **SPL-15-3** | ASTM D2974-87 | PMST/1451 | | |



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Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

December 27, 2010

## Report Information:

**Pace Project #: 10145215**
**Sample Receipt Date: 12/14/2010**
**Client Project #: 255985**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

December 27, 2010

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
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## DISCUSSION

This report presents the results from the analyses performed on three samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 63-96%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. The levels reported for the affected congeners in the field samples were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 104-128%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10145215

RUSH

# Chain of Custody

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**Workorder:** 255985 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 12/11/2010 **Results Requested By:** 12/28/2010

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxin | Furan 8290 | 6020 Cu, Pb, Ni, As | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-15-1 | PS | 12/10/2010 11:15 | 255985001 | Solid | 2 | X | | X | |
| 2 | SPL-15-2 | PS | 12/10/2010 11:15 | 255985002 | Solid | 2 | X | X | X | |
| 3 | SPL-15-3 | PS | 12/10/2010 11:15 | 255985003 | Solid | 2 | X | X | X | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Jyothi Sway | 12/13/10 1400 | [illegible] | 12/14/10 1030 |
| 2 | | | | |
| 3 | | | | |

**Comments**

Dioxins are RUSH!

**Cooler Temperature on Receipt** 2.1 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PAC-WA **Project #** 10145215

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

**Tracking #:** 7965 4902 9655

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ **Temp Blank:** Yes ____ No ✓

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.1 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 12/14/10 SL

Temp should be above freezing to 6°C

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes | ☑No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. Dioxin's |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☑No | ☐N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes | ☐No | ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp # |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes | ☑No | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blank Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 12/14/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-15-1 | | | |
| Lab Sample ID | 255985001 | | | |
| Filename | U101224A_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.9 g | Matrix | Solid | |
| % Moisture | 8.5 | Dilution | NA | |
| Dry Weight Extracted | 10.9 g | Collected | 12/10/2010 | 11:15 |
| ICAL ID | U101204A | Received | 12/14/2010 | 10:50 |
| CCal Filename(s) | U101223A_17 & U101224A_16 | Extracted | 12/16/2010 | 18:25 |
| Method Blank ID | BLANK-27315 | Analyzed | 12/24/2010 | 05:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.30 | ----- | 0.14 | | 2,3,7,8-TCDF-13C | 2.00 | 66 | |
| Total TCDF | 22.00 | ----- | 0.14 | | 2,3,7,8-TCDD-13C | 2.00 | 80 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 | |
| 2,3,7,8-TCDD | 0.45 | ----- | 0.17 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 | |
| Total TCDD | 14.00 | ----- | 0.17 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 85 | |
| 1,2,3,7,8-PeCDF | 1.20 | ----- | 0.24 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 | |
| 2,3,4,7,8-PeCDF | 2.90 | ----- | 0.18 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 | |
| Total PeCDF | 31.00 | ----- | 0.21 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 96 | |
| 1,2,3,7,8-PeCDD | 1.80 | ----- | 0.12 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 75 | |
| Total PeCDD | 13.00 | ----- | 0.12 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 86 | Y |
| 1,2,3,4,7,8-HxCDF | 3.70 | ----- | 0.11 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 78 | |
| 1,2,3,6,7,8-HxCDF | 2.20 | ----- | 0.17 | J | OCDD-13C | 4.00 | 90 | Y |
| 2,3,4,6,7,8-HxCDF | 3.50 | ----- | 0.20 | J | | | | |
| 1,2,3,7,8,9-HxCDF | 1.10 | ----- | 0.14 | J | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 71.00 | ----- | 0.15 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 3.10 | ----- | 0.23 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 77 | |
| 1,2,3,6,7,8-HxCDD | 9.60 | ----- | 0.24 | | | | | |
| 1,2,3,7,8,9-HxCDD | 4.40 | ----- | 0.22 | J | | | | |
| Total HxCDD | 95.00 | ----- | 0.23 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 48.00 | ----- | 0.27 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 3.00 | ----- | 0.31 | J | Equivalence: 11 ng/Kg | | | |
| Total HpCDF | 150.00 | ----- | 0.29 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 360.00 | ----- | 1.20 | | | | | |
| Total HpCDD | 880.00 | ----- | 1.20 | | | | | |
| OCDF | 160.00 | ----- | 0.16 | | | | | |
| OCDD | 3600.00 | ----- | 0.18 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-15-2 | | | |
| Lab Sample ID | 255985002 | | | |
| Filename | U101224A_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.1 g | Matrix | Solid | |
| % Moisture | 8.6 | Dilution | NA | |
| Dry Weight Extracted | 13.8 g | Collected | 12/10/2010 | 11:15 |
| ICAL ID | U101204A | Received | 12/14/2010 | 10:50 |
| CCal Filename(s) | U101223A_17 & U101224A_16 | Extracted | 12/16/2010 | 18:25 |
| Method Blank ID | BLANK-27315 | Analyzed | 12/24/2010 | 06:25 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.73 | ----- | 0.160 | | 2,3,7,8-TCDF-13C | 2.00 | 64 | |
| Total TCDF | 14.00 | ----- | 0.160 | | 2,3,7,8-TCDD-13C | 2.00 | 79 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 | |
| 2,3,7,8-TCDD | ND | ----- | 0.140 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 | |
| Total TCDD | 8.40 | ----- | 0.140 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 87 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 94 | |
| 1,2,3,7,8-PeCDF | 0.73 | ----- | 0.150 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 | |
| 2,3,4,7,8-PeCDF | 2.00 | ----- | 0.160 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 | |
| Total PeCDF | 21.00 | ----- | 0.160 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 77 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 99 | |
| 1,2,3,7,8-PeCDD | ----- | 0.88 | 0.130 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 84 | |
| Total PeCDD | 7.60 | ----- | 0.130 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 78 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 89 | Y |
| 1,2,3,4,7,8-HxCDF | ----- | 4.10 | 0.130 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 81 | |
| 1,2,3,6,7,8-HxCDF | 1.40 | ----- | 0.086 | J | OCDD-13C | 4.00 | 96 | Y |
| 2,3,4,6,7,8-HxCDF | 2.10 | ----- | 0.180 | J | | | | |
| 1,2,3,7,8,9-HxCDF | 0.56 | ----- | 0.070 | J | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 42.00 | ----- | 0.120 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | ----- | 1.30 | 0.190 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 | |
| 1,2,3,6,7,8-HxCDD | 5.50 | ----- | 0.210 | | | | | |
| 1,2,3,7,8,9-HxCDD | 2.30 | ----- | 0.200 | J | | | | |
| Total HxCDD | 37.00 | ----- | 0.200 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 33.00 | ----- | 0.260 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.80 | ----- | 0.170 | J | Equivalence: 4.7 ng/Kg | | | |
| Total HpCDF | 90.00 | ----- | 0.220 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 180.00 | ----- | 0.620 | | | | | |
| Total HpCDD | 410.00 | ----- | 0.620 | | | | | |
| OCDF | 110.00 | ----- | 0.140 | | | | | |
| OCDD | 1800.00 | ----- | 0.120 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present
Y = Calculated using average of daily RFs

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-15-3 | | | |
| Lab Sample ID | 255985003 | | | |
| Filename | U101224A_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.8 g | Matrix | Solid | |
| % Moisture | 9.3 | Dilution | NA | |
| Dry Weight Extracted | 14.3 g | Collected | 12/10/2010 | 11:15 |
| ICAL ID | U101204A | Received | 12/14/2010 | 10:50 |
| CCal Filename(s) | U101223A_17 & U101224A_16 | Extracted | 12/16/2010 | 18:25 |
| Method Blank ID | BLANK-27315 | Analyzed | 12/24/2010 | 07:13 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery | |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.99 | ----- | 0.170 | | 2,3,7,8-TCDF-13C | 2.00 | 67 | |
| Total TCDF | 12.00 | ----- | 0.170 | | 2,3,7,8-TCDD-13C | 2.00 | 81 | |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 | |
| 2,3,7,8-TCDD | 0.29 | ----- | 0.250 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 | |
| Total TCDD | 10.00 | ----- | 0.250 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 | |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 87 | |
| 1,2,3,7,8-PeCDF | 0.76 | ----- | 0.170 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 | |
| 2,3,4,7,8-PeCDF | 1.60 | ----- | 0.110 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 | |
| Total PeCDF | 16.00 | ----- | 0.140 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 | |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 | |
| 1,2,3,7,8-PeCDD | 1.00 | ----- | 0.098 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 | |
| Total PeCDD | 11.00 | ----- | 0.098 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 | |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 83 | Y |
| 1,2,3,4,7,8-HxCDF | 1.30 | ----- | 0.140 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 76 | |
| 1,2,3,6,7,8-HxCDF | 1.10 | ----- | 0.190 | J | OCDD-13C | 4.00 | 89 | Y |
| 2,3,4,6,7,8-HxCDF | 1.40 | ----- | 0.130 | J | | | | |
| 1,2,3,7,8,9-HxCDF | 0.51 | ----- | 0.061 | J | 1,2,3,4-TCDD-13C | 2.00 | NA | |
| Total HxCDF | 17.00 | ----- | 0.130 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA | |
| 1,2,3,4,7,8-HxCDD | 1.30 | ----- | 0.170 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 | |
| 1,2,3,6,7,8-HxCDD | 4.00 | ----- | 0.190 | | | | | |
| 1,2,3,7,8,9-HxCDD | 1.80 | ----- | 0.140 | J | | | | |
| Total HxCDD | 47.00 | ----- | 0.170 | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 19.00 | ----- | 0.260 | | Total 2,3,7,8-TCDD | | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 1.1 | 0.300 | I | Equivalence: 4.7 ng/Kg | | | |
| Total HpCDF | 52.00 | ----- | 0.280 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | | |
| 1,2,3,4,6,7,8-HpCDD | 110.00 | ----- | 0.470 | | | | | |
| Total HpCDD | 250.00 | ----- | 0.470 | | | | | |
| OCDF | 56.00 | ----- | 0.160 | | | | | |
| OCDD | 1200.00 | ----- | 0.230 | | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27315 | Matrix | Solid |
| Filename | U101221A_08 | Dilution | NA |
| Total Amount Extracted | 20.7 g | Extracted | 12/16/2010 18:25 |
| ICAL ID | U101204A | Analyzed | 12/21/2010 13:32 |
| CCal Filename(s) | U101220B_15 & U101222A_01 | Injected By | SMT |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | EDL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.076 | | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | ND | ----- | 0.076 | | 2,3,7,8-TCDD-13C | 2.00 | 67 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 61 |
| 2,3,7,8-TCDD | ND | ----- | 0.072 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 62 |
| Total TCDD | 0.074 | ----- | 0.072 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.074 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.062 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 54 |
| Total PeCDF | ND | ----- | 0.068 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.170 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | ND | ----- | 0.170 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 53 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.071 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 66 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.063 | | OCDD-13C | 4.00 | 66 Y |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.093 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.085 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.078 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.240 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 64 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.240 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.230 | | | | |
| Total HxCDD | ND | ----- | 0.230 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 0.200 | ----- | 0.130 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.210 | | Equivalence: 0.19 ng/Kg | | |
| Total HpCDF | 0.200 | ----- | 0.170 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 0.300 | ----- | 0.100 | J | | | |
| Total HpCDD | 0.550 | ----- | 0.100 | J | | | |
| OCDF | ND | ----- | 0.230 | | | | |
| OCDD | 1.900 | ----- | 0.310 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27316 | | |
| Filename | U101222B_01 | Matrix | Solid |
| Total Amount Extracted | 21.1 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 12/16/2010 18:25 |
| CCal Filename(s) | U101222A_09 & U101222B_05 | Analyzed | 12/22/2010 15:40 |
| Method Blank ID | BLANK-27315 | Injected By | SMT |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 126 | 2,3,7,8-TCDF-13C | 2.0 | 58 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 79 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 66 |
| 2,3,7,8-TCDD | 0.20 | 0.21 | 104 | 2,3,4,7,8-PeCDF-13C | 2.0 | 68 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 93 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 75 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.2 | 117 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 64 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.2 | 116 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 60 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 67 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 88 |
| 1,2,3,7,8-PeCDD | 1.0 | 1.0 | 104 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 77 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 81 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 82 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.2 | 118 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 101 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.2 | 124 | OCDD-13C | 4.0 | 83 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.2 | 120 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.2 | 124 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 112 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 72 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.2 | 116 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.1 | 114 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.2 | 121 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.2 | 118 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.1 | 110 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.3 | 113 | | | |
| OCDD | 2.0 | 2.6 | 128 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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# Chain of Custody

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**Workorder:** 255985 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 12/11/2010 **Results Requested By:** 12/28/2010

| Report To | Subcontract To |
|---|---|
| Jennifer Gross<br>Pace Analytical Services, Inc.<br>940 South Harney<br>Seattle WA 98108<br>Phone (206)767-5060<br>Fax (206)767-5063 | Pace Analytical Minnesota<br>1700 Elm Street<br>Suite 200<br>Minneapolis, MN 55414<br>Phone (612)607-1700 |

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxin | Furan 8290 | Cu, Cd, Pb, Ni, As 6020 | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-15-1 | PS | 12/10/2010 11:15 | 255985001 | Solid | 2 | X | X | X | |
| 2 | SPL-15-2 | PS | 12/10/2010 11:15 | 255985002 | Solid | 2 | X | X | X | |
| 3 | SPL-15-3 | PS | 12/10/2010 11:15 | 255985003 | Solid | 2 | X | X | X | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Jyothi Sway | 12/13/10 1400 | | |
| 2 | | | | |
| 3 | | | | |

Comments: Dioxins are RUSH!

Cooler Temperature on Receipt ____ °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

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www.pacelabs.com

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

**INTER_LABORATORY WORK ORDER # 255985**
(To be completed by sending lab)

| | |
|---|---|
| Sending Project No: | 255985 |
| Receiving Project No: | |
| Check Box for Consolidated Invoice: | ☐ |
| Date Prepared: | 12/11/10 |
| **REQUESTED COMPLETION DATE:** | **12/28/2010** |

| | | | |
|---|---|---|---|
| Sending Region | IR25-Seattle | Sending Project Mgr. | Jennifer Gross |
| Receiving Region | IR10-Minnesota | External Client | Brown & Caldwell |
| State of Sample Origin | WA | QC Deliverable | STD REPORT |

**All questions should be addressed to sending project manager.**

Requested Reportable Units _____ Report Wet or Dry Weight? Dry Weight

**WORK REQUESTED**

| Method Description | Container Type | Quantity of containers | Preservative | Quantity of Samples | Unit Price | Amount |
|---|---|---|---|---|---|---|
| Diotin, Furan by 8290 | WGFU | | Unpreserved | 3 | $46.00 | $138.00 |
| 6020, Cu, Cd, Pb, Ni, As | WGFU | | Unpreserved | 3 | $660.00 | $1,980.00 |
| | | | | | TOTAL | $2,118.00 |

**Special Requirements:** _____

| Receiving Region Department | Acctg. Code | Totals from above | Revenue Allocation | |
|---|---|---|---|---|
| | | | Receiving Region (80%) | Client Services Dept. Sending Region (20%) |
| Other | 22 | $138.00 | $110.40 | $27.60 |
| Dioxin, High Resolution | 35 | $1,980.00 | $1,584.00 | $396.00 |
| * Custom Revenue Allocation | TOTAL | $2,118.00 | $1,694.40 | $423.60 |

**FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO**

Chain of Custody Included: ☑ Yes ☐ No Return Samples to Sending Region: ☐ Yes ☑ No

Matrix: ☑ Soil ☐ Water ☐ Air ☐ Other (identify) _____

**CONFIRMATION OF WORK COMPLETED**

Date Completed: _____ Receiving Project Manager: _____

**DISPOSITION of FORM**

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 23, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256519

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Andrea R. Brownfield

Andy Brownfield for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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Seattle, WA 98108
(206)767-5060

# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256519001** | **SPL-22-1** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519002** | **SPL-22-2** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519003** | **SPL-22-3** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519004** | **SPL-23-1** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519005** | **SPL-23-2** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519006** | **SPL-23-3** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519007** | **SPL-24-1** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519008** | **SPL-24-2** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519009** | **SPL-24-3** | EPA 6020 | TL1 | 5 | PASI-M |
| **256519010** | **SPL-24-4** | EPA 6020 | TL1 | 5 | PASI-M |



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(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

**Sample: SPL-22-1** **Lab ID: 256519001** Collected: 02/07/11 12:15 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.1** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 06:20 | 7440-38-2 | |
| Cadmium | **0.074** | mg/kg | 0.072 | 20 | 02/16/11 15:27 | 02/18/11 06:20 | 7440-43-9 | |
| Copper | **15.3** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 06:20 | 7440-50-8 | M1 |
| Lead | **4.5** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 06:20 | 7439-92-1 | |
| Nickel | **23.0** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 06:20 | 7440-02-0 | |

**Sample: SPL-22-2** **Lab ID: 256519002** Collected: 02/07/11 12:30 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 0.41 | 20 | 02/16/11 15:27 | 02/18/11 06:38 | 7440-38-2 | |
| Cadmium | **0.092** | mg/kg | 0.066 | 20 | 02/16/11 15:27 | 02/18/11 06:38 | 7440-43-9 | |
| Copper | **21.0** | mg/kg | 0.41 | 20 | 02/16/11 15:27 | 02/18/11 06:38 | 7440-50-8 | |
| Lead | **7.9** | mg/kg | 0.41 | 20 | 02/16/11 15:27 | 02/18/11 06:38 | 7439-92-1 | |
| Nickel | **25.5** | mg/kg | 0.41 | 20 | 02/16/11 15:27 | 02/18/11 06:38 | 7440-02-0 | |

**Sample: SPL-22-3** **Lab ID: 256519003** Collected: 02/07/11 12:44 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.2** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 06:43 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.065 | 20 | 02/16/11 15:27 | 02/18/11 06:43 | 7440-43-9 | |
| Copper | **20.0** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 06:43 | 7440-50-8 | |
| Lead | **7.3** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 06:43 | 7439-92-1 | |
| Nickel | **24.7** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 06:43 | 7440-02-0 | |

**Sample: SPL-23-1** **Lab ID: 256519004** Collected: 02/07/11 13:00 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.4** | mg/kg | 0.58 | 20 | 02/16/11 15:27 | 02/18/11 06:47 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.093 | 20 | 02/16/11 15:27 | 02/18/11 06:47 | 7440-43-9 | |
| Copper | **27.2** | mg/kg | 0.58 | 20 | 02/16/11 15:27 | 02/18/11 06:47 | 7440-50-8 | |
| Lead | **12.3** | mg/kg | 0.58 | 20 | 02/16/11 15:27 | 02/18/11 06:47 | 7439-92-1 | |
| Nickel | **34.7** | mg/kg | 0.58 | 20 | 02/16/11 15:27 | 02/18/11 06:47 | 7440-02-0 | |



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Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

**Sample: SPL-23-2** **Lab ID: 256519005** Collected: 02/07/11 13:15 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.6** | mg/kg | 0.55 | 20 | 02/16/11 15:27 | 02/18/11 06:52 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.088 | 20 | 02/16/11 15:27 | 02/18/11 06:52 | 7440-43-9 | |
| Copper | **15.4** | mg/kg | 0.55 | 20 | 02/16/11 15:27 | 02/18/11 06:52 | 7440-50-8 | |
| Lead | **6.0** | mg/kg | 0.55 | 20 | 02/16/11 15:27 | 02/18/11 06:52 | 7439-92-1 | |
| Nickel | **24.3** | mg/kg | 0.55 | 20 | 02/16/11 15:27 | 02/18/11 06:52 | 7440-02-0 | |

**Sample: SPL-23-3** **Lab ID: 256519006** Collected: 02/07/11 13:30 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.8** | mg/kg | 0.42 | 20 | 02/16/11 15:27 | 02/18/11 07:05 | 7440-38-2 | |
| Cadmium | **0.19** | mg/kg | 0.067 | 20 | 02/16/11 15:27 | 02/18/11 07:05 | 7440-43-9 | |
| Copper | **28.1** | mg/kg | 0.42 | 20 | 02/16/11 15:27 | 02/18/11 07:05 | 7440-50-8 | |
| Lead | **32.3** | mg/kg | 0.42 | 20 | 02/16/11 15:27 | 02/18/11 07:05 | 7439-92-1 | |
| Nickel | **33.1** | mg/kg | 0.42 | 20 | 02/16/11 15:27 | 02/18/11 07:05 | 7440-02-0 | |

**Sample: SPL-24-1** **Lab ID: 256519007** Collected: 02/07/11 14:00 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.5** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 07:10 | 7440-38-2 | |
| Cadmium | **0.17** | mg/kg | 0.064 | 20 | 02/16/11 15:27 | 02/18/11 07:10 | 7440-43-9 | |
| Copper | **23.0** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 07:10 | 7440-50-8 | |
| Lead | **11.1** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 07:10 | 7439-92-1 | |
| Nickel | **27.0** | mg/kg | 0.40 | 20 | 02/16/11 15:27 | 02/18/11 07:10 | 7440-02-0 | |

**Sample: SPL-24-2** **Lab ID: 256519008** Collected: 02/07/11 14:15 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **9.3** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 07:14 | 7440-38-2 | |
| Cadmium | **0.13** | mg/kg | 0.073 | 20 | 02/16/11 15:27 | 02/18/11 07:14 | 7440-43-9 | |
| Copper | **23.7** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 07:14 | 7440-50-8 | |
| Lead | **11.9** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 07:14 | 7439-92-1 | |
| Nickel | **27.6** | mg/kg | 0.45 | 20 | 02/16/11 15:27 | 02/18/11 07:14 | 7440-02-0 | |



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

**Sample: SPL-24-3** **Lab ID: 256519009** Collected: 02/07/11 14:30 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **6.2** | mg/kg | 0.47 | 20 | 02/16/11 15:27 | 02/18/11 07:19 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.075 | 20 | 02/16/11 15:27 | 02/18/11 07:19 | 7440-43-9 | |
| Copper | **25.1** | mg/kg | 0.47 | 20 | 02/16/11 15:27 | 02/18/11 07:19 | 7440-50-8 | |
| Lead | **11.0** | mg/kg | 0.47 | 20 | 02/16/11 15:27 | 02/18/11 07:19 | 7439-92-1 | |
| Nickel | **27.4** | mg/kg | 0.47 | 20 | 02/16/11 15:27 | 02/18/11 07:19 | 7440-02-0 | |

**Sample: SPL-24-4** **Lab ID: 256519010** Collected: 02/07/11 13:45 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.6** | mg/kg | 0.48 | 20 | 02/16/11 15:27 | 02/18/11 07:23 | 7440-38-2 | |
| Cadmium | **0.12** | mg/kg | 0.077 | 20 | 02/16/11 15:27 | 02/18/11 07:23 | 7440-43-9 | |
| Copper | **26.0** | mg/kg | 0.48 | 20 | 02/16/11 15:27 | 02/18/11 07:23 | 7440-50-8 | |
| Lead | **13.0** | mg/kg | 0.48 | 20 | 02/16/11 15:27 | 02/18/11 07:23 | 7439-92-1 | |
| Nickel | **39.1** | mg/kg | 0.48 | 20 | 02/16/11 15:27 | 02/18/11 07:23 | 7440-02-0 | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

QC Batch: ICPM/24744 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256519001, 256519002, 256519003, 256519004, 256519005, 256519006, 256519007, 256519008, 256519009, 256519010

METHOD BLANK: 931564 Matrix: Solid
Associated Lab Samples: 256519001, 256519002, 256519003, 256519004, 256519005, 256519006, 256519007, 256519008, 256519009, 256519010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.43 | 02/18/11 06:11 | |
| Cadmium | mg/kg | ND | 0.070 | 02/18/11 06:11 | |
| Copper | mg/kg | ND | 0.43 | 02/18/11 06:11 | |
| Lead | mg/kg | ND | 0.43 | 02/18/11 06:11 | |
| Nickel | mg/kg | ND | 0.43 | 02/18/11 06:11 | |

LABORATORY CONTROL SAMPLE: 931565

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 18 | 18.0 | 100 | 75-125 | |
| Cadmium | mg/kg | 18 | 19.1 | 106 | 75-125 | |
| Copper | mg/kg | 18 | 19.0 | 105 | 75-125 | |
| Lead | mg/kg | 18 | 19.5 | 108 | 75-125 | |
| Nickel | mg/kg | 18 | 19.7 | 109 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 931566 931567

| Parameter | Units | 256519001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.1 | 17.2 | 17.4 | 19.9 | 20.1 | 97 | 98 | 75-125 | .9 | |
| Cadmium | mg/kg | 0.074 | 17.2 | 17.4 | 19.0 | 18.8 | 110 | 107 | 75-125 | 1 | |
| Copper | mg/kg | 15.3 | 17.2 | 17.4 | 37.1 | 37.7 | 126 | 129 | 75-125 | 2 | M1 |
| Lead | mg/kg | 4.5 | 17.2 | 17.4 | 24.3 | 24.7 | 115 | 116 | 75-125 | 1 | |
| Nickel | mg/kg | 23.0 | 17.2 | 17.4 | 43.3 | 39.5 | 117 | 95 | 75-125 | 9 | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256519

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256519001** | **SPL-22-1** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519002** | **SPL-22-2** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519003** | **SPL-22-3** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519004** | **SPL-23-1** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519005** | **SPL-23-2** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519006** | **SPL-23-3** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519007** | **SPL-24-1** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519008** | **SPL-24-2** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519009** | **SPL-24-3** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |
| **256519010** | **SPL-24-4** | EPA 6020 | ICPM/24744 | EPA 6020 | ICPM/10076 |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256519

Page: 1 of 1

1446264

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBUS NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-7525 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): SG, SG

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N): TPH-HO, TPH-D | DIOXIN, FURAN | CPAH, NAPTHALENE | Cd, Cu, Pb, As, Ni | BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-22-1 | SL | G | | | 02-07-11 | 12:15 | | 7 | X | | | | | | X | X | X | X | X | X | X | | |
| 2 | SPL-22-2 | | | | | | 12:30 | | | | | | | | | | | | | | | | | |
| 3 | SPL-22-3 | | | | | | 12:44 | | | | | | | | | | | | | | | | | |
| 4 | SPL-23-1 | | | | | | 13:00 | | | | | | | | | | | | | | | | | |
| 5 | SPL-23-2 | | | | | | 13:15 | | | | | | | | | | | | | | | | | |
| 6 | SPL-23-3 | | | | | | 13:30 | | | | | | | | | | | | | | | | | |
| 7 | SPL-24-1 | | | | | | 14:00 | | | | | | | | | | | | | | | | | |
| 8 | SPL-24-2 | | | | | | 14:15 | | | | | | | | | | | | | | | | | |
| 9 | SPL-24-3 | | | | | | 14:30 | | | | | | | | | | | | | | | | | |
| 10 | SPL-24-4 | | | | | | 13:45 | | | | | | | | | | | | | | | | | |
| 11 | TB-020711 | WT | | | | | | | 3 | | | | | | | X | X | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| temp blank included | Ada Hamilton / BC | 02-08-11 | 10:20 | ~~custody seal - courier~~ | | | | | | |
| | | | | Jenny Cross / Pace | 2/8/11 | 10:20 | 4.0 | Y | N | Y |
| | | | | | | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |

ORIGINAL

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: ADA HAMILTON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/07/11

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

# Sample Container Count

CLIENT: Brown d Caldwell

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256519

COC PAGE 1 of
COC ID# 1446264

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | 2 | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved amber vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 256519

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

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

**Thermometer Used** 132013 or 101701962 or 326099 NJS **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 4.0 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: NJS 2/8/11

Temp should be above freezing ≤ 6°C

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes | ☐ No | ☐ N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐ Yes | ☑ No | ☐ N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐ Yes | ☑ No | ☐ N/A | 7. |
| Sufficient Volume: | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact: | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes | ☐ No | ☑ N/A | 11. |
| Sample Labels match COC: | ☑ Yes | ☐ No | ☐ N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | | | |
| All containers needing preservation have been checked. | ☐ Yes | ☐ No | ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes | ☐ No | ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes | ☐ No | ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes | ☐ No | ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes | ☐ No | ☐ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes | ☐ No | ☐ N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS **Date:** 2/8/11

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

February 23, 2011

## Report Information:

**Pace Project #: 10149094**
**Sample Receipt Date: 02/09/2011**
**Client Project #: 256519**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

February 23, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on ten samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 41-139%. With the exception of one low value, which was flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Values above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain a trace level of OCDD. This was below the calibration range of the method. The OCDD levels reported for the field samples were higher than the OCDD level in the blank by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 89-118%, with relative percent differences (RPDs) generally from 0.0-16.9%. The background-subtracted recovery values obtained for HpCDD and OCDD in the matrix spike and/or matrix spike duplicate samples were outside the 70-130% target range. Also, the RPD value for OCDD in the matrix spike samples was above the 20% target upper limit; this may indicate an elevated degree of variability for this congener in these determinations.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

RUSH

# Chain of Custody

10 Day Rush - Dioxins

10149094

Pace Analytical®
www.pacelabs.com

**Workorder:** 256519 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 2/8/2011 **Results Requested By:** ~~2/22/2011~~ 2/23/11

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxin (Furans | Cu, Cd, Pb, Ni, As by 6020 | Dry weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-22-1 | PS | 2/7/2011 12:15 | 256519001 | Solid | 2 | X | X | X | |
| 2 | SPL-22-2 | PS | 2/7/2011 12:30 | 256519002 | Solid | 2 | X | X | X | |
| 3 | SPL-22-3 | PS | 2/7/2011 12:44 | 256519003 | Solid | 2 | X | X | X | |
| 4 | SPL-23-1 | PS | 2/7/2011 13:00 | 256519004 | Solid | 2 | X | X | X | |
| 5 | SPL-23-2 | PS | 2/7/2011 13:15 | 256519005 | Solid | 2 | X | X | X | |
| 6 | SPL-23-3 | PS | 2/7/2011 13:30 | 256519006 | Solid | 2 | X | X | X | |
| 7 | SPL-24-1 | PS | 2/7/2011 14:00 | 256519007 | Solid | 2 | X | X | X | |
| 8 | SPL-24-2 | PS | 2/7/2011 14:15 | 256519008 | Solid | 2 | X | X | X | |
| 9 | SPL-24-3 | PS | 2/7/2011 14:30 | 256519009 | Solid | 2 | X | X | X | |
| 10 | SPL-24-4 | PS | 2/7/2011 13:45 | 256519010 | Solid | 2 | X | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | 2/8/11 Sylothi Sway | 2/8/11 1430 | Shannon Jacinto/Pace | 2-9-11 0955 |
| 2 | | | | |
| 3 | | | | |

**Comments**

Due 2/23/11
10 Day Rush - Dioxins

**Cooler Temperature on Receipt** 2.7 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace GA **Project #** 10149094

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

**Tracking #:** 7967 4150 8249

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

Optional:
Proj. Due Date:
Proj. Name:

**Packing Material:** ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ☒ No _____

**Thermometer Used** 80344042 or 179426 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.7°C **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: DB 2-9-11

Temp should be above freezing to 6°C

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☒Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☒Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☒Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes | ☒No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☒Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☒No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☒Yes | ☐No | ☐N/A | 7. |
| Sufficient Volume: | ☒Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☒Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☒Yes | ☐No | ☐N/A | |
| Containers Intact: | ☒Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☒N/A | 11. |
| Sample Labels match COC: | ☒Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes | ☐No | ☒N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☒N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes | ☒No | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☒N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☒N/A | 15. |
| Trip Blank Present: | ☐Yes | ☒No | ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☒N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** [signature] **Date:** 2/9/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-22-1 | | | |
| Lab Sample ID | 256519001 | | | |
| Filename | F110216C_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 8.8 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/07/2011 | 12:15 |
| ICAL ID | F101206 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | F110216B_13 & F110216C_16 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 00:02 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.90 | ----- | 0.21 | JY | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 12.00 | ----- | 0.21 | Y | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | 0.37 | ----- | 0.13 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 16.00 | ----- | 0.13 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 |
| 1,2,3,7,8-PeCDF | 0.75 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 |
| 2,3,4,7,8-PeCDF | 2.30 | ----- | 0.16 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | 24.00 | ----- | 0.22 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | 2.90 | ----- | 0.16 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 24.00 | ----- | 0.16 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 68 |
| 1,2,3,4,7,8-HxCDF | 7.80 | ----- | 0.22 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 82 |
| 1,2,3,6,7,8-HxCDF | 2.00 | ----- | 0.20 | J | OCDD-13C | 4.00 | 72 |
| 2,3,4,6,7,8-HxCDF | 2.30 | ----- | 0.13 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 1.5 | 0.16 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 36.00 | ----- | 0.18 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.60 | ----- | 0.31 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 14.00 | ----- | 0.41 | | | | |
| 1,2,3,7,8,9-HxCDD | 8.30 | ----- | 0.48 | | | | |
| Total HxCDD | 100.00 | ----- | 0.40 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 48.00 | ----- | 0.29 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 3.70 | ----- | 0.39 | J | Equivalence: 15 ng/Kg | | |
| Total HpCDF | 170.00 | ----- | 0.34 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 470.00 | ----- | 1.20 | | | | |
| Total HpCDD | 1000.00 | ----- | 1.20 | | | | |
| OCDF | 190.00 | ----- | 0.92 | | | | |
| OCDD | 6500.00 | ----- | 5.10 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
E = Exceeds calibration range
I = Interference present
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-22-2 | | | |
| Lab Sample ID | 256519002 | | | |
| Filename | P110216A_14 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 9.0 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/07/2011 | 12:30 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 01:04 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.92 | ----- | 0.23 | J | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 14.00 | ----- | 0.23 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 71 |
| 2,3,7,8-TCDD | 0.33 | ----- | 0.15 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 16.00 | ----- | 0.15 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 135 |
| 1,2,3,7,8-PeCDF | 1.20 | ----- | 0.26 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 121 |
| 2,3,4,7,8-PeCDF | 4.10 | ----- | 0.12 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 114 |
| Total PeCDF | 32.00 | ----- | 0.19 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 97 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 139 R |
| 1,2,3,7,8-PeCDD | 1.50 | ----- | 0.35 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 123 |
| Total PeCDD | 28.00 | ----- | 0.35 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 96 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 99 |
| 1,2,3,4,7,8-HxCDF | 9.90 | ----- | 0.38 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 |
| 1,2,3,6,7,8-HxCDF | ----- | 9.0 | 0.51 | P | OCDD-13C | 4.00 | 104 |
| 2,3,4,6,7,8-HxCDF | 4.30 | ----- | 0.32 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.20 | ----- | 0.43 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 120.00 | ----- | 0.41 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.30 | ----- | 0.48 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | 7.60 | ----- | 0.43 | | | | |
| 1,2,3,7,8,9-HxCDD | 2.10 | ----- | 0.39 | J | | | |
| Total HxCDD | 72.00 | ----- | 0.43 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 58.00 | ----- | 0.58 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.20 | ----- | 0.66 | | Equivalence: 9.6 ng/Kg | | |
| Total HpCDF | 240.00 | ----- | 0.62 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 200.00 | ----- | 2.20 | | | | |
| Total HpCDD | 470.00 | ----- | 2.20 | | | | |
| OCDF | 280.00 | ----- | 0.89 | | | | |
| OCDD | 2300.00 | ----- | 2.50 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
P = PCDE Interference

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-22-3 | | | |
| Lab Sample ID | 256519003 | | | |
| Filename | P110216A_15 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 8.3 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/07/2011 | 12:44 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 01:52 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.60 | ----- | 0.16 | | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 23.00 | ----- | 0.16 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 74 |
| 2,3,7,8-TCDD | 0.64 | ----- | 0.35 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 75 |
| Total TCDD | 28.00 | ----- | 0.35 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDF | 2.00 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 5.00 | ----- | 0.21 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | 43.00 | ----- | 0.25 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 3.40 | ----- | 0.31 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 43.00 | ----- | 0.31 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 11.00 | ----- | 0.38 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 75 |
| 1,2,3,6,7,8-HxCDF | ----- | 9.6 | 0.37 | P | OCDD-13C | 4.00 | 79 |
| 2,3,4,6,7,8-HxCDF | 5.40 | ----- | 0.43 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.10 | ----- | 0.38 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 160.00 | ----- | 0.39 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 7.00 | ----- | 0.48 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 81 |
| 1,2,3,6,7,8-HxCDD | 22.00 | ----- | 0.47 | | | | |
| 1,2,3,7,8,9-HxCDD | 13.00 | ----- | 0.38 | | | | |
| Total HxCDD | 180.00 | ----- | 0.44 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 88.00 | ----- | 0.54 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 7.30 | ----- | 0.47 | | Equivalence: 25 ng/Kg | | |
| Total HpCDF | 360.00 | ----- | 0.51 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 850.00 | ----- | 0.38 | | | | |
| Total HpCDD | 1800.00 | ----- | 0.38 | | | | |
| OCDF | 380.00 | ----- | 0.53 | | | | |
| OCDD | 10000.00 | ----- | 0.44 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-23-1 | | | |
| Lab Sample ID | 256519004 | | | |
| Filename | P110216A_16 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 14.3 g | Matrix | Solid | |
| % Moisture | 22.3 | Dilution | NA | |
| Dry Weight Extracted | 11.1 g | Collected | 02/07/2011 | 13:00 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 02:39 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.10 | ----- | 0.17 | | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 17.00 | ----- | 0.17 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | 0.31 | ----- | 0.20 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | 15.00 | ----- | 0.20 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDF | 1.30 | ----- | 0.24 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 |
| 2,3,4,7,8-PeCDF | 3.80 | ----- | 0.25 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 79 |
| Total PeCDF | 29.00 | ----- | 0.25 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDD | 1.00 | ----- | 0.26 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 19.00 | ----- | 0.26 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 76 |
| 1,2,3,4,7,8-HxCDF | 6.20 | ----- | 0.26 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | ----- | 5.8 | 0.29 | P | OCDD-13C | 4.00 | 76 |
| 2,3,4,6,7,8-HxCDF | 3.40 | ----- | 0.20 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.50 | ----- | 0.20 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 75.00 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.50 | ----- | 0.29 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | 6.30 | ----- | 0.38 | | | | |
| 1,2,3,7,8,9-HxCDD | 2.60 | ----- | 0.25 | J | | | |
| Total HxCDD | 48.00 | ----- | 0.31 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 37.00 | ----- | 0.33 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.90 | ----- | 0.44 | J | Equivalence: 7.4 ng/Kg | | |
| Total HpCDF | 150.00 | ----- | 0.38 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 170.00 | ----- | 0.81 | | | | |
| Total HpCDD | 320.00 | ----- | 0.81 | | | | |
| OCDF | 170.00 | ----- | 0.50 | | | | |
| OCDD | 1700.00 | ----- | 1.50 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-23-2 | | | |
| Lab Sample ID | 256519005 | | | |
| Filename | P110216A_17 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.2 g | Matrix | Solid | |
| % Moisture | 19.9 | Dilution | NA | |
| Dry Weight Extracted | 10.6 g | Collected | 02/07/2011 | 13:15 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 03:26 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.8 | ----- | 0.49 | | 2,3,7,8-TCDF-13C | 2.00 | 77 |
| Total TCDF | 45.0 | ----- | 0.49 | | 2,3,7,8-TCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | ----- | 0.70 | 0.28 | I | 2,3,4,7,8-PeCDF-13C | 2.00 | 81 |
| Total TCDD | 46.0 | ----- | 0.28 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDF | 2.3 | ----- | 0.34 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 |
| 2,3,4,7,8-PeCDF | 4.6 | ----- | 0.41 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 83 |
| Total PeCDF | 40.0 | ----- | 0.37 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 94 |
| 1,2,3,7,8-PeCDD | 2.2 | ----- | 0.41 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 83 |
| Total PeCDD | 47.0 | ----- | 0.41 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 80 |
| 1,2,3,4,7,8-HxCDF | 4.8 | ----- | 0.19 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 87 |
| 1,2,3,6,7,8-HxCDF | ----- | 5.60 | 0.34 | P | OCDD-13C | 4.00 | 83 |
| 2,3,4,6,7,8-HxCDF | 3.1 | ----- | 0.30 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.3 | ----- | 0.29 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 56.0 | ----- | 0.28 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.0 | ----- | 0.50 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 89 |
| 1,2,3,6,7,8-HxCDD | 5.3 | ----- | 0.31 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.0 | ----- | 0.22 | J | | | |
| Total HxCDD | 68.0 | ----- | 0.34 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 23.0 | ----- | 0.37 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.0 | ----- | 0.61 | J | Equivalence: 7.5 ng/Kg | | |
| Total HpCDF | 89.0 | ----- | 0.49 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 89.0 | ----- | 1.00 | | | | |
| Total HpCDD | 170.0 | ----- | 1.00 | | | | |
| OCDF | 82.0 | ----- | 0.39 | | | | |
| OCDD | 910.0 | ----- | 1.20 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-23-3 | | | |
| Lab Sample ID | 256519006 | | | |
| Filename | P110216A_18 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 13.9 | Dilution | NA | |
| Dry Weight Extracted | 10.7 g | Collected | 02/07/2011 | 13:30 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 04:14 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.50 | ----- | 0.26 | | 2,3,7,8-TCDF-13C | 2.00 | 77 |
| Total TCDF | 160.00 | ----- | 0.26 | | 2,3,7,8-TCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | 0.30 | ----- | 0.14 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | 17.00 | ----- | 0.14 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDF | 3.00 | ----- | 0.33 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 82 |
| 2,3,4,7,8-PeCDF | 24.00 | ----- | 0.27 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 79 |
| Total PeCDF | 290.00 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 |
| 1,2,3,7,8-PeCDD | 1.20 | ----- | 0.33 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 23.00 | ----- | 0.33 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 2.20 | ----- | 0.16 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 74 |
| 1,2,3,6,7,8-HxCDF | 4.20 | ----- | 0.17 | J | OCDD-13C | 4.00 | 64 |
| 2,3,4,6,7,8-HxCDF | 11.00 | ----- | 0.18 | | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 1.1 | 0.25 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 140.00 | ----- | 0.19 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.30 | ----- | 0.46 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 4.00 | ----- | 0.29 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.80 | ----- | 0.44 | J | | | |
| Total HxCDD | 45.00 | ----- | 0.40 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 25.00 | ----- | 0.36 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.60 | ----- | 0.68 | J | Equivalence: 13 ng/Kg | | |
| Total HpCDF | 69.00 | ----- | 0.52 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 100.00 | ----- | 0.65 | | | | |
| Total HpCDD | 270.00 | ----- | 0.65 | | | | |
| OCDF | 62.00 | ----- | 0.46 | | | | |
| OCDD | 1100.00 | ----- | 0.45 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-24-1 | | | |
| Lab Sample ID | 256519007 | | | |
| Filename | P110216A_19 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.6 g | Matrix | Solid | |
| % Moisture | 12.9 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/07/2011 | 14:00 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 05:01 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.50 | ----- | 0.36 | | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 28.00 | ----- | 0.36 | | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | ND | ----- | 0.39 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 72 |
| Total TCDD | 19.00 | ----- | 0.39 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 |
| 1,2,3,7,8-PeCDF | 1.30 | ----- | 0.21 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 3.00 | ----- | 0.25 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 31.00 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 1.30 | ----- | 0.39 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | 24.00 | ----- | 0.39 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 62 |
| 1,2,3,4,7,8-HxCDF | 2.90 | ----- | 0.25 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | ----- | 4.0 | 0.22 | P | OCDD-13C | 4.00 | 65 |
| 2,3,4,6,7,8-HxCDF | 2.60 | ----- | 0.33 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.95 | ----- | 0.34 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 53.00 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.40 | ----- | 0.28 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 6.90 | ----- | 0.41 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.80 | ----- | 0.31 | J | | | |
| Total HxCDD | 65.00 | ----- | 0.34 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 33.00 | ----- | 0.58 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.50 | ----- | 0.59 | J | Equivalence: 7.6 ng/Kg | | |
| Total HpCDF | 110.00 | ----- | 0.58 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 200.00 | ----- | 0.95 | | | | |
| Total HpCDD | 480.00 | ----- | 0.95 | | | | |
| OCDF | 120.00 | ----- | 0.84 | | | | |
| OCDD | 2300.00 | ----- | 2.10 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-24-2 | | | |
| Lab Sample ID | 256519008 | | | |
| Filename | P110216A_20 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.6 g | Matrix | Solid | |
| % Moisture | 18.4 | Dilution | NA | |
| Dry Weight Extracted | 11.1 g | Collected | 02/07/2011 | 14:15 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 05:48 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.66 | ----- | 0.17 | J | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | 5.60 | ----- | 0.17 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.22 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 4.40 | ----- | 0.22 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 87 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDF | ----- | 0.39 | 0.24 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 78 |
| 2,3,4,7,8-PeCDF | 1.10 | ----- | 0.21 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 80 |
| Total PeCDF | 11.00 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 |
| 1,2,3,7,8-PeCDD | 0.51 | ----- | 0.22 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 78 |
| Total PeCDD | 6.30 | ----- | 0.22 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | 1.30 | ----- | 0.15 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 79 |
| 1,2,3,6,7,8-HxCDF | ----- | 1.50 | 0.12 | P | OCDD-13C | 4.00 | 75 |
| 2,3,4,6,7,8-HxCDF | 0.97 | ----- | 0.15 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.18 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 22.00 | ----- | 0.15 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.69 | ----- | 0.21 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 2.30 | ----- | 0.28 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.20 | ----- | 0.25 | J | | | |
| Total HxCDD | 20.00 | ----- | 0.25 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 13.00 | ----- | 0.34 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.10 | ----- | 0.39 | J | Equivalence: 2.8 ng/Kg | | |
| Total HpCDF | 47.00 | ----- | 0.37 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 68.00 | ----- | 0.46 | | | | |
| Total HpCDD | 140.00 | ----- | 0.46 | | | | |
| OCDF | 48.00 | ----- | 0.35 | | | | |
| OCDD | 810.00 | ----- | 0.93 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-24-3 | | | |
| Lab Sample ID | 256519009 | | | |
| Filename | P110216A_21 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 9.5 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/07/2011 | 14:30 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 06:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.55 | ----- | 0.12 | J | 2,3,7,8-TCDF-13C | 2.00 | 74 |
| Total TCDF | 10.00 | ----- | 0.12 | | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 79 |
| 2,3,7,8-TCDD | 0.20 | ----- | 0.18 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 81 |
| Total TCDD | 3.90 | ----- | 0.18 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDF | ----- | 0.42 | 0.22 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 81 |
| 2,3,4,7,8-PeCDF | 1.20 | ----- | 0.14 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 80 |
| Total PeCDF | 12.00 | ----- | 0.18 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | ----- | 0.50 | 0.18 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 80 |
| Total PeCDD | 7.80 | ----- | 0.18 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 74 |
| 1,2,3,4,7,8-HxCDF | 1.60 | ----- | 0.12 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 81 |
| 1,2,3,6,7,8-HxCDF | ----- | 2.20 | 0.17 | P | OCDD-13C | 4.00 | 76 |
| 2,3,4,6,7,8-HxCDF | 1.20 | ----- | 0.12 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.50 | ----- | 0.14 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 28.00 | ----- | 0.14 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.86 | ----- | 0.27 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 2.70 | ----- | 0.19 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.40 | ----- | 0.17 | J | | | |
| Total HxCDD | 27.00 | ----- | 0.21 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 16.00 | ----- | 0.23 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.40 | ----- | 0.30 | J | Equivalence: 2.8 ng/Kg | | |
| Total HpCDF | 61.00 | ----- | 0.27 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 77.00 | ----- | 0.69 | | | | |
| Total HpCDD | 160.00 | ----- | 0.69 | | | | |
| OCDF | 68.00 | ----- | 0.37 | | | | |
| OCDD | 950.00 | ----- | 1.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-24-4 | | | |
| Lab Sample ID | 256519010 | | | |
| Filename | P110216A_22 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.6 g | Matrix | Solid | |
| % Moisture | 12.4 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/07/2011 | 13:45 |
| ICAL ID | P110216 | Received | 02/09/2011 | 09:55 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Extracted | 02/14/2011 | 18:45 |
| Method Blank ID | BLANK-27881 | Analyzed | 02/17/2011 | 07:23 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.20 | ----- | 0.27 | | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 21.00 | ----- | 0.27 | | 2,3,7,8-TCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | 0.42 | ----- | 0.25 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | 15.00 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDF | ----- | 0.77 | 0.32 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 2.70 | ----- | 0.44 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 76 |
| Total PeCDF | 27.00 | ----- | 0.38 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 |
| 1,2,3,7,8-PeCDD | 1.80 | ----- | 0.39 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | 19.00 | ----- | 0.39 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | 2.60 | ----- | 0.33 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 61 |
| 1,2,3,6,7,8-HxCDF | 1.60 | ----- | 0.25 | J | OCDD-13C | 4.00 | 41 |
| 2,3,4,6,7,8-HxCDF | 2.60 | ----- | 0.24 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.33 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 60.00 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.70 | ----- | 0.36 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | 6.80 | ----- | 0.35 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.00 | ----- | 0.29 | J | | | |
| Total HxCDD | 61.00 | ----- | 0.33 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 33.00 | ----- | 0.52 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.60 | ----- | 0.70 | J | Equivalence: 8.2 ng/Kg | | |
| Total HpCDF | 120.00 | ----- | 0.61 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 210.00 | ----- | 0.95 | | | | |
| Total HpCDD | 520.00 | ----- | 0.95 | | | | |
| OCDF | 130.00 | ----- | 1.40 | | | | |
| OCDD | 2500.00 | ----- | 2.50 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27881 | Matrix | Solid |
| Filename | P110216A_12 | Dilution | NA |
| Total Amount Extracted | 20.7 g | Extracted | 02/14/2011 18:45 |
| ICAL ID | P110216 | Analyzed | 02/16/2011 23:30 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Injected By | BAL |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.120 | 2,3,7,8-TCDF-13C | 2.00 | 47 |
| Total TCDF | ND | ----- | 0.120 | 2,3,7,8-TCDD-13C | 2.00 | 56 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 61 |
| 2,3,7,8-TCDD | ND | ----- | 0.100 | 2,3,4,7,8-PeCDF-13C | 2.00 | 68 |
| Total TCDD | ND | ----- | 0.100 | 1,2,3,7,8-PeCDD-13C | 2.00 | 73 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.076 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.064 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | ND | ----- | 0.070 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.058 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 81 |
| Total PeCDD | ND | ----- | 0.058 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 75 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.066 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 80 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.063 | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.065 | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.081 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.069 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.064 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 56 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.066 | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.068 | | | |
| Total HxCDD | ND | ----- | 0.066 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.090 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.110 | Equivalence: 0.12 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.099 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.130 | | | |
| Total HpCDD | ND | ----- | 0.130 | | | |
| OCDF | ND | ----- | 0.140 | | | |
| OCDD | 0.32 | ----- | 0.180 J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27882 | | |
| Filename | P110216A_23 | Matrix | Solid |
| Total Amount Extracted | 20.7 g | Dilution | NA |
| ICAL ID | P110216 | Extracted | 02/14/2011 18:45 |
| CCal Filename(s) | P110216A_09 & P110216A_24 | Analyzed | 02/17/2011 08:10 |
| Method Blank ID | BLANK-27881 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 117 | 2,3,7,8-TCDF-13C | 2.0 | 51 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 60 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 64 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 97 | 2,3,4,7,8-PeCDF-13C | 2.0 | 67 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 76 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 81 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 72 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 112 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 77 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 76 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 88 |
| 1,2,3,7,8-PeCDD | 1.0 | 1.0 | 101 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 77 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 68 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 70 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 112 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 78 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.2 | 116 | OCDD-13C | 4.0 | 70 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 112 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.2 | 117 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 107 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 61 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.1 | 108 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.0 | 103 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 110 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.1 | 111 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 1.0 | 103 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.3 | 117 | | | |
| OCDD | 2.0 | 2.4 | 118 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-22-1-MS | | |
| Lab Sample ID | 256519001-MS | | |
| Filename | F110216C_02 | Matrix | Solid |
| Total Amount Extracted | 11.5 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 02/14/2011 18:45 |
| CCal Filename(s) | F110216B_13 & F110216C_16 | Analyzed | 02/16/2011 21:45 |
| Method Blank ID | BLANK-27881 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 123 Y | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 75 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 68 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 91 | 2,3,4,7,8-PeCDF-13C | 2.00 | 68 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.01 | 101 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.03 | 103 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 69 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.16 | 116 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 80 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.06 | 106 | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.06 | 106 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.07 | 107 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.01 | 101 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 71 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.14 | 114 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.03 | 103 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.51 | 151 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.01 | 101 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 5.97 | 597 | | | |
| OCDF | 2.00 | 4.07 | 203 | | | |
| OCDD | 2.00 | 76.86 | 3843 E | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = Exceeds calibration range
Y = Calculated using average of daily RFs

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-22-1-MSD | | |
| Lab Sample ID | 256519001-MSD | | |
| Filename | F110216C_03 | Matrix | Solid |
| Total Amount Extracted | 11.0 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 02/14/2011 18:45 |
| CCal Filename(s) | F110216B_13 & F110216C_16 | Analyzed | 02/16/2011 22:30 |
| Method Blank ID | BLANK-27881 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 118 Y | 2,3,7,8-TCDF-13C | 2.00 | 68 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 87 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 90 | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | 1.00 | 0.95 | 95 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 79 |
| 2,3,4,7,8-PeCDF | 1.00 | 0.99 | 99 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 78 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.97 | 97 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 89 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 70 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.12 | 112 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 86 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.05 | 105 | OCDD-13C | 4.00 | 74 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.04 | 104 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.07 | 107 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.03 | 103 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 81 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.14 | 114 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.04 | 104 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 1.51 | 151 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.04 | 104 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 5.04 | 504 | | | |
| OCDF | 2.00 | 3.76 | 188 | | | |
| OCDD | 2.00 | 49.95 | 2497 | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
Y = Calculated using average of daily RFs

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-22-1 | | | Dry Weights | |
| Lab Sample ID | 256519001 | Sample Filename | F110216C_05 | Sample Amount | 10.3 g |
| MS ID | 256519001-MS | MS Filename | F110216C_02 | MS Amount | 10.5 g |
| MSD ID | 256519001-MSD | MSD Filename | F110216C_03 | MSD Amount | 10.0 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.897 | 0.20 | 0.25 | 0.24 | 4.2 | 118 | 113 | 4.2 |
| 2,3,7,8-TCDD | 0.370 | 0.20 | 0.18 | 0.18 | 0.7 | 89 | 89 | 0.7 |
| 1,2,3,7,8-PeCDF | 0.749 | 1.00 | 1.01 | 0.95 | 5.3 | 100 | 95 | 5.3 |
| 2,3,4,7,8-PeCDF | 2.262 | 1.00 | 1.03 | 0.99 | 3.9 | 101 | 97 | 3.9 |
| 1,2,3,7,8-PeCDD | 2.896 | 1.00 | 0.98 | 0.97 | 0.3 | 95 | 94 | 0.2 |
| 1,2,3,4,7,8-HxCDF | 7.815 | 1.00 | 1.16 | 1.12 | 3.4 | 108 | 104 | 3.3 |
| 1,2,3,6,7,8-HxCDF | 2.028 | 1.00 | 1.06 | 1.05 | 1.3 | 104 | 103 | 1.2 |
| 2,3,4,6,7,8-HxCDF | 2.296 | 1.00 | 1.06 | 1.04 | 1.9 | 104 | 102 | 1.8 |
| 1,2,3,7,8,9-HxCDF | 0.000 | 1.00 | 1.07 | 1.07 | 0.3 | 106 | 105 | 0.2 |
| 1,2,3,4,7,8-HxCDD | 3.567 | 1.00 | 1.01 | 1.03 | 2.0 | 97 | 99 | 2.3 |
| 1,2,3,6,7,8-HxCDD | 13.846 | 1.00 | 1.14 | 1.14 | 0.0 | 99 | 100 | 0.7 |
| 1,2,3,7,8,9-HxCDD | 8.255 | 1.00 | 1.03 | 1.04 | 1.2 | 94 | 96 | 1.7 |
| 1,2,3,4,6,7,8-HpCDF | 47.765 | 1.00 | 1.51 | 1.51 | 0.0 | 101 | 103 | 2.2 |
| 1,2,3,4,7,8,9-HpCDF | 3.668 | 1.00 | 1.01 | 1.04 | 2.3 | 98 | 100 | 2.6 |
| 1,2,3,4,6,7,8-HpCDD | 470.075 | 1.00 | 5.97 | 5.04 | 16.9 | 104 | 32 | 105.4 |
| OCDF | 194.873 | 2.00 | 4.07 | 3.76 | 7.9 | 101 | 90 | 11.6 |
| OCDD | 6463.273 | 2.00 | 76.86 | 49.95 | 42.4 | 454 | 0 | 200.0 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 23, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256520

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Andrea R. Brownfield

Andy Brownfield for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 256520 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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Seattle, WA 98108
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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256520001** | **SPL-22-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520002** | **SPL-22-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520003** | **SPL-22-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520004** | **SPL-23-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520005** | **SPL-23-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520006** | **SPL-23-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520007** | **SPL-24-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520008** | **SPL-24-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520009** | **SPL-24-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520010** | **SPL-24-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256520011** | **TB-020711** | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-22-1** **Lab ID: 256520001** Collected: 02/07/11 12:15 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.5 | 1 | 02/09/11 10:15 | 02/09/11 21:52 | | |
| Motor Oil Range SG | ND | mg/kg | 86.1 | 1 | 02/09/11 10:15 | 02/09/11 21:52 | 64742-65-0 | |
| n-Octacosane (S) SG | 94 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 21:52 | 630-02-4 | |
| o-Terphenyl (S) SG | 97 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 21:52 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/09/11 17:00 | 02/10/11 07:20 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 07:20 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 90 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 07:20 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 120-12-7 | |
| Benzo(a)anthracene | **22.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 56-55-3 | |
| Benzo(a)pyrene | **21.7** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 50-32-8 | |
| Benzo(b)fluoranthene | **19.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 205-99-2 | |
| Benzo(g,h,i)perylene | **11.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 191-24-2 | |
| Benzo(k)fluoranthene | **12.1** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 207-08-9 | |
| Chrysene | **19.7** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 53-70-3 | |
| Fluoranthene | **41.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **8.8** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 91-20-3 | |
| Phenanthrene | **29.7** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 85-01-8 | |
| Pyrene | **54.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 61 | % | 31-131 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 321-60-8 | |
| Terphenyl-d14 (S) | 78 | % | 30-133 | 1 | 02/09/11 11:10 | 02/11/11 22:21 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/09/11 13:03 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/09/11 13:03 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/09/11 13:03 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 02/09/11 13:03 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/09/11 13:03 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/09/11 13:03 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 72-122 | 1 | | 02/09/11 13:03 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 02/09/11 13:03 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.3** | % | 0.10 | 1 | | 02/12/11 15:13 | | |



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Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-22-2** **Lab ID: 256520002** Collected: 02/07/11 12:30 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.9 | 1 | 02/09/11 10:15 | 02/09/11 22:09 | | |
| Motor Oil Range SG | ND | mg/kg | 83.5 | 1 | 02/09/11 10:15 | 02/09/11 22:09 | 64742-65-0 | |
| n-Octacosane (S) SG | 93 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 22:09 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 22:09 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 02/09/11 17:00 | 02/10/11 07:44 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 07:44 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 87 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 07:44 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 83-32-9 | |
| Acenaphthylene | **15.7** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 208-96-8 | |
| Anthracene | **30.0** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 120-12-7 | |
| Benzo(a)anthracene | **68.3** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 56-55-3 | |
| Benzo(a)pyrene | **68.6** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 50-32-8 | |
| Benzo(b)fluoranthene | **58.6** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 205-99-2 | |
| Benzo(g,h,i)perylene | **34.8** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 191-24-2 | |
| Benzo(k)fluoranthene | **27.4** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 207-08-9 | |
| Chrysene | **65.4** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 218-01-9 | |
| Dibenz(a,h)anthracene | **8.9** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 53-70-3 | |
| Fluoranthene | **129** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 206-44-0 | |
| Fluorene | **14.5** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **28.0** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 90-12-0 | |
| 2-Methylnaphthalene | **7.6** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 91-57-6 | |
| Naphthalene | **12.7** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 91-20-3 | |
| Phenanthrene | **111** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 85-01-8 | |
| Pyrene | **188** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 55 | % | 31-131 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 321-60-8 | |
| Terphenyl-d14 (S) | 71 | % | 30-133 | 1 | 02/09/11 11:10 | 02/11/11 23:16 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/09/11 13:22 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/09/11 13:22 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/09/11 13:22 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.4 | 1 | | 02/09/11 13:22 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 02/09/11 13:22 | 1868-53-7 | |
| Toluene-d8 (S) | 111 | % | 80-120 | 1 | | 02/09/11 13:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/09/11 13:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/09/11 13:22 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.0** | % | 0.10 | 1 | | 02/12/11 15:14 | | |



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Seattle, WA 98108
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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-22-3** **Lab ID: 256520003** Collected: 02/07/11 12:44 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.6 | 1 | 02/09/11 10:15 | 02/09/11 22:25 | | |
| Motor Oil Range SG | ND | mg/kg | 86.2 | 1 | 02/09/11 10:15 | 02/09/11 22:25 | 64742-65-0 | |
| n-Octacosane (S) SG | 92 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 22:25 | 630-02-4 | |
| o-Terphenyl (S) SG | 93 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 22:25 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.4 | 1 | 02/09/11 17:00 | 02/10/11 08:08 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 08:08 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 92 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 08:08 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 83-32-9 | |
| Acenaphthylene | **13.9** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 208-96-8 | |
| Anthracene | **27.8** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 120-12-7 | |
| Benzo(a)anthracene | **61.8** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 56-55-3 | |
| Benzo(a)pyrene | **61.0** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 50-32-8 | |
| Benzo(b)fluoranthene | **54.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 205-99-2 | |
| Benzo(g,h,i)perylene | **33.7** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 191-24-2 | |
| Benzo(k)fluoranthene | **26.6** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 207-08-9 | |
| Chrysene | **58.8** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 218-01-9 | |
| Dibenz(a,h)anthracene | **8.9** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 53-70-3 | |
| Fluoranthene | **124** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 206-44-0 | |
| Fluorene | **12.5** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **26.2** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 91-57-6 | |
| Naphthalene | **9.4** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 91-20-3 | |
| Phenanthrene | **100** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 85-01-8 | |
| Pyrene | **181** | ug/kg | 7.2 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 57 | % | 31-131 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 321-60-8 | |
| Terphenyl-d14 (S) | 78 | % | 30-133 | 1 | 02/09/11 11:10 | 02/11/11 23:34 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/09/11 13:41 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/09/11 13:41 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/09/11 13:41 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.6 | 1 | | 02/09/11 13:41 | 1330-20-7 | |
| Dibromofluoromethane (S) | 97 | % | 80-136 | 1 | | 02/09/11 13:41 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/09/11 13:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 72-122 | 1 | | 02/09/11 13:41 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/09/11 13:41 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.1** | % | 0.10 | 1 | | 02/12/11 15:15 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-23-1** **Lab ID: 256520004** Collected: 02/07/11 13:00 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **36.7** | mg/kg | 23.3 | 1 | 02/09/11 10:15 | 02/09/11 22:59 | | |
| Motor Oil Range SG | ND | mg/kg | 93.0 | 1 | 02/09/11 10:15 | 02/09/11 22:59 | 64742-65-0 | |
| n-Octacosane (S) SG | 83 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 22:59 | 630-02-4 | |
| o-Terphenyl (S) SG | 86 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 22:59 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | **19.5** | mg/kg | 5.9 | 1 | 02/11/11 15:20 | 02/12/11 06:37 | | |
| a,a,a-Trifluorotoluene (S) | 112 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 06:37 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 100 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 06:37 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 83-32-9 | |
| Acenaphthylene | **18.6** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 208-96-8 | |
| Anthracene | **30.8** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 120-12-7 | |
| Benzo(a)anthracene | **68.0** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 56-55-3 | |
| Benzo(a)pyrene | **77.3** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 50-32-8 | |
| Benzo(b)fluoranthene | **71.9** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 205-99-2 | |
| Benzo(g,h,i)perylene | **40.9** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 191-24-2 | |
| Benzo(k)fluoranthene | **41.9** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 207-08-9 | |
| Chrysene | **70.1** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 218-01-9 | |
| Dibenz(a,h)anthracene | **10.2** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 53-70-3 | |
| Fluoranthene | **138** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 206-44-0 | |
| Fluorene | **17.1** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **31.9** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 90-12-0 | |
| 2-Methylnaphthalene | **9.2** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 91-57-6 | |
| Naphthalene | **11.4** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 91-20-3 | |
| Phenanthrene | **121** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 85-01-8 | |
| Pyrene | **200** | ug/kg | 7.9 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 58 | % | 31-131 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 321-60-8 | |
| Terphenyl-d14 (S) | 74 | % | 30-133 | 1 | 02/09/11 11:10 | 02/11/11 23:52 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/09/11 14:00 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/09/11 14:00 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/09/11 14:00 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/09/11 14:00 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/09/11 14:00 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/09/11 14:00 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 72-122 | 1 | | 02/09/11 14:00 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/09/11 14:00 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **17.0** | % | 0.10 | 1 | | 02/12/11 15:16 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-23-2** **Lab ID: 256520005** Collected: 02/07/11 13:15 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 22.3 | 1 | 02/09/11 10:15 | 02/09/11 23:15 | | |
| Motor Oil Range SG | ND | mg/kg | 89.0 | 1 | 02/09/11 10:15 | 02/09/11 23:15 | 64742-65-0 | |
| n-Octacosane (S) SG | 96 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 23:15 | 630-02-4 | |
| o-Terphenyl (S) SG | 97 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 23:15 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.4 | 1 | 02/11/11 15:20 | 02/12/11 07:24 | | |
| a,a,a-Trifluorotoluene (S) | 100 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 07:24 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 89 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 07:24 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 83-32-9 | |
| Acenaphthylene | **7.5** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 208-96-8 | |
| Anthracene | **11.7** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 120-12-7 | |
| Benzo(a)anthracene | **32.3** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 56-55-3 | |
| Benzo(a)pyrene | **39.1** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 50-32-8 | |
| Benzo(b)fluoranthene | **29.8** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 205-99-2 | |
| Benzo(g,h,i)perylene | **24.0** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 191-24-2 | |
| Benzo(k)fluoranthene | **21.3** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 207-08-9 | |
| Chrysene | **34.2** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 53-70-3 | |
| Fluoranthene | **63.0** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **18.3** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 91-57-6 | |
| Naphthalene | **11.4** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 91-20-3 | |
| Phenanthrene | **45.4** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 85-01-8 | |
| Pyrene | **94.2** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 321-60-8 | |
| Terphenyl-d14 (S) | 68 | % | 30-133 | 1 | 02/09/11 11:10 | 02/12/11 00:11 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:33 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:33 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:33 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 02/10/11 12:33 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/10/11 12:33 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/10/11 12:33 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/10/11 12:33 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 02/10/11 12:33 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.1** | % | 0.10 | 1 | | 02/12/11 15:17 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-23-3** **Lab ID: 256520006** Collected: 02/07/11 13:30 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **32.1** | mg/kg | 21.6 | 1 | 02/09/11 10:15 | 02/09/11 23:32 | | |
| Motor Oil Range SG | **135** | mg/kg | 86.2 | 1 | 02/09/11 10:15 | 02/09/11 23:32 | 64742-65-0 | |
| n-Octacosane (S) SG | 94 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 23:32 | 630-02-4 | |
| o-Terphenyl (S) SG | 97 | % | 50-150 | 1 | 02/09/11 10:15 | 02/09/11 23:32 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/11/11 15:20 | 02/12/11 08:12 | | |
| a,a,a-Trifluorotoluene (S) | 108 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 08:12 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 96 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 08:12 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **17.0** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 83-32-9 | |
| Acenaphthylene | **75.6** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 208-96-8 | |
| Anthracene | **108** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 120-12-7 | |
| Benzo(a)anthracene | **330** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 56-55-3 | |
| Benzo(a)pyrene | **337** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 50-32-8 | |
| Benzo(b)fluoranthene | **271** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 205-99-2 | |
| Benzo(g,h,i)perylene | **173** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 191-24-2 | |
| Benzo(k)fluoranthene | **149** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 207-08-9 | |
| Chrysene | **295** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 218-01-9 | |
| Dibenz(a,h)anthracene | **45.3** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 53-70-3 | |
| Fluoranthene | **544** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 206-44-0 | |
| Fluorene | **46.1** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **141** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 193-39-5 | |
| 1-Methylnaphthalene | **17.3** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 90-12-0 | |
| 2-Methylnaphthalene | **22.9** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 91-57-6 | |
| Naphthalene | **26.9** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 91-20-3 | |
| Phenanthrene | **411** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 85-01-8 | |
| Pyrene | **799** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 55 | % | 31-131 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 321-60-8 | |
| Terphenyl-d14 (S) | 69 | % | 30-133 | 1 | 02/09/11 11:10 | 02/12/11 00:29 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:52 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:52 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:52 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 02/10/11 12:52 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 02/10/11 12:52 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/10/11 12:52 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 72-122 | 1 | | 02/10/11 12:52 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 80-143 | 1 | | 02/10/11 12:52 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.2** | % | 0.10 | 1 | | 02/12/11 15:18 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-24-1** **Lab ID: 256520007** Collected: 02/07/11 14:00 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **29.3** | mg/kg | 21.9 | 1 | 02/09/11 10:15 | 02/10/11 00:21 | | |
| Motor Oil Range SG | **116** | mg/kg | 87.7 | 1 | 02/09/11 10:15 | 02/10/11 00:21 | 64742-65-0 | |
| n-Octacosane (S) SG | 93 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 00:21 | 630-02-4 | |
| o-Terphenyl (S) SG | 96 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 00:21 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 02/11/11 15:20 | 02/12/11 08:35 | | |
| a,a,a-Trifluorotoluene (S) | 111 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 08:35 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 98 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 08:35 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **41.3** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 83-32-9 | |
| Acenaphthylene | **95.7** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 208-96-8 | |
| Anthracene | **188** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 120-12-7 | |
| Benzo(a)anthracene | **447** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 56-55-3 | |
| Benzo(a)pyrene | **484** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 50-32-8 | |
| Benzo(b)fluoranthene | **365** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 205-99-2 | |
| Benzo(g,h,i)perylene | **235** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 191-24-2 | |
| Benzo(k)fluoranthene | **214** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 207-08-9 | |
| Chrysene | **402** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 218-01-9 | |
| Dibenz(a,h)anthracene | **60.9** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 53-70-3 | |
| Fluoranthene | **780** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 206-44-0 | |
| Fluorene | **112** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **196** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 193-39-5 | |
| 1-Methylnaphthalene | **36.6** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 90-12-0 | |
| 2-Methylnaphthalene | **36.0** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 91-57-6 | |
| Naphthalene | **52.8** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 91-20-3 | |
| Phenanthrene | **637** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 85-01-8 | |
| Pyrene | **1090** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 321-60-8 | |
| Terphenyl-d14 (S) | 63 | % | 30-133 | 1 | 02/09/11 11:10 | 02/12/11 00:47 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 02/10/11 13:12 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 02/10/11 13:12 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 02/10/11 13:12 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.9 | 1 | | 02/10/11 13:12 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 02/10/11 13:12 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/10/11 13:12 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 72-122 | 1 | | 02/10/11 13:12 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 02/10/11 13:12 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.2** | % | 0.10 | 1 | | 02/12/11 15:18 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-24-2** **Lab ID: 256520008** Collected: 02/07/11 14:15 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **40.5** | mg/kg | 21.1 | 1 | 02/09/11 10:15 | 02/10/11 00:37 | | |
| Motor Oil Range SG | **198** | mg/kg | 84.5 | 1 | 02/09/11 10:15 | 02/10/11 00:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 93 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 00:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 00:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 02/11/11 15:20 | 02/12/11 08:59 | | |
| a,a,a-Trifluorotoluene (S) | 109 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 08:59 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 98 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 08:59 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **17.4** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 83-32-9 | |
| Acenaphthylene | **18.1** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 208-96-8 | |
| Anthracene | **33.6** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 120-12-7 | |
| Benzo(a)anthracene | **65.0** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 56-55-3 | |
| Benzo(a)pyrene | **78.8** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 50-32-8 | |
| Benzo(b)fluoranthene | **62.5** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 205-99-2 | |
| Benzo(g,h,i)perylene | **47.6** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 191-24-2 | |
| Benzo(k)fluoranthene | **41.5** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 207-08-9 | |
| Chrysene | **67.5** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 218-01-9 | |
| Dibenz(a,h)anthracene | **11.9** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 53-70-3 | |
| Fluoranthene | **110** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 206-44-0 | |
| Fluorene | **29.6** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **36.1** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 193-39-5 | |
| 1-Methylnaphthalene | **20.5** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 90-12-0 | |
| 2-Methylnaphthalene | **26.9** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 91-57-6 | |
| Naphthalene | **37.3** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 91-20-3 | |
| Phenanthrene | **118** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 85-01-8 | |
| Pyrene | **185** | ug/kg | 7.3 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 321-60-8 | |
| Terphenyl-d14 (S) | 69 | % | 30-133 | 1 | 02/09/11 11:10 | 02/12/11 01:06 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.7 | 1 | | 02/10/11 13:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.7 | 1 | | 02/10/11 13:31 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.7 | 1 | | 02/10/11 13:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 11.1 | 1 | | 02/10/11 13:31 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/10/11 13:31 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/10/11 13:31 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 72-122 | 1 | | 02/10/11 13:31 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 80-143 | 1 | | 02/10/11 13:31 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.1** | % | 0.10 | 1 | | 02/12/11 15:19 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-24-3** **Lab ID: 256520009** Collected: 02/07/11 14:30 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **26.6** | mg/kg | 21.0 | 1 | 02/09/11 10:15 | 02/10/11 00:54 | | |
| Motor Oil Range SG | **133** | mg/kg | 84.0 | 1 | 02/09/11 10:15 | 02/10/11 00:54 | 64742-65-0 | |
| n-Octacosane (S) SG | 91 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 00:54 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 00:54 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | **6.6** | mg/kg | 6.1 | 1 | 02/11/11 15:20 | 02/12/11 09:23 | | |
| a,a,a-Trifluorotoluene (S) | 107 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 09:23 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 97 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 09:23 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **10.7** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 83-32-9 | |
| Acenaphthylene | **40.1** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 208-96-8 | |
| Anthracene | **44.8** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 120-12-7 | |
| Benzo(a)anthracene | **98.2** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 56-55-3 | |
| Benzo(a)pyrene | **135** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 50-32-8 | |
| Benzo(b)fluoranthene | **103** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 205-99-2 | |
| Benzo(g,h,i)perylene | **74.6** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 191-24-2 | |
| Benzo(k)fluoranthene | **65.1** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 207-08-9 | |
| Chrysene | **103** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 218-01-9 | |
| Dibenz(a,h)anthracene | **19.8** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 53-70-3 | |
| Fluoranthene | **130** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 206-44-0 | |
| Fluorene | **30.9** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **60.2** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 193-39-5 | |
| 1-Methylnaphthalene | **10.9** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 90-12-0 | |
| 2-Methylnaphthalene | **17.9** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 91-57-6 | |
| Naphthalene | **28.1** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 91-20-3 | |
| Phenanthrene | **142** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 85-01-8 | |
| Pyrene | **285** | ug/kg | 7.4 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 54 | % | 31-131 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 321-60-8 | |
| Terphenyl-d14 (S) | 56 | % | 30-133 | 1 | 02/09/11 11:10 | 02/12/11 01:24 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/10/11 13:51 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/10/11 13:51 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/10/11 13:51 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.7 | 1 | | 02/10/11 13:51 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/10/11 13:51 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 02/10/11 13:51 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 72-122 | 1 | | 02/10/11 13:51 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 02/10/11 13:51 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.1** | % | 0.10 | 1 | | 02/12/11 15:20 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: SPL-24-4** **Lab ID: 256520010** Collected: 02/07/11 13:45 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **25.3** | mg/kg | 22.8 | 1 | 02/09/11 10:15 | 02/10/11 01:10 | | |
| Motor Oil Range SG | **115** | mg/kg | 91.4 | 1 | 02/09/11 10:15 | 02/10/11 01:10 | 64742-65-0 | |
| n-Octacosane (S) SG | 91 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 01:10 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 10:15 | 02/10/11 01:10 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | **76.5** | mg/kg | 6.1 | 1 | 02/11/11 15:20 | 02/12/11 09:46 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 09:46 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 122 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 09:46 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **25.2** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 83-32-9 | |
| Acenaphthylene | **56.7** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 208-96-8 | |
| Anthracene | **87.2** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 120-12-7 | |
| Benzo(a)anthracene | **228** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 56-55-3 | |
| Benzo(a)pyrene | **255** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 50-32-8 | |
| Benzo(b)fluoranthene | **187** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 205-99-2 | |
| Benzo(g,h,i)perylene | **131** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 191-24-2 | |
| Benzo(k)fluoranthene | **133** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 207-08-9 | |
| Chrysene | **214** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 218-01-9 | |
| Dibenz(a,h)anthracene | **34.0** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 53-70-3 | |
| Fluoranthene | **340** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 206-44-0 | |
| Fluorene | **58.3** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **108** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 193-39-5 | |
| 1-Methylnaphthalene | **25.8** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 90-12-0 | |
| 2-Methylnaphthalene | **27.5** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 91-57-6 | |
| Naphthalene | **44.3** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 91-20-3 | |
| Phenanthrene | **301** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 85-01-8 | |
| Pyrene | **516** | ug/kg | 7.6 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 60 | % | 31-131 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 321-60-8 | |
| Terphenyl-d14 (S) | 64 | % | 30-133 | 1 | 02/09/11 11:10 | 02/12/11 01:42 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 02/10/11 14:10 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 02/10/11 14:10 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 02/10/11 14:10 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.2 | 1 | | 02/10/11 14:10 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/10/11 14:10 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/10/11 14:10 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 72-122 | 1 | | 02/10/11 14:10 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 106 | % | 80-143 | 1 | | 02/10/11 14:10 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.7** | % | 0.10 | 1 | | 02/12/11 15:21 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

**Sample: TB-020711** **Lab ID: 256520011** Collected: 02/07/11 00:00 Received: 02/08/11 10:20 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/11/11 15:20 | 02/12/11 04:14 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 04:14 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 87 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 04:14 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:13 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:13 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/10/11 12:13 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/10/11 12:13 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 02/10/11 12:13 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/10/11 12:13 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 72-122 | 1 | | 02/10/11 12:13 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 104 | % | 80-143 | 1 | | 02/10/11 12:13 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: OEXT/3284 | Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 | Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010

METHOD BLANK: 57662 | Matrix: Solid
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 02/09/11 21:19 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 02/09/11 21:19 | |
| n-Octacosane (S) SG | % | 93 | 50-150 | 02/09/11 21:19 | |
| o-Terphenyl (S) SG | % | 86 | 50-150 | 02/09/11 21:19 | |

LABORATORY CONTROL SAMPLE: 57663

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 473 | 95 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 533 | 107 | 50-150 | |
| n-Octacosane (S) SG | % | | | 98 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 101 | 50-150 | |

SAMPLE DUPLICATE: 57664

| Parameter | Units | 256520003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 17.8J | | |
| Motor Oil Range SG | mg/kg | ND | 73.8J | | |
| n-Octacosane (S) SG | % | 92 | 92 | 6 | |
| o-Terphenyl (S) SG | % | 93 | 95 | 4 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: GCV/2150 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256520001, 256520002, 256520003

METHOD BLANK: 57717 | Matrix: Solid
Associated Lab Samples: 256520001, 256520002, 256520003

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/09/11 22:37 | |
| 4-Bromofluorobenzene (S) | % | 90 | 50-150 | 02/09/11 22:37 | |
| a,a,a-Trifluorotoluene (S) | % | 102 | 50-150 | 02/09/11 22:37 | |

LABORATORY CONTROL SAMPLE: 57718

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 11.0 | 88 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 85 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 90 | 50-150 | |

SAMPLE DUPLICATE: 58143

| Parameter | Units | 256498001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .95J | | |
| 4-Bromofluorobenzene (S) | % | 88 | 101 | 14 | |
| a,a,a-Trifluorotoluene (S) | % | 96 | 110 | 14 | |

SAMPLE DUPLICATE: 58144

| Parameter | Units | 256498006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .67J | | |
| 4-Bromofluorobenzene (S) | % | 86 | 86 | .7 | |
| a,a,a-Trifluorotoluene (S) | % | 98 | 97 | .8 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: GCV/2161 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010, 256520011

METHOD BLANK: 58273 Matrix: Solid
Associated Lab Samples: 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010, 256520011

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/12/11 03:50 | |
| 4-Bromofluorobenzene (S) | % | 87 | 50-150 | 02/12/11 03:50 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 50-150 | 02/12/11 03:50 | |

LABORATORY CONTROL SAMPLE: 58274

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.3 | 99 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 92 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 95 | 50-150 | |

SAMPLE DUPLICATE: 58443

| Parameter | Units | 256575003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.2J | | |
| 4-Bromofluorobenzene (S) | % | 97 | 93 | 4 | |
| a,a,a-Trifluorotoluene (S) | % | 109 | 105 | 3 | |

SAMPLE DUPLICATE: 58444

| Parameter | Units | 256520004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 19.5 | 15.1 | 26 | |
| 4-Bromofluorobenzene (S) | % | 100 | 99 | 1 | |
| a,a,a-Trifluorotoluene (S) | % | 112 | 110 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: OEXT/3283 | Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 | Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010

METHOD BLANK: 57658 | Matrix: Solid
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Acenaphthene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Anthracene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Chrysene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Fluoranthene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Fluorene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Naphthalene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Phenanthrene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| Pyrene | ug/kg | ND | 6.7 | 02/11/11 21:44 | |
| 2-Fluorobiphenyl (S) | % | 49 | 31-131 | 02/11/11 21:44 | |
| Terphenyl-d14 (S) | % | 60 | 30-133 | 02/11/11 21:44 | |

LABORATORY CONTROL SAMPLE: 57659

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 89.3 | 67 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 90.0 | 68 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 82.3 | 62 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 82.2 | 62 | 31-134 | |
| Anthracene | ug/kg | 133 | 83.5 | 63 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 89.9 | 67 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 91.5 | 69 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 83.0 | 62 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 70.0 | 53 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 84.9 | 64 | 45-147 | |
| Chrysene | ug/kg | 133 | 81.1 | 61 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 73.2 | 55 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 86.5 | 65 | 44-143 | |
| Fluorene | ug/kg | 133 | 87.3 | 65 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 72.8 | 55 | 47-140 | |
| Naphthalene | ug/kg | 133 | 77.2 | 58 | 35-118 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

LABORATORY CONTROL SAMPLE: 57659

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Phenanthrene | ug/kg | 133 | 86.8 | 65 | 42-131 | |
| Pyrene | ug/kg | 133 | 88.3 | 66 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 58 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 70 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 57660 57661

| Parameter | Units | 256520001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 143 | 143 | 99.5 | 100 | 68 | 68 | 31-123 | .6 | |
| 2-Methylnaphthalene | ug/kg | ND | 143 | 143 | 99.7 | 103 | 68 | 69 | 15-146 | 3 | |
| Acenaphthene | ug/kg | ND | 143 | 143 | 91.6 | 91.8 | 63 | 63 | 19-141 | .2 | |
| Acenaphthylene | ug/kg | ND | 143 | 143 | 96.1 | 97.3 | 63 | 64 | 30-142 | 1 | |
| Anthracene | ug/kg | ND | 143 | 143 | 101 | 101 | 65 | 66 | 38-137 | .6 | |
| Benzo(a)anthracene | ug/kg | 22.2 | 143 | 143 | 121 | 126 | 69 | 72 | 37-143 | 4 | |
| Benzo(a)pyrene | ug/kg | 21.7 | 143 | 143 | 123 | 123 | 71 | 71 | 33-147 | .1 | |
| Benzo(b)fluoranthene | ug/kg | 19.2 | 143 | 143 | 125 | 109 | 74 | 62 | 25-156 | 14 | |
| Benzo(g,h,i)perylene | ug/kg | 11.2 | 143 | 143 | 93.0 | 92.9 | 57 | 57 | 26-142 | .1 | |
| Benzo(k)fluoranthene | ug/kg | 12.1 | 143 | 143 | 95.4 | 107 | 58 | 66 | 35-142 | 11 | |
| Chrysene | ug/kg | 19.7 | 143 | 143 | 113 | 114 | 66 | 66 | 23-150 | .6 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 143 | 143 | 84.1 | 83.4 | 57 | 56 | 41-140 | .9 | |
| Fluoranthene | ug/kg | 41.2 | 143 | 143 | 150 | 153 | 76 | 78 | 25-155 | 2 | |
| Fluorene | ug/kg | ND | 143 | 143 | 101 | 102 | 68 | 68 | 33-152 | .5 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 8.8 | 143 | 143 | 90.8 | 90.9 | 57 | 57 | 36-139 | .08 | |
| Naphthalene | ug/kg | ND | 143 | 143 | 87.5 | 89.0 | 58 | 59 | 25-121 | 2 | |
| Phenanthrene | ug/kg | 29.7 | 143 | 143 | 141 | 149 | 78 | 83 | 29-141 | 6 | |
| Pyrene | ug/kg | 54.2 | 143 | 143 | 187 | 199 | 93 | 101 | 36-145 | 6 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 58 | 59 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 75 | 74 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: MSV/3825 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004

METHOD BLANK: 57637 Matrix: Solid
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/09/11 12:43 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/09/11 12:43 | |
| Toluene | ug/kg | ND | 3.0 | 02/09/11 12:43 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/09/11 12:43 | |
| 1,2-Dichloroethane-d4 (S) | % | 102 | 80-143 | 02/09/11 12:43 | |
| 4-Bromofluorobenzene (S) | % | 105 | 72-122 | 02/09/11 12:43 | |
| Dibromofluoromethane (S) | % | 95 | 80-136 | 02/09/11 12:43 | |
| Toluene-d8 (S) | % | 104 | 80-120 | 02/09/11 12:43 | |

LABORATORY CONTROL SAMPLE & LCSD: 57638 57639

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 51.0 | 48.4 | 102 | 97 | 75-133 | 5 | 30 | |
| Ethylbenzene | ug/kg | 50 | 50.5 | 46.7 | 101 | 93 | 68-131 | 8 | 30 | |
| Toluene | ug/kg | 50 | 55.1 | 48.4 | 110 | 97 | 73-124 | 13 | 30 | |
| Xylene (Total) | ug/kg | 150 | 158 | 145 | 105 | 96 | 68-130 | 9 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 111 | 98 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 103 | 109 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 103 | 95 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 107 | 99 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: MSV/3835 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256520005, 256520006, 256520007, 256520008, 256520009, 256520010, 256520011

METHOD BLANK: 57832 Matrix: Solid
Associated Lab Samples: 256520005, 256520006, 256520007, 256520008, 256520009, 256520010, 256520011

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/10/11 11:54 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/10/11 11:54 | |
| Toluene | ug/kg | ND | 3.0 | 02/10/11 11:54 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/10/11 11:54 | |
| 1,2-Dichloroethane-d4 (S) | % | 109 | 80-143 | 02/10/11 11:54 | |
| 4-Bromofluorobenzene (S) | % | 98 | 72-122 | 02/10/11 11:54 | |
| Dibromofluoromethane (S) | % | 94 | 80-136 | 02/10/11 11:54 | |
| Toluene-d8 (S) | % | 101 | 80-120 | 02/10/11 11:54 | |

LABORATORY CONTROL SAMPLE & LCSD: 57833 58364

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 45.0 | 45.0 | 90 | 90 | 75-133 | .008 | 30 | |
| Ethylbenzene | ug/kg | 50 | 44.0 | 43.7 | 88 | 87 | 68-131 | .6 | 30 | |
| Toluene | ug/kg | 50 | 47.1 | 44.7 | 94 | 89 | 73-124 | 5 | 30 | |
| Xylene (Total) | ug/kg | 150 | 138 | 135 | 92 | 90 | 68-130 | 2 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 109 | 104 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 105 | 105 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 99 | 96 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 106 | 100 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

QC Batch: PMST/1517 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256520001, 256520002, 256520003, 256520004, 256520005, 256520006, 256520007, 256520008, 256520009, 256520010

SAMPLE DUPLICATE: 58349

| Parameter | Units | 256499001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 11.4 | 12.2 | 6 | |

SAMPLE DUPLICATE: 58350

| Parameter | Units | 256520010 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 12.7 | 11.8 | 7 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

PASI-S Pace Analytical Services - Seattle

## BATCH QUALIFIERS

Batch: MSV/3825

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/3835

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256520001** | **SPL-22-1** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520002** | **SPL-22-2** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520003** | **SPL-22-3** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520004** | **SPL-23-1** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520005** | **SPL-23-2** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520006** | **SPL-23-3** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520007** | **SPL-24-1** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520008** | **SPL-24-2** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520009** | **SPL-24-3** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520010** | **SPL-24-4** | EPA 3546 | OEXT/3284 | NWTPH-Dx | GCSV/2248 |
| **256520001** | **SPL-22-1** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256520002** | **SPL-22-2** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256520003** | **SPL-22-3** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256520004** | **SPL-23-1** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520005** | **SPL-23-2** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520006** | **SPL-23-3** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520007** | **SPL-24-1** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520008** | **SPL-24-2** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520009** | **SPL-24-3** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520010** | **SPL-24-4** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520011** | **TB-020711** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256520001** | **SPL-22-1** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520002** | **SPL-22-2** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520003** | **SPL-22-3** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520004** | **SPL-23-1** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520005** | **SPL-23-2** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520006** | **SPL-23-3** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520007** | **SPL-24-1** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520008** | **SPL-24-2** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520009** | **SPL-24-3** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520010** | **SPL-24-4** | EPA 3546 | OEXT/3283 | EPA 8270 by SIM | MSSV/1520 |
| **256520001** | **SPL-22-1** | EPA 8260 | MSV/3825 | | |
| **256520002** | **SPL-22-2** | EPA 8260 | MSV/3825 | | |
| **256520003** | **SPL-22-3** | EPA 8260 | MSV/3825 | | |
| **256520004** | **SPL-23-1** | EPA 8260 | MSV/3825 | | |
| **256520005** | **SPL-23-2** | EPA 8260 | MSV/3835 | | |
| **256520006** | **SPL-23-3** | EPA 8260 | MSV/3835 | | |
| **256520007** | **SPL-24-1** | EPA 8260 | MSV/3835 | | |
| **256520008** | **SPL-24-2** | EPA 8260 | MSV/3835 | | |
| **256520009** | **SPL-24-3** | EPA 8260 | MSV/3835 | | |
| **256520010** | **SPL-24-4** | EPA 8260 | MSV/3835 | | |
| **256520011** | **TB-020711** | EPA 8260 | MSV/3835 | | |
| **256520001** | **SPL-22-1** | ASTM D2974-87 | PMST/1517 | | |
| **256520002** | **SPL-22-2** | ASTM D2974-87 | PMST/1517 | | |
| **256520003** | **SPL-22-3** | ASTM D2974-87 | PMST/1517 | | |
| **256520004** | **SPL-23-1** | ASTM D2974-87 | PMST/1517 | | |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256520

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256520005** | **SPL-23-2** | ASTM D2974-87 | PMST/1517 | | |
| **256520006** | **SPL-23-3** | ASTM D2974-87 | PMST/1517 | | |
| **256520007** | **SPL-24-1** | ASTM D2974-87 | PMST/1517 | | |
| **256520008** | **SPL-24-2** | ASTM D2974-87 | PMST/1517 | | |
| **256520009** | **SPL-24-3** | ASTM D2974-87 | PMST/1517 | | |
| **256520010** | **SPL-24-4** | ASTM D2974-87 | PMST/1517 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256520

Page: 1 of 1

1446264

**Section A** Required Client Information:
Company: BROWN AND CALDWELL
Address: 724 COLUMBIA NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-7525 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:
Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:
Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): SG, SG

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test: TPH-Hc, TPH-D | DIOXIN, FURAN | PAH, NAPTHALENE | Cd, Cu, Pb, As, Ni | BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-22-1 | SL | G | | | 02-07-11 | 12:15 | | 7 | X | | | | | | X | X | X | X | X | X | X | | |
| 2 | SPL-22-2 | | | | | | 12:30 | | | | | | | | | | | | | | | | | |
| 3 | SPL-22-3 | | | | | | 12:44 | | | | | | | | | | | | | | | | | |
| 4 | SPL-23-1 | | | | | | 13:00 | | | | | | | | | | | | | | | | | |
| 5 | SPL-23-2 | | | | | | 13:15 | | | | | | | | | | | | | | | | | |
| 6 | SPL-23-3 | | | | | | 13:30 | | | | | | | | | | | | | | | | | |
| 7 | SPL-24-1 | | | | | | 14:00 | | | | | | | | | | | | | | | | | |
| 8 | SPL-24-2 | | | | | | 14:15 | | | | | | | | | | | | | | | | | |
| 9 | SPL-24-3 | | | | | | 14:30 | | | | | | | | | | | | | | | | | |
| 10 | SPL-24-4 | | | | | | 13:45 | | | | | | | | | | | | | | | | | |
| 11 | TB-020711 | WT | | | | | | | 3 | | | | | | | X | X | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| temp blank included | Ada Hamilton / BC | 02-08-11 | 10:20 | ~~custody seal - correct~~ | | | | | | |
| | | | | Jenni Cross / Pace | 2/8/11 | 10:20 | 4.0 | Y | N | Y |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: ADA HAMILTON
SIGNATURE of SAMPLER: Ada Hamilton
DATE Signed (MM/DD/YY): 02/07/11

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

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

# Sample Container Count

CLIENT: Brown & Caldwell

Pace Analytical™

COC PAGE 1 of 1
COC ID# 1440264

256520

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | JGAM | | JGAW | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 1 | | 2 | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | 2 | | | | | |
| 11 | | | | | | | | | | | | 1 | | 2 | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | VG9U | 40mL unpreserved clear vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved amber vial | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | |

# Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 256520

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or 101791962 or 126099 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.0 Biological Tissue Is Frozen: Yes No

Date and Initials of person examining contents: NJS 2/8/11

Temp should be above freezing ≤ 6°C

Comments:

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes | ☐ No | ☐ N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐ Yes | ☑ No | ☐ N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐ Yes | ☑ No | ☐ N/A | 7. |
| Sufficient Volume: | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact: | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes | ☐ No | ☑ N/A | 11. |
| Sample Labels match COC: | ☑ Yes | ☐ No | ☐ N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | | | |
| All containers needing preservation have been checked. | ☐ Yes | ☐ No | ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes | ☐ No | ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes | ☐ No | ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes | ☐ No | ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes | ☐ No | ☐ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes | ☐ No | ☐ N/A | |
| Pace Trip Blank Lot # (if purchased): | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS **Date:** 2/8/11

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 25, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256548

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Andy Brownfield for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256548001** | **SPL-25-1** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548002** | **SPL-25-2** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548003** | **SPL-25-3** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548004** | **SPL-25-4** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548005** | **SPL-25-5** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548006** | **SPL-26-1** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548007** | **SPL-26-2** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548008** | **SPL-26-3** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256548009** | **SPL-26-4** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

**Sample: SPL-25-1** **Lab ID: 256548001** Collected: 02/09/11 10:30 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.0** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:58 | 7440-38-2 | |
| Cadmium | **0.14** | mg/kg | 0.068 | 20 | 02/14/11 09:13 | 02/23/11 11:58 | 7440-43-9 | |
| Copper | **24.2** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:58 | 7440-50-8 | |
| Lead | **4.9** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:58 | 7439-92-1 | |
| Nickel | **33.8** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:58 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **7.8** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-25-2** **Lab ID: 256548002** Collected: 02/09/11 10:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.7** | mg/kg | 0.39 | 20 | 02/14/11 09:13 | 02/23/11 12:08 | 7440-38-2 | |
| Cadmium | **0.53** | mg/kg | 0.063 | 20 | 02/14/11 09:13 | 02/23/11 12:08 | 7440-43-9 | |
| Copper | **69.4** | mg/kg | 0.39 | 20 | 02/14/11 09:13 | 02/23/11 12:08 | 7440-50-8 | M6 |
| Lead | **21.2** | mg/kg | 0.39 | 20 | 02/14/11 09:13 | 02/23/11 12:08 | 7439-92-1 | |
| Nickel | **26.9** | mg/kg | 0.39 | 20 | 02/14/11 09:13 | 02/23/11 12:08 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.6** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-25-3** **Lab ID: 256548003** Collected: 02/09/11 11:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.0** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:01 | 7440-38-2 | |
| Cadmium | **0.12** | mg/kg | 0.064 | 20 | 02/14/11 09:13 | 02/23/11 12:01 | 7440-43-9 | |
| Copper | **21.6** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:01 | 7440-50-8 | |
| Lead | **7.4** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:01 | 7439-92-1 | |
| Nickel | **23.0** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:01 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **8.1** | % | 0.10 | 1 | | 02/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

**Sample: SPL-25-4** **Lab ID: 256548004** Collected: 02/09/11 11:15 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.9** | mg/kg | 0.45 | 20 | 02/14/11 09:13 | 02/23/11 12:05 | 7440-38-2 | |
| Cadmium | **0.14** | mg/kg | 0.072 | 20 | 02/14/11 09:13 | 02/23/11 12:05 | 7440-43-9 | |
| Copper | **17.5** | mg/kg | 0.45 | 20 | 02/14/11 09:13 | 02/23/11 12:05 | 7440-50-8 | |
| Lead | **7.8** | mg/kg | 0.45 | 20 | 02/14/11 09:13 | 02/23/11 12:05 | 7439-92-1 | |
| Nickel | **26.2** | mg/kg | 0.45 | 20 | 02/14/11 09:13 | 02/23/11 12:05 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **9.9** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-25-5** **Lab ID: 256548005** Collected: 02/09/11 11:27 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.3** | mg/kg | 0.51 | 20 | 02/14/11 09:13 | 02/23/11 12:28 | 7440-38-2 | |
| Cadmium | **0.43** | mg/kg | 0.082 | 20 | 02/14/11 09:13 | 02/23/11 12:28 | 7440-43-9 | |
| Copper | **67.3** | mg/kg | 0.51 | 20 | 02/14/11 09:13 | 02/23/11 12:28 | 7440-50-8 | |
| Lead | **17.2** | mg/kg | 0.51 | 20 | 02/14/11 09:13 | 02/23/11 12:28 | 7439-92-1 | |
| Nickel | **32.4** | mg/kg | 0.51 | 20 | 02/14/11 09:13 | 02/23/11 12:28 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.5** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-26-1** **Lab ID: 256548006** Collected: 02/09/11 11:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.8** | mg/kg | 0.44 | 20 | 02/14/11 09:13 | 02/23/11 12:32 | 7440-38-2 | |
| Cadmium | **1.6** | mg/kg | 0.070 | 20 | 02/14/11 09:13 | 02/23/11 12:32 | 7440-43-9 | |
| Copper | **58.0** | mg/kg | 0.44 | 20 | 02/14/11 09:13 | 02/23/11 12:32 | 7440-50-8 | |
| Lead | **40.3** | mg/kg | 0.44 | 20 | 02/14/11 09:13 | 02/23/11 12:32 | 7439-92-1 | |
| Nickel | **25.3** | mg/kg | 0.44 | 20 | 02/14/11 09:13 | 02/23/11 12:32 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **13.5** | % | 0.10 | 1 | | 02/14/11 00:00 | | |



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Seattle, WA 98108
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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

**Sample: SPL-26-2** **Lab ID: 256548007** Collected: 02/09/11 12:03 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.6** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:35 | 7440-38-2 | |
| Cadmium | **1.4** | mg/kg | 0.063 | 20 | 02/14/11 09:13 | 02/23/11 12:35 | 7440-43-9 | |
| Copper | **37.8** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:35 | 7440-50-8 | |
| Lead | **21.7** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:35 | 7439-92-1 | |
| Nickel | **23.9** | mg/kg | 0.40 | 20 | 02/14/11 09:13 | 02/23/11 12:35 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.9** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-26-3** **Lab ID: 256548008** Collected: 02/09/11 12:16 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.4** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 12:38 | 7440-38-2 | |
| Cadmium | **1.9** | mg/kg | 0.087 | 20 | 02/14/11 09:13 | 02/23/11 12:38 | 7440-43-9 | |
| Copper | **85.7** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 12:38 | 7440-50-8 | |
| Lead | **49.6** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 12:38 | 7439-92-1 | |
| Nickel | **26.8** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 12:38 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **11.0** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-26-4** **Lab ID: 256548009** Collected: 02/09/11 12:27 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **7.3** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 12:41 | 7440-38-2 | |
| Cadmium | **1.7** | mg/kg | 0.089 | 20 | 02/14/11 09:13 | 02/23/11 12:41 | 7440-43-9 | |
| Copper | **59.1** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 12:41 | 7440-50-8 | |
| Lead | **34.5** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 12:41 | 7439-92-1 | |
| Nickel | **24.1** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 12:41 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **11.1** | % | 0.10 | 1 | | 02/14/11 00:00 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

QC Batch: ICPM/24719 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256548001, 256548002, 256548003, 256548004, 256548005, 256548006, 256548007, 256548008, 256548009

METHOD BLANK: 930612 Matrix: Solid
Associated Lab Samples: 256548001, 256548002, 256548003, 256548004, 256548005, 256548006, 256548007, 256548008, 256548009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 02/23/11 11:00 | |
| Cadmium | mg/kg | ND | 0.076 | 02/23/11 11:00 | |
| Copper | mg/kg | ND | 0.48 | 02/23/11 11:00 | |
| Lead | mg/kg | ND | 0.48 | 02/23/11 11:00 | |
| Nickel | mg/kg | ND | 0.48 | 02/23/11 11:00 | |

LABORATORY CONTROL SAMPLE: 930613

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.2 | 20.1 | 105 | 75-125 | |
| Cadmium | mg/kg | 19.2 | 20.2 | 105 | 75-125 | |
| Copper | mg/kg | 19.2 | 21.1 | 110 | 75-125 | |
| Lead | mg/kg | 19.2 | 20.4 | 106 | 75-125 | |
| Nickel | mg/kg | 19.2 | 20.8 | 108 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 930614 930615

| Parameter | Units | 256547001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.3 | 20.8 | 20.2 | 24.9 | 23.6 | 104 | 101 | 75-125 | 5 | |
| Cadmium | mg/kg | 0.11 | 20.8 | 20.2 | 22.2 | 21.3 | 106 | 105 | 75-125 | 4 | |
| Copper | mg/kg | 19.8 | 20.8 | 20.2 | 48.6 | 41.3 | 138 | 106 | 75-125 | 16 | M6 |
| Lead | mg/kg | 7.7 | 20.8 | 20.2 | 29.9 | 30.7 | 107 | 114 | 75-125 | 3 | |
| Nickel | mg/kg | 21.8 | 20.8 | 20.2 | 55.4 | 48.2 | 162 | 130 | 75-125 | 14 | M6 |

MATRIX SPIKE SAMPLE: 930616

| Parameter | Units | 256548002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.7 | 17.8 | 22.0 | 97 | 75-125 | |
| Cadmium | mg/kg | 0.53 | 17.8 | 20.1 | 111 | 75-125 | |
| Copper | mg/kg | 69.4 | 17.8 | 59.7 | -55 | 75-125 | M6 |
| Lead | mg/kg | 21.2 | 17.8 | 41.3 | 113 | 75-125 | |
| Nickel | mg/kg | 26.9 | 17.8 | 46.6 | 111 | 75-125 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

QC Batch: MPRP/24722 Analysis Method: % Moisture
QC Batch Method: % Moisture Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256548001, 256548002, 256548003, 256548004, 256548005

SAMPLE DUPLICATE: 930649

| Parameter | Units | 10149339001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 13.5 | 14.3 | 6 | |

SAMPLE DUPLICATE: 930650

| Parameter | Units | 256548005 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.5 | 9.5 | 10 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

QC Batch: MPRP/24723 Analysis Method: % Moisture
QC Batch Method: % Moisture Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256548006, 256548007, 256548008, 256548009

SAMPLE DUPLICATE: 930686

| Parameter | Units | 256548006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 13.5 | 13.1 | 3 | |

SAMPLE DUPLICATE: 930703

| Parameter | Units | 10149367001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 21.5 | 21.6 | .4 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256548

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256548001** | **SPL-25-1** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548002** | **SPL-25-2** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548003** | **SPL-25-3** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548004** | **SPL-25-4** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548005** | **SPL-25-5** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548006** | **SPL-26-1** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548007** | **SPL-26-2** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548008** | **SPL-26-3** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548009** | **SPL-26-4** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256548001** | **SPL-25-1** | % Moisture | MPRP/24722 | | |
| **256548002** | **SPL-25-2** | % Moisture | MPRP/24722 | | |
| **256548003** | **SPL-25-3** | % Moisture | MPRP/24722 | | |
| **256548004** | **SPL-25-4** | % Moisture | MPRP/24722 | | |
| **256548005** | **SPL-25-5** | % Moisture | MPRP/24722 | | |
| **256548006** | **SPL-26-1** | % Moisture | MPRP/24723 | | |
| **256548007** | **SPL-26-2** | % Moisture | MPRP/24723 | | |
| **256548008** | **SPL-26-3** | % Moisture | MPRP/24723 | | |
| **256548009** | **SPL-26-4** | % Moisture | MPRP/24723 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256548

Page: of

1446265

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBUS NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-7525 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | TPH-HO, TPH-D (SG) | DIOXIN FURAN | CPAH, Naphthalene | Cd, Cu, Pb, As, Ni | BTEX, TPH-G (SG) | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-25-1 | SL | G | | | 02-09-11 | 10:30 | 7 | 7 | X | | | | | | X | X | | X | X | X | X | X | | |
| 2 | SPL-25-2 | | | | | | 10:45 | | | | | | | | | | | | | | | | | | |
| 3 | SPL-25-3 | | | | | | 11:00 | | | | | | | | | | | | | | | | | | |
| 4 | SPL-25-4 | | | | | | 11:15 | | 11 | | | | | | | | | | | | | | | | |
| 5 | SPL-25-5 | | | | | | 11:27 | | 7 | | | | | | | | | | | | | | | | |
| 6 | SPL-26-1 | | | | | | 11:45 | | | | | | | | | | | | | | | | | | |
| 7 | SPL-26-2 | | | | | | 12:03 | | | | | | | | | | | | | | | | | | |
| 8 | SPL-26-3 | | | | | | 12:16 | | | | | | | | | | | | | | | | | | |
| 9 | SPL-26-4 | | | | | | 12:27 | | | | | | | | | | | | | | | | | | |
| 10 | TB020911-A | | | | | 02-09-11 | | 3 | 3 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| temp blank included | Ada Hamilton/BC | 2-10-11 | 0741 | Pace | 2-10-11 | 0741 | 1.0 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: ADA HAMILTON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/09/11

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

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

CLIENT: Brown & Caldwell

COC PAGE 1 of 1
COC ID# 1446265

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256548

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 256548

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

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

**Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ✓ No _____

**Thermometer Used** 132013 or 101731962 or 226099 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.0c **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** 021011 CW

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. 10 RUSH for Dioxins |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS **Date:** 2/10/11

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

February 24, 2011

## Report Information:

**Pace Project #: 10149299**
**Sample Receipt Date: 02/11/2011**
**Client Project #: 256548**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

February 25, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on nine samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 45-109%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Values above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 85-107%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

1151

10149299

# Chain of Custody

10-Day Dioxin Rush RUSH

Pace Analytical®
www.pacelabs.com

**Workorder:** 256548 **Workorder Name:** Olympia Soils **Owner Received Date:** 2/10/2011 **Results Requested By:** ~~2/24/2011~~ 2/25/11

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxin, 8290 | Cu, Cd, Pb, Ni, As by 6020 | Dry weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-25-1 | PS | 2/9/2011 10:30 | 256548001 | Solid | 2 | X | X | X | |
| 2 | SPL-25-2 | PS | 2/9/2011 10:45 | 256548002 | Solid | 2 | X | X | X | |
| 3 | SPL-25-3 | PS | 2/9/2011 11:00 | 256548003 | Solid | 2 | X | X | X | |
| 4 | SPL-25-4 | PS | 2/9/2011 11:15 | 256548004 | Solid | 2 | X | X | X | |
| 5 | SPL-25-5 | PS | 2/9/2011 11:27 | 256548005 | Solid | 2 | X | X | X | |
| 6 | SPL-26-1 | PS | 2/9/2011 11:45 | 256548006 | Solid | 2 | X | X | X | |
| 7 | SPL-26-2 | PS | 2/9/2011 12:03 | 256548007 | Solid | 2 | X | X | X | |
| 8 | SPL-26-3 | PS | 2/9/2011 12:16 | 256548008 | Solid | 2 | X | X | X | |
| 9 | SPL-26-4 | PS | 2/9/2011 12:27 | 256548009 | Solid | 2 | X | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Beth Sidey | 2/10/11 1300 | Pace | 2/11/11 1003 |
| 2 | | | | |
| 3 | | | | |

**Comments**

10-Day Rush Dioxins

**Cooler Temperature on Receipt** 5.5 °C **Custody Seal** Y or (N) **Received on Ice** (Y) or N **Samples Intact** (Y) or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace Seattle **Project #** 10149299

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

**Tracking #:** 7467504 13158

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes X No _____

**Thermometer Used** ~~86344042 or 179425~~ **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 5.5 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and initials of person examining contents:** 2/11

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☑No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☐N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed SL / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 2/11/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-25-1 | | | |
| Lab Sample ID | 256548001 | | | |
| Filename | U110223A_03 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.0 g | Matrix | Solid | |
| % Moisture | 7.8 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/09/2011 | 10:30 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 08:48 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 15 | 0.11 | P | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 220.0 | ----- | 0.11 | | 2,3,7,8-TCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | 3.8 | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 280.0 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 92 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDF | ----- | 17 | 0.32 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 27.0 | ----- | 0.39 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 74 |
| Total PeCDF | 220.0 | ----- | 0.36 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDD | 15.0 | ----- | 0.33 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 370.0 | ----- | 0.33 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 80 |
| 1,2,3,4,7,8-HxCDF | ----- | 28 | 0.26 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 92 |
| 1,2,3,6,7,8-HxCDF | 20.0 | ----- | 0.31 | | OCDD-13C | 4.00 | 80 |
| 2,3,4,6,7,8-HxCDF | 22.0 | ----- | 0.23 | | | | |
| 1,2,3,7,8,9-HxCDF | 6.0 | ----- | 0.15 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 150.0 | ----- | 0.24 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 15.0 | ----- | 0.57 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 81 |
| 1,2,3,6,7,8-HxCDD | 33.0 | ----- | 0.48 | | | | |
| 1,2,3,7,8,9-HxCDD | 23.0 | ----- | 0.49 | | | | |
| Total HxCDD | 480.0 | ----- | 0.51 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 69.0 | ----- | 0.27 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 8.0 | ----- | 0.28 | | Equivalence: 43 ng/Kg | | |
| Total HpCDF | 150.0 | ----- | 0.27 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 250.0 | ----- | 0.60 | | | | |
| Total HpCDD | 470.0 | ----- | 0.60 | | | | |
| OCDF | ND | ----- | 0.15 | | | | |
| OCDD | 1900.0 | ----- | 0.21 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-25-2 | | | |
| Lab Sample ID | 256548002 | | | |
| Filename | U110223A_04 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.5 g | Matrix | Solid | |
| % Moisture | 10.6 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/09/2011 | 10:45 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 09:36 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 60 | 0.33 | P | 2,3,7,8-TCDF-13C | 2.00 | 69 |
| Total TCDF | 850 | ----- | 0.33 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 77 |
| 2,3,7,8-TCDD | 16 | ----- | 0.32 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 |
| Total TCDD | 1500 | ----- | 0.32 | E | 1,2,3,7,8-PeCDD-13C | 2.00 | 93 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | ----- | 68 | 0.52 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 100 | ----- | 0.48 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 780 | ----- | 0.50 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 95 |
| 1,2,3,7,8-PeCDD | 70 | ----- | 0.48 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 70 |
| Total PeCDD | 1700 | ----- | 0.48 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | ----- | 93 | 0.57 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 89 |
| 1,2,3,6,7,8-HxCDF | 78 | ----- | 0.82 | | OCDD-13C | 4.00 | 77 |
| 2,3,4,6,7,8-HxCDF | 86 | ----- | 0.47 | | | | |
| 1,2,3,7,8,9-HxCDF | 20 | ----- | 0.41 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 590 | ----- | 0.57 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 67 | ----- | 0.87 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 78 |
| 1,2,3,6,7,8-HxCDD | 140 | ----- | 0.79 | | | | |
| 1,2,3,7,8,9-HxCDD | 87 | ----- | 0.74 | | | | |
| Total HxCDD | 2200 | ----- | 0.80 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 210 | ----- | 0.37 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 28 | ----- | 0.48 | | Equivalence: 170 ng/Kg | | |
| Total HpCDF | 380 | ----- | 0.42 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 730 | ----- | 0.69 | | | | |
| Total HpCDD | 1400 | ----- | 0.69 | | | | |
| OCDF | ----- | 140 | 0.27 | P | | | |
| OCDD | 3000 | ----- | 0.25 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-25-3 | | | |
| Lab Sample ID | 256548003 | | | |
| Filename | U110223A_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.0 g | Matrix | Solid | |
| % Moisture | 8.1 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/09/2011 | 11:00 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 10:24 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 4.4 | ----- | 0.12 | | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 78.0 | ----- | 0.12 | | 2,3,7,8-TCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | 1.1 | ----- | 0.23 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 77 |
| Total TCDD | 84.0 | ----- | 0.23 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDF | ----- | 4.3 | 0.36 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 7.3 | ----- | 0.30 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 66.0 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 108 |
| 1,2,3,7,8-PeCDD | 4.6 | ----- | 0.36 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | 120.0 | ----- | 0.36 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 94 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 92 |
| 1,2,3,4,7,8-HxCDF | ----- | 5.8 | 0.27 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 109 |
| 1,2,3,6,7,8-HxCDF | 5.7 | ----- | 0.33 | | OCDD-13C | 4.00 | 94 |
| 2,3,4,6,7,8-HxCDF | 4.7 | ----- | 0.33 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.3 | ----- | 0.17 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 42.0 | ----- | 0.27 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 6.0 | ----- | 0.29 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | 10.0 | ----- | 0.33 | | | | |
| 1,2,3,7,8,9-HxCDD | 5.7 | ----- | 0.25 | | | | |
| Total HxCDD | 150.0 | ----- | 0.29 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 16.0 | ----- | 0.15 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.8 | ----- | 0.15 | J | Equivalence: 13 ng/Kg | | |
| Total HpCDF | 38.0 | ----- | 0.15 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 61.0 | ----- | 0.43 | | | | |
| Total HpCDD | 120.0 | ----- | 0.43 | | | | |
| OCDF | 23.0 | ----- | 0.26 | | | | |
| OCDD | 350.0 | ----- | 1.10 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-25-4 | | | |
| Lab Sample ID | 256548004 | | | |
| Filename | U110223A_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 9.9 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/09/2011 | 11:15 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 11:12 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 4.9 | ----- | 0.200 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 84.0 | ----- | 0.200 | | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 78 |
| 2,3,7,8-TCDD | 1.3 | ----- | 0.280 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 88.0 | ----- | 0.280 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 91 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDF | ----- | 5.0 | 0.190 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 8.2 | ----- | 0.200 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 70.0 | ----- | 0.190 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 93 |
| 1,2,3,7,8-PeCDD | 5.9 | ----- | 0.160 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 70 |
| Total PeCDD | 120.0 | ----- | 0.160 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | ----- | 7.7 | 0.190 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 89 |
| 1,2,3,6,7,8-HxCDF | 6.2 | ----- | 0.190 | | OCDD-13C | 4.00 | 77 |
| 2,3,4,6,7,8-HxCDF | 6.5 | ----- | 0.170 | | | | |
| 1,2,3,7,8,9-HxCDF | 1.7 | ----- | 0.098 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 48.0 | ----- | 0.160 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 4.9 | ----- | 0.290 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 11.0 | ----- | 0.380 | | | | |
| 1,2,3,7,8,9-HxCDD | 6.6 | ----- | 0.240 | | | | |
| Total HxCDD | 150.0 | ----- | 0.300 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 23.0 | ----- | 0.130 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.7 | ----- | 0.140 | J | Equivalence: 15 ng/Kg | | |
| Total HpCDF | 54.0 | ----- | 0.130 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 85.0 | ----- | 0.400 | | | | |
| Total HpCDD | 170.0 | ----- | 0.400 | | | | |
| OCDF | 35.0 | ----- | 0.190 | | | | |
| OCDD | 730.0 | ----- | 0.200 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-25-5 | | | |
| Lab Sample ID | 256548005 | | | |
| Filename | U110223A_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.5 g | Matrix | Solid | |
| % Moisture | 10.5 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/09/2011 | 11:27 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 11:59 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 34 | 0.19 | P | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 470.0 | ----- | 0.19 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 74 |
| 2,3,7,8-TCDD | 9.5 | ----- | 0.28 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | 720.0 | ----- | 0.28 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | ----- | 39 | 0.51 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 69 |
| 2,3,4,7,8-PeCDF | 58.0 | ----- | 0.55 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 59 |
| Total PeCDF | 390.0 | ----- | 0.53 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 94 |
| 1,2,3,7,8-PeCDD | 57.0 | ----- | 0.37 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | 920.0 | ----- | 0.37 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 79 |
| 1,2,3,4,7,8-HxCDF | ----- | 54 | 0.33 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 94 |
| 1,2,3,6,7,8-HxCDF | 48.0 | ----- | 0.37 | | OCDD-13C | 4.00 | 82 |
| 2,3,4,6,7,8-HxCDF | 46.0 | ----- | 0.41 | | | | |
| 1,2,3,7,8,9-HxCDF | 12.0 | ----- | 0.27 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 340.0 | ----- | 0.35 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 41.0 | ----- | 0.42 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 85.0 | ----- | 0.62 | | | | |
| 1,2,3,7,8,9-HxCDD | 52.0 | ----- | 0.60 | | | | |
| Total HxCDD | 1200.0 | ----- | 0.55 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 140.0 | ----- | 0.24 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 18.0 | ----- | 0.40 | | Equivalence: 120 ng/Kg | | |
| Total HpCDF | 270.0 | ----- | 0.32 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 450.0 | ----- | 0.71 | | | | |
| Total HpCDD | 870.0 | ----- | 0.71 | | | | |
| OCDF | ----- | 130 | 0.25 | P | | | |
| OCDD | 2800.0 | ----- | 0.19 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-26-1 | | | |
| Lab Sample ID | 256548006 | | | |
| Filename | U110223A_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.4 g | Matrix | Solid | |
| % Moisture | 13.5 | Dilution | NA | |
| Dry Weight Extracted | 10.7 g | Collected | 02/09/2011 | 11:45 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 12:47 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 43 | 0.49 | P | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 580.0 | ----- | 0.49 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | 9.8 | ----- | 0.40 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 76 |
| Total TCDD | 720.0 | ----- | 0.40 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDF | ----- | 43 | 0.68 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 61.0 | ----- | 0.66 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 510.0 | ----- | 0.67 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | 54.0 | ----- | 0.75 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 78 |
| Total PeCDD | 810.0 | ----- | 0.75 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 |
| 1,2,3,4,7,8-HxCDF | ----- | 46 | 0.35 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 73 |
| 1,2,3,6,7,8-HxCDF | 43.0 | ----- | 0.41 | | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | 42.0 | ----- | 0.38 | | | | |
| 1,2,3,7,8,9-HxCDF | 11.0 | ----- | 0.86 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 380.0 | ----- | 0.50 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 32.0 | ----- | 0.45 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 69.0 | ----- | 0.57 | | | | |
| 1,2,3,7,8,9-HxCDD | 44.0 | ----- | 0.50 | | | | |
| Total HxCDD | 1000.0 | ----- | 0.50 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 120.0 | ----- | 0.43 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 14.0 | ----- | 0.56 | | Equivalence: 110 ng/Kg | | |
| Total HpCDF | 260.0 | ----- | 0.49 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 420.0 | ----- | 1.20 | | | | |
| Total HpCDD | 840.0 | ----- | 1.20 | | | | |
| OCDF | ----- | 130 | 0.58 | P | | | |
| OCDD | 3000.0 | ----- | 3.70 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-26-2 | | | |
| Lab Sample ID | 256548007 | | | |
| Filename | U110223A_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.6 g | Matrix | Solid | |
| % Moisture | 10.9 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/09/2011 | 12:03 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 13:35 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 96 | 0.37 | P | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 1400 | ----- | 0.37 | | 2,3,7,8-TCDD-13C | 2.00 | 65 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 73 |
| 2,3,7,8-TCDD | 29 | ----- | 0.43 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 75 |
| Total TCDD | 2400 | ----- | 0.43 | E | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | ----- | 91 | 0.83 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 65 |
| 2,3,4,7,8-PeCDF | 120 | ----- | 0.52 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 66 |
| Total PeCDF | 850 | ----- | 0.67 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 58 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 100 | ----- | 0.60 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 68 |
| Total PeCDD | 2300 | ----- | 0.60 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 59 |
| 1,2,3,4,7,8-HxCDF | ----- | 85 | 0.42 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 |
| 1,2,3,6,7,8-HxCDF | 87 | ----- | 0.33 | | OCDD-13C | 4.00 | 57 |
| 2,3,4,6,7,8-HxCDF | 93 | ----- | 0.37 | | | | |
| 1,2,3,7,8,9-HxCDF | 24 | ----- | 0.50 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 560 | ----- | 0.41 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 88 | ----- | 0.96 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 70 |
| 1,2,3,6,7,8-HxCDD | 160 | ----- | 0.85 | | | | |
| 1,2,3,7,8,9-HxCDD | 120 | ----- | 0.72 | | | | |
| Total HxCDD | 2900 | ----- | 0.84 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 200 | ----- | 0.27 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 25 | ----- | 0.55 | | Equivalence: 240 ng/Kg | | |
| Total HpCDF | 390 | ----- | 0.41 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 940 | ----- | 1.50 | | | | |
| Total HpCDD | 1800 | ----- | 1.50 | | | | |
| OCDF | ----- | 150 | 0.54 | P | | | |
| OCDD | 4300 | ----- | 0.39 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-26-3 | | | |
| Lab Sample ID | 256548008 | | | |
| Filename | U110223A_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.5 g | Matrix | Solid | |
| % Moisture | 11.0 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/09/2011 | 12:16 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 14:22 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 100 | 0.35 | P | 2,3,7,8-TCDF-13C | 2.00 | 58 |
| Total TCDF | 1700 | ----- | 0.35 | | 2,3,7,8-TCDD-13C | 2.00 | 69 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 65 |
| 2,3,7,8-TCDD | 26 | ----- | 0.48 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | 2000 | ----- | 0.48 | E | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 70 |
| 1,2,3,7,8-PeCDF | ----- | 95 | 0.92 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 62 |
| 2,3,4,7,8-PeCDF | 130 | ----- | 0.42 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 54 |
| Total PeCDF | 1200 | ----- | 0.67 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDD | 93 | ----- | 0.55 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 65 |
| Total PeCDD | 2100 | ----- | 0.55 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 55 |
| 1,2,3,4,7,8-HxCDF | ----- | 95 | 0.38 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 |
| 1,2,3,6,7,8-HxCDF | 90 | ----- | 0.50 | | OCDD-13C | 4.00 | 52 |
| 2,3,4,6,7,8-HxCDF | 110 | ----- | 0.37 | | | | |
| 1,2,3,7,8,9-HxCDF | 24 | ----- | 0.40 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 660 | ----- | 0.41 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 85 | ----- | 0.67 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 70 |
| 1,2,3,6,7,8-HxCDD | 140 | ----- | 0.97 | | | | |
| 1,2,3,7,8,9-HxCDD | 100 | ----- | 0.77 | | | | |
| Total HxCDD | 2500 | ----- | 0.80 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 210 | ----- | 0.24 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 24 | ----- | 0.35 | | Equivalence: 230 ng/Kg | | |
| Total HpCDF | 270 | ----- | 0.29 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 650 | ----- | 0.74 | | | | |
| Total HpCDD | 1300 | ----- | 0.74 | | | | |
| OCDF | ----- | 150 | 0.61 | P | | | |
| OCDD | 3000 | ----- | 0.48 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-26-4 | | | |
| Lab Sample ID | 256548009 | | | |
| Filename | U110223A_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.7 g | Matrix | Solid | |
| % Moisture | 11.1 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/09/2011 | 12:27 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_17 & U110223A_16 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 15:10 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 100 | 0.78 | P | 2,3,7,8-TCDF-13C | 2.00 | 61 |
| Total TCDF | 1500 | ----- | 0.78 | | 2,3,7,8-TCDD-13C | 2.00 | 74 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | 27 | ----- | 0.46 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 63 |
| Total TCDD | 1900 | ----- | 0.46 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDF | ----- | 100 | 0.69 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | 150 | ----- | 1.10 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 63 |
| Total PeCDF | 1200 | ----- | 0.89 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 56 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDD | 140 | ----- | 1.30 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 69 |
| Total PeCDD | 2200 | ----- | 1.30 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | ----- | 100 | 0.76 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 63 |
| 1,2,3,6,7,8-HxCDF | 100 | ----- | 0.90 | | OCDD-13C | 4.00 | 45 |
| 2,3,4,6,7,8-HxCDF | 96 | ----- | 0.90 | | | | |
| 1,2,3,7,8,9-HxCDF | 25 | ----- | 0.74 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 790 | ----- | 0.83 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 92 | ----- | 1.10 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 170 | ----- | 1.30 | | | | |
| 1,2,3,7,8,9-HxCDD | 110 | ----- | 0.71 | | | | |
| Total HxCDD | 2900 | ----- | 1.00 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 250 | ----- | 0.93 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 28 | ----- | 0.58 | | Equivalence: 280 ng/Kg | | |
| Total HpCDF | 320 | ----- | 0.76 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 840 | ----- | 2.80 | | | | |
| Total HpCDD | 1600 | ----- | 2.80 | | | | |
| OCDF | ----- | 180 | 1.70 | P | | | |
| OCDD | 3800 | ----- | 1.20 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27910 | Matrix | Solid |
| Filename | U110222B_05 | Dilution | NA |
| Total Amount Extracted | 10.0 g | Extracted | 02/17/2011 17:00 |
| ICAL ID | U101204A | Analyzed | 02/22/2011 20:54 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Injected By | BAL |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.200 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | ND | ----- | 0.200 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 69 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.120 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | ND | ----- | 0.120 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 85 |
| Total PeCDD | ND | ----- | 0.140 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 76 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.100 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 95 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.086 | | OCDD-13C | 4.00 | 73 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.088 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.120 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.098 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.160 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.160 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.150 | | | | |
| Total HxCDD | ND | ----- | 0.160 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.100 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.160 | | Equivalence: 0.24 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.130 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.210 | | | | |
| Total HpCDD | ND | ----- | 0.210 | | | | |
| OCDF | ----- | 0.35 | 0.170 | I | | | |
| OCDD | ----- | 0.83 | 0.280 | I | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27911 | | |
| Filename | U110222B_03 | Matrix | Solid |
| Total Amount Extracted | 10.5 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/17/2011 17:00 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Analyzed | 02/22/2011 19:21 |
| Method Blank ID | BLANK-27910 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.21 | 107 | 2,3,7,8-TCDF-13C | 2.0 | 58 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 77 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 65 |
| 2,3,7,8-TCDD | 0.20 | 0.17 | 85 | 2,3,4,7,8-PeCDF-13C | 2.0 | 65 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 81 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.0 | 102 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 69 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 102 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 71 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 64 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 81 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.89 | 89 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 83 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 81 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 77 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.0 | 103 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 97 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 108 | OCDD-13C | 4.0 | 77 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.95 | 95 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 0.97 | 97 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 0.93 | 93 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.0 | 101 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 0.96 | 96 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.89 | 89 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 1.8 | 91 | | | |
| OCDD | 2.0 | 2.1 | 106 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 24, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256550

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Andy Brownfield

Andy Brownfield for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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940 South Harney
Seattle, WA 98108
(206)767-5060

## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 256550 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256550001** | **SPL-25-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550002** | **SPL-25-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550003** | **SPL-25-3** | NWTPH-Dx | AY1 | 6 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550004** | **SPL-25-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550005** | **SPL-25-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550006** | **SPL-26-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550007** | **SPL-26-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550008** | **SPL-26-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |



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Seattle, WA 98108
(206)767-5060

## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550009** | **SPL-26-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256550010** | **TB 020911-A** | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-25-1** **Lab ID: 256550001** Collected: 02/09/11 10:30 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.2 | 1 | 02/11/11 11:00 | 02/15/11 07:14 | | |
| Motor Oil Range SG | ND | mg/kg | 80.9 | 1 | 02/11/11 11:00 | 02/15/11 07:14 | 64742-65-0 | |
| n-Octacosane (S) SG | 102 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:14 | 630-02-4 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:14 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 02/18/11 15:45 | 02/18/11 22:52 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 22:52 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 83 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 22:52 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 208-96-8 | |
| Anthracene | **10.6** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 120-12-7 | |
| Benzo(a)anthracene | **23.2** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 56-55-3 | |
| Benzo(a)pyrene | **22.9** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 50-32-8 | |
| Benzo(b)fluoranthene | **21.2** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 205-99-2 | |
| Benzo(g,h,i)perylene | **20.7** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 191-24-2 | |
| Benzo(k)fluoranthene | **9.2** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 207-08-9 | |
| Chrysene | **22.4** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 53-70-3 | |
| Fluoranthene | **34.2** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **14.1** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 91-20-3 | |
| Phenanthrene | **40.4** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 85-01-8 | |
| Pyrene | **56.1** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 46 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 321-60-8 | |
| Terphenyl-d14 (S) | 55 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 01:54 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/14/11 15:16 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/14/11 15:16 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/14/11 15:16 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/14/11 15:16 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/14/11 15:16 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/14/11 15:16 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | % | 72-122 | 1 | | 02/14/11 15:16 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/14/11 15:16 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.7** | % | 0.10 | 1 | | 02/13/11 21:12 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-25-2** **Lab ID: 256550002** Collected: 02/09/11 10:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **32.7** | mg/kg | 20.3 | 1 | 02/11/11 11:00 | 02/15/11 07:30 | | |
| Motor Oil Range SG | **369** | mg/kg | 81.2 | 1 | 02/11/11 11:00 | 02/15/11 07:30 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:30 | 630-02-4 | |
| o-Terphenyl (S) SG | 103 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:30 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.6 | 1 | 02/18/11 15:45 | 02/18/11 23:40 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 23:40 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 78 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 23:40 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 83-32-9 | |
| Acenaphthylene | **12.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 208-96-8 | |
| Anthracene | **18.5** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 120-12-7 | |
| Benzo(a)anthracene | **56.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 56-55-3 | |
| Benzo(a)pyrene | **63.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 50-32-8 | |
| Benzo(b)fluoranthene | **61.3** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 205-99-2 | |
| Benzo(g,h,i)perylene | **53.4** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 191-24-2 | |
| Benzo(k)fluoranthene | **26.8** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 207-08-9 | |
| Chrysene | **69.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 218-01-9 | |
| Dibenz(a,h)anthracene | **13.3** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 53-70-3 | |
| Fluoranthene | **73.5** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 206-44-0 | |
| Fluorene | **7.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **37.3** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 90-12-0 | |
| 2-Methylnaphthalene | **8.3** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 91-57-6 | |
| Naphthalene | **11.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 91-20-3 | |
| Phenanthrene | **62.8** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 85-01-8 | |
| Pyrene | **105** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 43 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 321-60-8 | |
| Terphenyl-d14 (S) | 43 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 02:12 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 17:15 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 17:15 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/11/11 17:15 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/11/11 17:15 | 1330-20-7 | |
| Dibromofluoromethane (S) | 80 | % | 80-136 | 1 | | 02/11/11 17:15 | 1868-53-7 | |
| Toluene-d8 (S) | 175 | % | 80-120 | 1 | | 02/11/11 17:15 | 2037-26-5 | S2 |
| 4-Bromofluorobenzene (S) | 877 | % | 72-122 | 1 | | 02/11/11 17:15 | 460-00-4 | S2 |
| 1,2-Dichloroethane-d4 (S) | 116 | % | 80-143 | 1 | | 02/11/11 17:15 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.0** | % | 0.10 | 1 | | 02/13/11 21:13 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-25-3** **Lab ID: 256550003** Collected: 02/09/11 11:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.2 | 1 | 02/11/11 11:00 | 02/15/11 07:47 | | |
| Motor Oil Range SG | **111** | mg/kg | 84.7 | 1 | 02/11/11 11:00 | 02/15/11 07:47 | 64742-65-0 | |
| n-Octacosane (S) | 107 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:47 | 630-02-4 | |
| n-Octacosane (S) SG | 107 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:47 | 630-02-4 | |
| o-Terphenyl (S) | 105 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:47 | 84-15-1 | |
| o-Terphenyl (S) SG | 105 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 07:47 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 02/18/11 15:45 | 02/19/11 00:04 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 00:04 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 80 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 00:04 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 83-32-9 | |
| Acenaphthylene | **18.8** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 208-96-8 | |
| Anthracene | **19.8** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 120-12-7 | |
| Benzo(a)anthracene | **64.9** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 56-55-3 | |
| Benzo(a)pyrene | **73.2** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 50-32-8 | |
| Benzo(b)fluoranthene | **57.2** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 205-99-2 | |
| Benzo(g,h,i)perylene | **53.8** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 191-24-2 | |
| Benzo(k)fluoranthene | **38.8** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 207-08-9 | |
| Chrysene | **68.6** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 218-01-9 | |
| Dibenz(a,h)anthracene | **13.7** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 53-70-3 | |
| Fluoranthene | **84.7** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **43.5** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 91-57-6 | |
| Naphthalene | **7.1** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 91-20-3 | |
| Phenanthrene | **67.4** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 85-01-8 | |
| Pyrene | **130** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 47 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 321-60-8 | |
| Terphenyl-d14 (S) | 49 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 02:31 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 17:34 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 17:34 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/11/11 17:34 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/11/11 17:34 | 1330-20-7 | |
| Dibromofluoromethane (S) | 89 | % | 80-136 | 1 | | 02/11/11 17:34 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/11/11 17:34 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 104 | % | 72-122 | 1 | | 02/11/11 17:34 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 02/11/11 17:34 | 17060-07-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-25-3** **Lab ID: 256550003** Collected: 02/09/11 11:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.0** | % | 0.10 | 1 | | 02/13/11 21:14 | | |

**Sample: SPL-25-4** **Lab ID: 256550004** Collected: 02/09/11 11:15 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | Preparation Method: EPA 3546 | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.7 | 1 | 02/11/11 11:00 | 02/15/11 08:20 | | |
| Motor Oil Range SG | ND | mg/kg | 86.8 | 1 | 02/11/11 11:00 | 02/15/11 08:20 | 64742-65-0 | |
| n-Octacosane (S) SG | 100 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 08:20 | 630-02-4 | |
| o-Terphenyl (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 08:20 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | Preparation Method: NWTPH-Gx | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/18/11 15:45 | 02/19/11 00:28 | | |
| a,a,a-Trifluorotoluene (S) | 100 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 00:28 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 82 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 00:28 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | Preparation Method: EPA 3546 | | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 83-32-9 | |
| Acenaphthylene | **13.8** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 208-96-8 | |
| Anthracene | **19.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 120-12-7 | |
| Benzo(a)anthracene | **70.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 56-55-3 | |
| Benzo(a)pyrene | **72.0** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 50-32-8 | |
| Benzo(b)fluoranthene | **69.5** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 205-99-2 | |
| Benzo(g,h,i)perylene | **58.0** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 191-24-2 | |
| Benzo(k)fluoranthene | **43.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 207-08-9 | |
| Chrysene | **76.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 218-01-9 | |
| Dibenz(a,h)anthracene | **17.0** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 53-70-3 | |
| Fluoranthene | **90.0** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 206-44-0 | |
| Fluorene | **8.0** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **45.8** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 91-20-3 | |
| Phenanthrene | **68.5** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 85-01-8 | |
| Pyrene | **139** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 45 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 321-60-8 | |
| Terphenyl-d14 (S) | 46 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 02:49 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/14/11 15:56 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/14/11 15:56 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/14/11 15:56 | 108-88-3 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-25-4** **Lab ID: 256550004** Collected: 02/09/11 11:15 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Xylene (Total) | ND | ug/kg | 8.5 | 1 | | 02/14/11 15:56 | 1330-20-7 | |
| Dibromofluoromethane (S) | 94 | % | 80-136 | 1 | | 02/14/11 15:56 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/14/11 15:56 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/14/11 15:56 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 02/14/11 15:56 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10** | % | 0.10 | 1 | | 02/13/11 21:14 | | |

**Sample: SPL-25-5** **Lab ID: 256550005** Collected: 02/09/11 11:27 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **40.1** | mg/kg | 20.6 | 1 | 02/11/11 11:00 | 02/15/11 08:37 | | |
| Motor Oil Range SG | **430** | mg/kg | 82.3 | 1 | 02/11/11 11:00 | 02/15/11 08:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 08:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 103 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 08:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.2 | 1 | 02/18/11 15:45 | 02/19/11 01:16 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 01:16 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 84 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 01:16 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 208-96-8 | |
| Anthracene | **10.4** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 120-12-7 | |
| Benzo(a)anthracene | **41.9** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 56-55-3 | |
| Benzo(a)pyrene | **44.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 50-32-8 | |
| Benzo(b)fluoranthene | **44.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 205-99-2 | |
| Benzo(g,h,i)perylene | **37.2** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 191-24-2 | |
| Benzo(k)fluoranthene | **20.4** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 207-08-9 | |
| Chrysene | **42.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 218-01-9 | |
| Dibenz(a,h)anthracene | **9.6** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 53-70-3 | |
| Fluoranthene | **49.8** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **27.6** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 91-20-3 | |
| Phenanthrene | **40.9** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 85-01-8 | |
| Pyrene | **78.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 129-00-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-25-5** **Lab ID: 256550005** Collected: 02/09/11 11:27 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| 2-Fluorobiphenyl (S) | 37 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 321-60-8 | |
| Terphenyl-d14 (S) | 43 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 03:07 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/14/11 16:15 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/14/11 16:15 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/14/11 16:15 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/14/11 16:15 | 1330-20-7 | |
| Dibromofluoromethane (S) | 64 | % | 80-136 | 1 | | 02/14/11 16:15 | 1868-53-7 | S2 |
| Toluene-d8 (S) | 118 | % | 80-120 | 1 | | 02/14/11 16:15 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 81 | % | 72-122 | 1 | | 02/14/11 16:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 02/14/11 16:15 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.7** | % | 0.10 | 1 | | 02/13/11 21:15 | | |

**Sample: SPL-26-1** **Lab ID: 256550006** Collected: 02/09/11 11:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **254** | mg/kg | 22.4 | 1 | 02/11/11 11:00 | 02/15/11 09:26 | | |
| Motor Oil Range SG | **2860** | mg/kg | 89.7 | 1 | 02/11/11 11:00 | 02/15/11 09:26 | 64742-65-0 | |
| n-Octacosane (S) SG | 93 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 09:26 | 630-02-4 | |
| o-Terphenyl (S) SG | 99 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 09:26 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.2 | 1 | 02/18/11 15:45 | 02/19/11 01:39 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 01:39 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 84 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 01:39 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 83-32-9 | |
| Acenaphthylene | **8.4** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 208-96-8 | |
| Anthracene | **18.3** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 120-12-7 | |
| Benzo(a)anthracene | **202** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 56-55-3 | |
| Benzo(a)pyrene | **358** | ug/kg | 37.9 | 5 | 02/11/11 11:55 | 02/15/11 12:07 | 50-32-8 | |
| Benzo(b)fluoranthene | **531** | ug/kg | 37.9 | 5 | 02/11/11 11:55 | 02/15/11 12:07 | 205-99-2 | |
| Benzo(g,h,i)perylene | **387** | ug/kg | 37.9 | 5 | 02/11/11 11:55 | 02/15/11 12:07 | 191-24-2 | |
| Benzo(k)fluoranthene | **492** | ug/kg | 37.9 | 5 | 02/11/11 11:55 | 02/15/11 12:07 | 207-08-9 | |
| Chrysene | **272** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 218-01-9 | |
| Dibenz(a,h)anthracene | **120** | ug/kg | 37.9 | 5 | 02/11/11 11:55 | 02/15/11 12:07 | 53-70-3 | |
| Fluoranthene | **248** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 206-44-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-26-1** **Lab ID: 256550006** Collected: 02/09/11 11:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Fluorene | **8.0** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **346** | ug/kg | 37.9 | 5 | 02/11/11 11:55 | 02/15/11 12:07 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 90-12-0 | |
| 2-Methylnaphthalene | **11.8** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 91-57-6 | |
| Naphthalene | **19.8** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 91-20-3 | |
| Phenanthrene | **94.4** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 85-01-8 | |
| Pyrene | **190** | ug/kg | 7.6 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 47 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 321-60-8 | |
| Terphenyl-d14 (S) | 42 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 03:26 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.5 | 1 | | 02/11/11 18:13 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.5 | 1 | | 02/11/11 18:13 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.5 | 1 | | 02/11/11 18:13 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.6 | 1 | | 02/11/11 18:13 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 02/11/11 18:13 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/11/11 18:13 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 107 | % | 72-122 | 1 | | 02/11/11 18:13 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 02/11/11 18:13 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **12.6** | % | 0.10 | 1 | | 02/13/11 21:15 | | |

**Sample: SPL-26-2** **Lab ID: 256550007** Collected: 02/09/11 12:03 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **189** | mg/kg | 21.9 | 1 | 02/11/11 11:00 | 02/15/11 09:43 | | |
| Motor Oil Range SG | **2170** | mg/kg | 87.6 | 1 | 02/11/11 11:00 | 02/15/11 09:43 | 64742-65-0 | |
| n-Octacosane (S) SG | 103 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 09:43 | 630-02-4 | |
| o-Terphenyl (S) SG | 100 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 09:43 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.0 | 1 | 02/18/11 15:45 | 02/19/11 02:03 | | |
| a,a,a-Trifluorotoluene (S) | 87 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 02:03 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 72 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 02:03 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **7.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 83-32-9 | |
| Acenaphthylene | **14.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 208-96-8 | |
| Anthracene | **28.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 120-12-7 | |
| Benzo(a)anthracene | **162** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 56-55-3 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-26-2** **Lab ID: 256550007** Collected: 02/09/11 12:03 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Benzo(a)pyrene | **285** | ug/kg | 36.9 | 5 | 02/11/11 11:55 | 02/15/11 12:23 | 50-32-8 | |
| Benzo(b)fluoranthene | **279** | ug/kg | 36.9 | 5 | 02/11/11 11:55 | 02/15/11 12:23 | 205-99-2 | |
| Benzo(g,h,i)perylene | **209** | ug/kg | 36.9 | 5 | 02/11/11 11:55 | 02/15/11 12:23 | 191-24-2 | |
| Benzo(k)fluoranthene | **267** | ug/kg | 36.9 | 5 | 02/11/11 11:55 | 02/15/11 12:23 | 207-08-9 | |
| Chrysene | **149** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 218-01-9 | |
| Dibenz(a,h)anthracene | **66.7** | ug/kg | 36.9 | 5 | 02/11/11 11:55 | 02/15/11 12:23 | 53-70-3 | |
| Fluoranthene | **256** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 206-44-0 | |
| Fluorene | **16.1** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **180** | ug/kg | 36.9 | 5 | 02/11/11 11:55 | 02/15/11 12:23 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 90-12-0 | |
| 2-Methylnaphthalene | **9.2** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 91-57-6 | |
| Naphthalene | **15.6** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 91-20-3 | |
| Phenanthrene | **121** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 85-01-8 | |
| Pyrene | **175** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 51 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 321-60-8 | |
| Terphenyl-d14 (S) | 38 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 03:44 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.2 | 1 | | 02/11/11 18:33 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.2 | 1 | | 02/11/11 18:33 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.2 | 1 | | 02/11/11 18:33 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.5 | 1 | | 02/11/11 18:33 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 02/11/11 18:33 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 02/11/11 18:33 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 110 | % | 72-122 | 1 | | 02/11/11 18:33 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/11/11 18:33 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.2** | % | 0.10 | 1 | | 02/13/11 21:16 | | |

**Sample: SPL-26-3** **Lab ID: 256550008** Collected: 02/09/11 12:16 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **218** | mg/kg | 21.7 | 1 | 02/11/11 11:00 | 02/15/11 10:00 | | |
| Motor Oil Range SG | **2270** | mg/kg | 86.7 | 1 | 02/11/11 11:00 | 02/15/11 10:00 | 64742-65-0 | |
| n-Octacosane (S) SG | 109 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 10:00 | 630-02-4 | |
| o-Terphenyl (S) SG | 104 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 10:00 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.3 | 1 | 02/18/11 15:45 | 02/19/11 02:27 | | |
| a,a,a-Trifluorotoluene (S) | 104 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 02:27 | 98-08-8 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-26-3** **Lab ID: 256550008** Collected: 02/09/11 12:16 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| 4-Bromofluorobenzene (S) | 82 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 02:27 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 208-96-8 | |
| Anthracene | **15.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 120-12-7 | |
| Benzo(a)anthracene | **124** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 56-55-3 | |
| Benzo(a)pyrene | **206** | ug/kg | 37.2 | 5 | 02/11/11 11:55 | 02/15/11 12:40 | 50-32-8 | |
| Benzo(b)fluoranthene | **237** | ug/kg | 37.2 | 5 | 02/11/11 11:55 | 02/15/11 12:40 | 205-99-2 | |
| Benzo(g,h,i)perylene | **179** | ug/kg | 37.2 | 5 | 02/11/11 11:55 | 02/15/11 12:40 | 191-24-2 | |
| Benzo(k)fluoranthene | **228** | ug/kg | 37.2 | 5 | 02/11/11 11:55 | 02/15/11 12:40 | 207-08-9 | |
| Chrysene | **130** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 218-01-9 | |
| Dibenz(a,h)anthracene | **51.6** | ug/kg | 37.2 | 5 | 02/11/11 11:55 | 02/15/11 12:40 | 53-70-3 | |
| Fluoranthene | **177** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **152** | ug/kg | 37.2 | 5 | 02/11/11 11:55 | 02/15/11 12:40 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 90-12-0 | |
| 2-Methylnaphthalene | **8.0** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 91-57-6 | |
| Naphthalene | **15.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 91-20-3 | |
| Phenanthrene | **82.2** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 85-01-8 | |
| Pyrene | **116** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 43 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 321-60-8 | |
| Terphenyl-d14 (S) | 33 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 04:02 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.8 | 1 | | 02/11/11 18:53 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.8 | 1 | | 02/11/11 18:53 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.8 | 1 | | 02/11/11 18:53 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 11.5 | 1 | | 02/11/11 18:53 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/11/11 18:53 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/11/11 18:53 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 115 | % | 72-122 | 1 | | 02/11/11 18:53 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 02/11/11 18:53 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.4** | % | 0.10 | 1 | | 02/13/11 21:17 | | |

**Sample: SPL-26-4** **Lab ID: 256550009** Collected: 02/09/11 12:27 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | **250** | mg/kg | 20.9 | 1 | 02/11/11 11:00 | 02/15/11 10:16 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: SPL-26-4** **Lab ID: 256550009** Collected: 02/09/11 12:27 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Motor Oil Range SG | **3050** | mg/kg | 83.4 | 1 | 02/11/11 11:00 | 02/15/11 10:16 | 64742-65-0 | |
| n-Octacosane (S) SG | 97 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 10:16 | 630-02-4 | |
| o-Terphenyl (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 10:16 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.7 | 1 | 02/18/11 15:45 | 02/19/11 02:51 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 02:51 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 78 | % | 50-150 | 1 | 02/18/11 15:45 | 02/19/11 02:51 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 208-96-8 | |
| Anthracene | **9.6** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 120-12-7 | |
| Benzo(a)anthracene | **102** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 56-55-3 | |
| Benzo(a)pyrene | **184** | ug/kg | 36.7 | 5 | 02/11/11 11:55 | 02/15/11 12:57 | 50-32-8 | |
| Benzo(b)fluoranthene | **226** | ug/kg | 36.7 | 5 | 02/11/11 11:55 | 02/15/11 12:57 | 205-99-2 | |
| Benzo(g,h,i)perylene | **184** | ug/kg | 36.7 | 5 | 02/11/11 11:55 | 02/15/11 12:57 | 191-24-2 | |
| Benzo(k)fluoranthene | **233** | ug/kg | 36.7 | 5 | 02/11/11 11:55 | 02/15/11 12:57 | 207-08-9 | |
| Chrysene | **113** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 218-01-9 | |
| Dibenz(a,h)anthracene | **53.8** | ug/kg | 36.7 | 5 | 02/11/11 11:55 | 02/15/11 12:57 | 53-70-3 | |
| Fluoranthene | **130** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **155** | ug/kg | 36.7 | 5 | 02/11/11 11:55 | 02/15/11 12:57 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 90-12-0 | |
| 2-Methylnaphthalene | **9.5** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 91-57-6 | |
| Naphthalene | **17.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 91-20-3 | |
| Phenanthrene | **53.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 85-01-8 | |
| Pyrene | **84.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 47 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 321-60-8 | |
| Terphenyl-d14 (S) | 34 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 04:21 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 19:13 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 19:13 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/11/11 19:13 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.5 | 1 | | 02/11/11 19:13 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/11/11 19:13 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/11/11 19:13 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 108 | % | 72-122 | 1 | | 02/11/11 19:13 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 02/11/11 19:13 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.3** | % | 0.10 | 1 | | 02/13/11 21:18 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

**Sample: TB 020911-A** **Lab ID: 256550010** Collected: 02/09/11 00:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/18/11 15:45 | 02/18/11 20:04 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 20:04 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 84 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 20:04 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/11/11 12:41 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/11/11 12:41 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/11/11 12:41 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/11/11 12:41 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/11/11 12:41 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/11/11 12:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 72-122 | 1 | | 02/11/11 12:41 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 02/11/11 12:41 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

QC Batch: OEXT/3298 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009

METHOD BLANK: 58160 Matrix: Solid
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 02/15/11 03:22 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 02/15/11 03:22 | |
| n-Octacosane (S) | % | 102 | 50-150 | 02/15/11 01:59 | |
| n-Octacosane (S) SG | % | 105 | 50-150 | 02/15/11 03:22 | |
| o-Terphenyl (S) | % | 96 | 50-150 | 02/15/11 01:59 | |
| o-Terphenyl (S) SG | % | 95 | 50-150 | 02/15/11 03:22 | |

LABORATORY CONTROL SAMPLE: 58161

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 536 | 107 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 576 | 115 | 50-150 | |
| n-Octacosane (S) | % | | | 101 | 50-150 | |
| n-Octacosane (S) SG | % | | | 105 | 50-150 | |
| o-Terphenyl (S) | % | | | 125 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 126 | 50-150 | |

SAMPLE DUPLICATE: 58162

| Parameter | Units | 256549002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 35.0 | 33.3 | 5 | |
| Motor Oil Range SG | mg/kg | 212 | 184 | 14 | |
| n-Octacosane (S) | % | 97 | 96 | 2 | |
| n-Octacosane (S) SG | % | 97 | 96 | 2 | |
| o-Terphenyl (S) | % | 98 | 99 | .2 | |
| o-Terphenyl (S) SG | % | 98 | 99 | .2 | |

SAMPLE DUPLICATE: 58163

| Parameter | Units | 256550003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 14.7J | | |
| Motor Oil Range SG | mg/kg | 111 | 89.4 | 21 | |
| n-Octacosane (S) | % | 107 | 104 | 3 | |
| n-Octacosane (S) SG | % | 107 | 104 | 3 | |
| o-Terphenyl (S) | % | 105 | 101 | 3 | |
| o-Terphenyl (S) SG | % | 105 | 101 | 3 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

QC Batch: GCV/2177 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009, 256550010

METHOD BLANK: 59173 | Matrix: Solid
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009, 256550010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/18/11 19:16 | |
| 4-Bromofluorobenzene (S) | % | 84 | 50-150 | 02/18/11 19:16 | |
| a,a,a-Trifluorotoluene (S) | % | 105 | 50-150 | 02/18/11 19:16 | |

LABORATORY CONTROL SAMPLE: 59174

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.9 | 103 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 85 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 101 | 50-150 | |

SAMPLE DUPLICATE: 59555

| Parameter | Units | 256549007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .85J | | |
| 4-Bromofluorobenzene (S) | % | 80 | 83 | 4 | |
| a,a,a-Trifluorotoluene (S) | % | 98 | 102 | 4 | |

SAMPLE DUPLICATE: 59556

| Parameter | Units | 256550001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .7J | | |
| 4-Bromofluorobenzene (S) | % | 83 | 80 | 3 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 99 | 2 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

QC Batch: OEXT/3297 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009

METHOD BLANK: 58156 Matrix: Solid
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Acenaphthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Anthracene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Chrysene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Fluoranthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Fluorene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Naphthalene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Phenanthrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Pyrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| 2-Fluorobiphenyl (S) | % | 54 | 31-131 | 02/14/11 14:16 | |
| Terphenyl-d14 (S) | % | 69 | 30-133 | 02/14/11 14:16 | |

LABORATORY CONTROL SAMPLE: 58157

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 98.0 | 73 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 98.3 | 74 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 78.4 | 59 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 78.0 | 58 | 31-134 | |
| Anthracene | ug/kg | 133 | 80.5 | 60 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 91.4 | 69 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 91.4 | 69 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 86.0 | 65 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 73.8 | 55 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 85.1 | 64 | 45-147 | |
| Chrysene | ug/kg | 133 | 79.9 | 60 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 76.8 | 58 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 84.2 | 63 | 44-143 | |
| Fluorene | ug/kg | 133 | 83.6 | 63 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 76.5 | 57 | 47-140 | |
| Naphthalene | ug/kg | 133 | 71.2 | 53 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 81.9 | 61 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

LABORATORY CONTROL SAMPLE: 58157

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 88.9 | 67 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 55 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 68 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58158 58159

| Parameter | Units | 256549001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 143 | 144 | 84.5 | 95.3 | 54 | 61 | 31-123 | 12 | |
| 2-Methylnaphthalene | ug/kg | 9.7 | 143 | 144 | 90.4 | 102 | 56 | 64 | 15-146 | 12 | |
| Acenaphthene | ug/kg | ND | 143 | 144 | 86.2 | 94.8 | 57 | 62 | 19-141 | 9 | |
| Acenaphthylene | ug/kg | 19.7 | 143 | 144 | 89.9 | 108 | 49 | 61 | 30-142 | 18 | |
| Anthracene | ug/kg | 27.0 | 143 | 144 | 108 | 142 | 56 | 80 | 38-137 | 28 | R1 |
| Benzo(a)anthracene | ug/kg | 101 | 143 | 144 | 166 | 229 | 45 | 88 | 37-143 | 32 | R1 |
| Benzo(a)pyrene | ug/kg | 112 | 143 | 144 | 154 | 270 | 29 | 109 | 33-147 | 55 | M1,R1 |
| Benzo(b)fluoranthene | ug/kg | 104 | 143 | 144 | 129 | 235 | 17 | 91 | 25-156 | 58 | M1,R1 |
| Benzo(g,h,i)perylene | ug/kg | 67.6 | 143 | 144 | 140 | 225 | 51 | 109 | 26-142 | 46 | R1 |
| Benzo(k)fluoranthene | ug/kg | 63.3 | 143 | 144 | 107 | 151 | 30 | 61 | 35-142 | 35 | M1,R1 |
| Chrysene | ug/kg | 123 | 143 | 144 | 150 | 221 | 19 | 68 | 23-150 | 38 | M1,R1 |
| Dibenz(a,h)anthracene | ug/kg | 19.2 | 143 | 144 | 98.8 | 119 | 56 | 69 | 41-140 | 18 | |
| Fluoranthene | ug/kg | 162 | 143 | 144 | 200 | 307 | 26 | 100 | 25-155 | 42 | R1 |
| Fluorene | ug/kg | 12.1 | 143 | 144 | 101 | 117 | 62 | 73 | 33-152 | 15 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 54.3 | 143 | 144 | 125 | 192 | 49 | 95 | 36-139 | 42 | R1 |
| Naphthalene | ug/kg | 16.5 | 143 | 144 | 90.9 | 98.3 | 52 | 57 | 25-121 | 8 | |
| Phenanthrene | ug/kg | 103 | 143 | 144 | 226 | 341 | 86 | 164 | 29-141 | 41 | M1,R1 |
| Pyrene | ug/kg | 296 | 143 | 144 | 334 | 457 | 26 | 111 | 36-145 | 31 | M1,R1 |
| 2-Fluorobiphenyl (S) | % | | | | | | 49 | 51 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 62 | 57 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

QC Batch: MSV/3844 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256550002, 256550003, 256550006, 256550007, 256550008, 256550009, 256550010

METHOD BLANK: 58168 Matrix: Solid
Associated Lab Samples: 256550002, 256550003, 256550006, 256550007, 256550008, 256550009, 256550010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/11/11 12:22 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/11/11 12:22 | |
| Toluene | ug/kg | ND | 3.0 | 02/11/11 12:22 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/11/11 12:22 | |
| 1,2-Dichloroethane-d4 (S) | % | 98 | 80-143 | 02/11/11 12:22 | |
| 4-Bromofluorobenzene (S) | % | 100 | 72-122 | 02/11/11 12:22 | |
| Dibromofluoromethane (S) | % | 93 | 80-136 | 02/11/11 12:22 | |
| Toluene-d8 (S) | % | 102 | 80-120 | 02/11/11 12:22 | |

LABORATORY CONTROL SAMPLE: 58169

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 45.8 | 92 | 75-133 | |
| Ethylbenzene | ug/kg | 50 | 45.3 | 91 | 68-131 | |
| Toluene | ug/kg | 50 | 47.1 | 94 | 73-124 | |
| Xylene (Total) | ug/kg | 150 | 140 | 93 | 68-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 98 | 80-143 | |
| 4-Bromofluorobenzene (S) | % | | | 111 | 72-122 | |
| Dibromofluoromethane (S) | % | | | 95 | 80-136 | |
| Toluene-d8 (S) | % | | | 101 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58249 58250

| Parameter | Units | 256598001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 48.5 | 45.4 | 43.6 | 41.5 | 90 | 92 | 68-124 | 5 | |
| Ethylbenzene | ug/kg | ND | 48.5 | 45.4 | 42.7 | 40.5 | 88 | 89 | 63-131 | 5 | |
| Toluene | ug/kg | ND | 48.5 | 45.4 | 44.7 | 42.3 | 92 | 93 | 61-126 | 5 | |
| Xylene (Total) | ug/kg | ND | 146 | 136 | 131 | 124 | 89 | 90 | 68-129 | 5 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 99 | 99 | 80-143 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 109 | 115 | 72-122 | | |
| Dibromofluoromethane (S) | % | | | | | | 91 | 99 | 80-136 | | |
| Toluene-d8 (S) | % | | | | | | 101 | 103 | 80-120 | | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

QC Batch: MSV/3857 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256550001, 256550004, 256550005

METHOD BLANK: 58439 Matrix: Solid
Associated Lab Samples: 256550001, 256550004, 256550005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/14/11 12:49 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/14/11 12:49 | |
| Toluene | ug/kg | ND | 3.0 | 02/14/11 12:49 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/14/11 12:49 | |
| 1,2-Dichloroethane-d4 (S) | % | 114 | 80-143 | 02/14/11 12:49 | |
| 4-Bromofluorobenzene (S) | % | 98 | 72-122 | 02/14/11 12:49 | |
| Dibromofluoromethane (S) | % | 100 | 80-136 | 02/14/11 12:49 | |
| Toluene-d8 (S) | % | 102 | 80-120 | 02/14/11 12:49 | |

LABORATORY CONTROL SAMPLE: 58440

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 54.4 | 109 | 75-133 | |
| Ethylbenzene | ug/kg | 50 | 51.1 | 102 | 68-131 | |
| Toluene | ug/kg | 50 | 56.5 | 113 | 73-124 | |
| Xylene (Total) | ug/kg | 150 | 160 | 107 | 68-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 100 | 80-143 | |
| 4-Bromofluorobenzene (S) | % | | | 106 | 72-122 | |
| Dibromofluoromethane (S) | % | | | 96 | 80-136 | |
| Toluene-d8 (S) | % | | | 103 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58441 58442

| Parameter | Units | 256550004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 50.2 | 46.1 | 49.4 | 44.7 | 98 | 97 | 68-124 | 10 | |
| Ethylbenzene | ug/kg | ND | 50.2 | 46.1 | 47.0 | 44.6 | 94 | 97 | 63-131 | 5 | |
| Toluene | ug/kg | ND | 50.2 | 46.1 | 49.4 | 46.6 | 98 | 101 | 61-126 | 6 | |
| Xylene (Total) | ug/kg | ND | 151 | 138 | 142 | 135 | 94 | 97 | 68-129 | 5 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 84 | 81 | 80-143 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 108 | 111 | 72-122 | | |
| Dibromofluoromethane (S) | % | | | | | | 91 | 83 | 80-136 | | |
| Toluene-d8 (S) | % | | | | | | 105 | 107 | 80-120 | | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

QC Batch: PMST/1522 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256550001, 256550002, 256550003, 256550004, 256550005, 256550006, 256550007, 256550008, 256550009

SAMPLE DUPLICATE: 58359

| Parameter | Units | 256498001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 8.8 | 8.9 | 2 | |

SAMPLE DUPLICATE: 58360

| Parameter | Units | 256550009 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.3 | 10.3 | .5 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| R1 | RPD value was outside control limits. |
| S2 | Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis). |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256550001** | **SPL-25-1** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550002** | **SPL-25-2** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550003** | **SPL-25-3** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550004** | **SPL-25-4** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550005** | **SPL-25-5** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550006** | **SPL-26-1** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550007** | **SPL-26-2** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550008** | **SPL-26-3** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550009** | **SPL-26-4** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256550001** | **SPL-25-1** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550002** | **SPL-25-2** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550003** | **SPL-25-3** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550004** | **SPL-25-4** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550005** | **SPL-25-5** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550006** | **SPL-26-1** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550007** | **SPL-26-2** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550008** | **SPL-26-3** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550009** | **SPL-26-4** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550010** | **TB 020911-A** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256550001** | **SPL-25-1** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550002** | **SPL-25-2** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550003** | **SPL-25-3** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550004** | **SPL-25-4** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550005** | **SPL-25-5** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550006** | **SPL-26-1** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550007** | **SPL-26-2** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550008** | **SPL-26-3** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550009** | **SPL-26-4** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256550001** | **SPL-25-1** | EPA 8260 | MSV/3857 | | |
| **256550002** | **SPL-25-2** | EPA 8260 | MSV/3844 | | |
| **256550003** | **SPL-25-3** | EPA 8260 | MSV/3844 | | |
| **256550004** | **SPL-25-4** | EPA 8260 | MSV/3857 | | |
| **256550005** | **SPL-25-5** | EPA 8260 | MSV/3857 | | |
| **256550006** | **SPL-26-1** | EPA 8260 | MSV/3844 | | |
| **256550007** | **SPL-26-2** | EPA 8260 | MSV/3844 | | |
| **256550008** | **SPL-26-3** | EPA 8260 | MSV/3844 | | |
| **256550009** | **SPL-26-4** | EPA 8260 | MSV/3844 | | |
| **256550010** | **TB 020911-A** | EPA 8260 | MSV/3844 | | |
| **256550001** | **SPL-25-1** | ASTM D2974-87 | PMST/1522 | | |
| **256550002** | **SPL-25-2** | ASTM D2974-87 | PMST/1522 | | |
| **256550003** | **SPL-25-3** | ASTM D2974-87 | PMST/1522 | | |
| **256550004** | **SPL-25-4** | ASTM D2974-87 | PMST/1522 | | |
| **256550005** | **SPL-25-5** | ASTM D2974-87 | PMST/1522 | | |
| **256550006** | **SPL-26-1** | ASTM D2974-87 | PMST/1522 | | |
| **256550007** | **SPL-26-2** | ASTM D2974-87 | PMST/1522 | | |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256550

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256550008** | **SPL-26-3** | ASTM D2974-87 | PMST/1522 | | |
| **256550009** | **SPL-26-4** | ASTM D2974-87 | PMST/1522 | | |



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256550

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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

1446265

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBUS NW #420
OLYMPIA, WA 98501
Email To: jturk@browncald.com
Phone: 360-943-7525 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) SG | TPH-HO, TPH-D | DIOXIN, FURAN | CPAH, Naphthalene | Cd, Cu, Pb, As, Ni | BTEX, TPH-G | SG | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-25-1 | SL | G | | | 02-09-11 | 10:30 | 7 | 7 | X | | | | | | X | X | | X | X | X | X | X | | | |
| 2 | SPL-25-2 | ↓ | ↓ | | | ↓ | 10:45 | ↓ | ↓ | ↓ | | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | ↓ | | | |
| 3 | SPL-25-3 | | | | | | 11:00 | | | | | | | | | | | | | | | | | | | |
| 4 | SPL-25-4 | | | | | | 11:15 | 11 | 11 | | | | | | | | | | | | | | | | | |
| 5 | SPL-25-5 | | | | | | 11:27 | 7 | 7 | | | | | | | | | | | | | | | | | |
| 6 | SPL-26-1 | | | | | | 11:45 | | | | | | | | | | | | | | | | | | | |
| 7 | SPL-26-2 | | | | | | 12:03 | | | | | | | | | | | | | | | | | | | |
| 8 | SPL-26-3 | | | | | | 12:16 | | | | | | | | | | | | | | | | | | | |
| 9 | SPL-26-4 | ↓ | ↓ | | | ↓ | 12:27 | ↓ | ↓ | | | | | | | | | | | | | | | | | |
| 10 | TB 020911-A | | | | | 02-09-11 | | 3 | 3 | ↓ | | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | | ↓ | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| temp blank included | Ada Hamilton/BC | 2-10-11 | 0741 | Brett Pace | 2-10-11 | 0745 | 1.0 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: ADA HAMILTON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/09/11

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

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

# Sample Container Count

CLIENT: Brown & Caldwell

Pace Analytical
www.pacelabs.com

COC PAGE 1 of 1
COC ID# 1446265

256550

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 1 | 2 | | |
| 2 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 3 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 4 | | | | | | | | | | ↓ | | ↓ | 6 | | |
| 5 | | | | | | | | | | ↓ | | ↓ | 2 | | |
| 6 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 7 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 8 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 9 | | | | | | | | | | ↓ | | ↓ | ↓ | | |
| 10 | | | | | | | | | | | | ↓ | ↓ | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? Yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell  Project # 256550

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

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No  Seals intact: ☐ Yes ☐ No

**Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank Yes ✓ No _____

**Thermometer Used** 132013 or 101731962 or 226099  **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.0c  **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** 02/10/11 CW

| | | **Comments:** |
|---|---|---|
| Chain of Custody Present: | ☑ Yes ☐ No ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes ☐ No ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes ☐ No ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes ☐ No ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes ☐ No ☐ N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐ Yes ☑ No ☐ N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐ Yes ☑ No ☐ N/A | 7. |
| Sufficient Volume: | ☑ Yes ☐ No ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes ☐ No ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes ☐ No ☐ N/A | |
| Containers Intact: | ☑ Yes ☐ No ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes ☐ No ☑ N/A | 11. |
| Sample Labels match COC: | ☑ Yes ☐ No ☐ N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing preservation have been checked. | ☐ Yes ☐ No ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes ☐ No ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed _____ Lot # of added preservative _____ |
| Samples checked for dechlorination: | ☐ Yes ☐ No ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes ☐ No ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes ☐ No ☑ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes ☐ No ☑ N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____  Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS  **Date:** 2/10/11

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 24, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256547

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Andy Brownfield

Andy Brownfield for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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## CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256547001** | **SPL-27-1** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547002** | **SPL-27-2** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547003** | **SPL-27-3** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547004** | **SPL-27-4** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547005** | **SPL-27-5** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547006** | **SPL-28-1** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547007** | **SPL-28-2** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547008** | **SPL-28-3** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256547009** | **SPL-28-4** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

**Sample: SPL-27-1** **Lab ID: 256547001** Collected: 02/09/11 12:47 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.3** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 11:04 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.089 | 20 | 02/14/11 09:13 | 02/23/11 11:04 | 7440-43-9 | |
| Copper | **19.8** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 11:04 | 7440-50-8 | M6 |
| Lead | **7.7** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 11:04 | 7439-92-1 | |
| Nickel | **21.8** | mg/kg | 0.56 | 20 | 02/14/11 09:13 | 02/23/11 11:04 | 7440-02-0 | M6 |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.0** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-27-2** **Lab ID: 256547002** Collected: 02/09/11 13:05 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.9** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:11 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.086 | 20 | 02/14/11 09:13 | 02/23/11 11:11 | 7440-43-9 | |
| Copper | **17.2** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:11 | 7440-50-8 | |
| Lead | **8.0** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:11 | 7439-92-1 | |
| Nickel | **20.3** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:11 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **16.6** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-27-3** **Lab ID: 256547003** Collected: 02/09/11 13:20 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.6** | mg/kg | 0.53 | 20 | 02/14/11 09:13 | 02/23/11 11:14 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.085 | 20 | 02/14/11 09:13 | 02/23/11 11:14 | 7440-43-9 | |
| Copper | **21.7** | mg/kg | 0.53 | 20 | 02/14/11 09:13 | 02/23/11 11:14 | 7440-50-8 | |
| Lead | **16.1** | mg/kg | 0.53 | 20 | 02/14/11 09:13 | 02/23/11 11:14 | 7439-92-1 | |
| Nickel | **30.4** | mg/kg | 0.53 | 20 | 02/14/11 09:13 | 02/23/11 11:14 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.1** | % | 0.10 | 1 | | 02/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

**Sample: SPL-27-4** **Lab ID: 256547004** Collected: 02/09/11 13:35 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.9** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:17 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.068 | 20 | 02/14/11 09:13 | 02/23/11 11:17 | 7440-43-9 | |
| Copper | **17.7** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:17 | 7440-50-8 | |
| Lead | **8.7** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:17 | 7439-92-1 | |
| Nickel | **24.1** | mg/kg | 0.43 | 20 | 02/14/11 09:13 | 02/23/11 11:17 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **8.0** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-27-5** **Lab ID: 256547005** Collected: 02/09/11 14:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.2** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:21 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.087 | 20 | 02/14/11 09:13 | 02/23/11 11:21 | 7440-43-9 | |
| Copper | **19.4** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:21 | 7440-50-8 | |
| Lead | **8.4** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:21 | 7439-92-1 | |
| Nickel | **28.9** | mg/kg | 0.54 | 20 | 02/14/11 09:13 | 02/23/11 11:21 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **9.7** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-28-1** **Lab ID: 256547006** Collected: 02/09/11 14:12 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.7** | mg/kg | 0.46 | 20 | 02/14/11 09:13 | 02/23/11 11:44 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.073 | 20 | 02/14/11 09:13 | 02/23/11 11:44 | 7440-43-9 | |
| Copper | **24.1** | mg/kg | 0.46 | 20 | 02/14/11 09:13 | 02/23/11 11:44 | 7440-50-8 | |
| Lead | **8.7** | mg/kg | 0.46 | 20 | 02/14/11 09:13 | 02/23/11 11:44 | 7439-92-1 | |
| Nickel | **24.2** | mg/kg | 0.46 | 20 | 02/14/11 09:13 | 02/23/11 11:44 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **9.1** | % | 0.10 | 1 | | 02/14/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

**Sample: SPL-28-2** **Lab ID: 256547007** Collected: 02/09/11 14:23 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.6** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:48 | 7440-38-2 | |
| Cadmium | **0.088** | mg/kg | 0.065 | 20 | 02/14/11 09:13 | 02/23/11 11:48 | 7440-43-9 | |
| Copper | **25.3** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:48 | 7440-50-8 | |
| Lead | **7.3** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:48 | 7439-92-1 | |
| Nickel | **25.1** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:48 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **8.6** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-28-3** **Lab ID: 256547008** Collected: 02/09/11 14:34 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.4** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 11:51 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.088 | 20 | 02/14/11 09:13 | 02/23/11 11:51 | 7440-43-9 | |
| Copper | **23.1** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 11:51 | 7440-50-8 | |
| Lead | **7.5** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 11:51 | 7439-92-1 | |
| Nickel | **21.7** | mg/kg | 0.55 | 20 | 02/14/11 09:13 | 02/23/11 11:51 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **17.0** | % | 0.10 | 1 | | 02/14/11 00:00 | | |

**Sample: SPL-28-4** **Lab ID: 256547009** Collected: 02/09/11 14:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.3** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:55 | 7440-38-2 | |
| Cadmium | **0.087** | mg/kg | 0.065 | 20 | 02/14/11 09:13 | 02/23/11 11:55 | 7440-43-9 | |
| Copper | **20.1** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:55 | 7440-50-8 | |
| Lead | **7.0** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:55 | 7439-92-1 | |
| Nickel | **23.1** | mg/kg | 0.41 | 20 | 02/14/11 09:13 | 02/23/11 11:55 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **9.9** | % | 0.10 | 1 | | 02/14/11 00:00 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

QC Batch: ICPM/24719 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256547001, 256547002, 256547003, 256547004, 256547005, 256547006, 256547007, 256547008, 256547009

METHOD BLANK: 930612 Matrix: Solid
Associated Lab Samples: 256547001, 256547002, 256547003, 256547004, 256547005, 256547006, 256547007, 256547008, 256547009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 02/23/11 11:00 | |
| Cadmium | mg/kg | ND | 0.076 | 02/23/11 11:00 | |
| Copper | mg/kg | ND | 0.48 | 02/23/11 11:00 | |
| Lead | mg/kg | ND | 0.48 | 02/23/11 11:00 | |
| Nickel | mg/kg | ND | 0.48 | 02/23/11 11:00 | |

LABORATORY CONTROL SAMPLE: 930613

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19.2 | 20.1 | 105 | 75-125 | |
| Cadmium | mg/kg | 19.2 | 20.2 | 105 | 75-125 | |
| Copper | mg/kg | 19.2 | 21.1 | 110 | 75-125 | |
| Lead | mg/kg | 19.2 | 20.4 | 106 | 75-125 | |
| Nickel | mg/kg | 19.2 | 20.8 | 108 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 930614 930615

| Parameter | Units | 256547001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 3.3 | 20.8 | 20.2 | 24.9 | 23.6 | 104 | 101 | 75-125 | 5 | |
| Cadmium | mg/kg | 0.11 | 20.8 | 20.2 | 22.2 | 21.3 | 106 | 105 | 75-125 | 4 | |
| Copper | mg/kg | 19.8 | 20.8 | 20.2 | 48.6 | 41.3 | 138 | 106 | 75-125 | 16 | M6 |
| Lead | mg/kg | 7.7 | 20.8 | 20.2 | 29.9 | 30.7 | 107 | 114 | 75-125 | 3 | |
| Nickel | mg/kg | 21.8 | 20.8 | 20.2 | 55.4 | 48.2 | 162 | 130 | 75-125 | 14 | M6 |

MATRIX SPIKE SAMPLE: 930616

| Parameter | Units | 256548002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.7 | 17.8 | 22.0 | 97 | 75-125 | |
| Cadmium | mg/kg | 0.53 | 17.8 | 20.1 | 111 | 75-125 | |
| Copper | mg/kg | 69.4 | 17.8 | 59.7 | -55 | 75-125 | M6 |
| Lead | mg/kg | 21.2 | 17.8 | 41.3 | 113 | 75-125 | |
| Nickel | mg/kg | 26.9 | 17.8 | 46.6 | 111 | 75-125 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

QC Batch: MPRP/24722 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256547001, 256547002, 256547003, 256547004, 256547005, 256547006, 256547007, 256547008, 256547009

SAMPLE DUPLICATE: 930649

| Parameter | Units | 10149339001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 13.5 | 14.3 | 6 | |

SAMPLE DUPLICATE: 930650

| Parameter | Units | 256548005 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.5 | 9.5 | 10 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256547

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256547001** | **SPL-27-1** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547002** | **SPL-27-2** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547003** | **SPL-27-3** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547004** | **SPL-27-4** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547005** | **SPL-27-5** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547006** | **SPL-28-1** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547007** | **SPL-28-2** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547008** | **SPL-28-3** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547009** | **SPL-28-4** | EPA 6020 | ICPM/24719 | EPA 6020 | ICPM/10092 |
| **256547001** | **SPL-27-1** | % Moisture | MPRP/24722 | | |
| **256547002** | **SPL-27-2** | % Moisture | MPRP/24722 | | |
| **256547003** | **SPL-27-3** | % Moisture | MPRP/24722 | | |
| **256547004** | **SPL-27-4** | % Moisture | MPRP/24722 | | |
| **256547005** | **SPL-27-5** | % Moisture | MPRP/24722 | | |
| **256547006** | **SPL-28-1** | % Moisture | MPRP/24722 | | |
| **256547007** | **SPL-28-2** | % Moisture | MPRP/24722 | | |
| **256547008** | **SPL-28-3** | % Moisture | MPRP/24722 | | |
| **256547009** | **SPL-28-4** | % Moisture | MPRP/24722 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256547

Page: of

1446266

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBUS NW #470
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360-143-1525 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start Date | Composite Start Time | Composite End/Grab Date | Composite End/Grab Time | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | TPH-HCID, TPH-D (SG) | Dioxin, furan | CPAH, Naphthalene | Cd, Cu, Pb, As, Ni | BTEX, TPH-G (SG) | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-27-1 | SL | G | | | 02-09-11 | 12:47 | | 7 | X | | | | | | X | X | | X | X | X | X | X | | |
| 2 | SPL-27-2 | | | | | | 13:05 | | | | | | | | | | | | | | | | | | |
| 3 | SPL-27-3 | | | | | | 13:20 | | | | | | | | | | | | | | | | | | |
| 4 | SPL-27-4 | | | | | | 13:35 | | | | | | | | | | | | | | | | | | |
| 5 | SPL-27-5 | | | | | | 14:00 | | | | | | | | | | | | | | | | | | |
| 6 | SPL-28-1 | | | | | | 14:12 | | | | | | | | | | | | | | | | | | |
| 7 | SPL-28-2 | | | | | | 14:23 | | | | | | | | | | | | | | | | | | |
| 8 | SPL-28-3 | | | | | | 14:34 | | | | | | | | | | | | | | | | | | |
| 9 | SPL-28-4 | | | | | | 14:45 | | | | | | | | | | | | | | | | | | |
| 10 | TB020911-B | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| temp blank included | Ada Hamilton / BC | 2-10-11 | 0745 | Pace | 2-10-11 | 0745 | 1.3 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: ADA HAMILTON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/09/11

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

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

# Sample Container Count

CLIENT: Brown & Caldwell

COC PAGE 1 of 1
COC ID# 14462266

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256547

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | | | | |
| 2 | | | | | | | | | | ↓ | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

256547

Client Name: Brown & Caldwell Project # _____

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

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

**Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ✓ No _____

**Thermometer Used** 132013 or 101731962 or 226099 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.3c **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** 021011 CW

| | | | | **Comments:** |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. 10 RUSH for Dioxins |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed ____ Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS **Date:** 2/10/11

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**

February 24, 2011

## Report Information:

**Pace Project #: 10149297**
**Sample Receipt Date: 02/11/2011**
**Client Project #: 256547**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

February 24, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on nine samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 60-112%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Values above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 85-127%, with relative percent differences (RPDs) generally from 2.1-17.3%. The background-subtracted recovery values obtained for most of the hepta and octa-chlorinated congeners in the matrix spike samples were outside the 70-130% target range. Also, the RPD values for HpCDD, OCDF, and OCDD in the matrix spike samples were above the 20% target upper limit; these results may indicate elevated degrees of variability for these congeners in these determinations.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10149297

# Chain of Custody

10-Day Dioxin Rush

RUSH

Pace Analytical®
www.pacelabs.com

2/25/11

**Workorder:** 256547 **Workorder Name:** Olympia Soils **Owner Received Date:** 2/10/2011 **Results Requested By:** ~~2/24/2011~~

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Requested Analysis: Dioxin, Furans | Cu, Cd, Pb, Ni, As by 6020 | Dry weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-27-1 | PS | 2/9/2011 12:47 | 256547001 | Solid | 2 | X | X | X | |
| 2 | SPL-27-2 | PS | 2/9/2011 13:05 | 256547002 | Solid | 2 | X | X | X | |
| 3 | SPL-27-3 | PS | 2/9/2011 13:20 | 256547003 | Solid | 2 | X | X | X | |
| 4 | SPL-27-4 | PS | 2/9/2011 13:35 | 256547004 | Solid | 2 | X | X | X | |
| 5 | SPL-27-5 | PS | 2/9/2011 14:00 | 256547005 | Solid | 2 | X | X | X | |
| 6 | SPL-28-1 | PS | 2/9/2011 14:12 | 256547006 | Solid | 2 | X | X | X | |
| 7 | SPL-28-2 | PS | 2/9/2011 14:23 | 256547007 | Solid | 2 | X | X | X | |
| 8 | SPL-28-3 | PS | 2/9/2011 14:34 | 256547008 | Solid | 2 | X | X | X | |
| 9 | SPL-28-4 | PS | 2/9/2011 14:45 | 256547009 | Solid | 2 | X | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | KD | 2/10 1300 | [illegible] pace | 2/11/11 0:03 |
| 2 | | | | |
| 3 | | | | |

**Comments**

10-Day Dioxin Rush

**Cooler Temperature on Receipt** 5.5 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

8/11

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace Seattle **Project #** 10149297

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

**Tracking #:** 7967504 13158

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes X No _____

**Thermometer Used** 88344942 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 5.5 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

**Date and Initials of person examining contents:** 2/11

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☑No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☑No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes | ☐No | ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl Samp # |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☐N/A | |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes | ☑No | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blank Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** NAH **Date:** 2/11/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-27-1 | | | |
| Lab Sample ID | 256547001 | | | |
| Filename | U110222B_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.8 g | Matrix | Solid | |
| % Moisture | 10.0 | Dilution | NA | |
| Dry Weight Extracted | 10.6 g | Collected | 02/09/2011 | 12:47 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/22/2011 | 21:41 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.6 | ----- | 0.28 | | 2,3,7,8-TCDF-13C | 2.00 | 60 |
| Total TCDF | 25.0 | ----- | 0.28 | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 65 |
| 2,3,7,8-TCDD | ----- | 0.33 | 0.23 | I | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 24.0 | ----- | 0.23 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 67 |
| 1,2,3,7,8-PeCDF | 1.6 | ----- | 0.17 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 4.8 | ----- | 0.21 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 43.0 | ----- | 0.19 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | 2.3 | ----- | 0.35 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 29.0 | ----- | 0.35 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 75 |
| 1,2,3,4,7,8-HxCDF | ----- | 10.00 | 0.29 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 94 |
| 1,2,3,6,7,8-HxCDF | 3.5 | ----- | 0.43 | J | OCDD-13C | 4.00 | 78 |
| 2,3,4,6,7,8-HxCDF | 3.8 | ----- | 0.33 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.1 | ----- | 0.27 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 91.0 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.4 | ----- | 0.29 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 9.3 | ----- | 0.37 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.7 | ----- | 0.38 | | | | |
| Total HxCDD | 85.0 | ----- | 0.35 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 52.0 | ----- | 0.49 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.6 | ----- | 0.60 | J | Equivalence: 11 ng/Kg | | |
| Total HpCDF | 190.0 | ----- | 0.54 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 290.0 | ----- | 1.20 | | | | |
| Total HpCDD | 650.0 | ----- | 1.20 | | | | |
| OCDF | 170.0 | ----- | 0.24 | | | | |
| OCDD | 3500.0 | ----- | 0.34 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-27-2 | | | |
| Lab Sample ID | 256547002 | | | |
| Filename | U110222B_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.1 g | Matrix | Solid | |
| % Moisture | 16.6 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/09/2011 | 13:05 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/22/2011 | 22:29 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.80 | ----- | 0.26 | | 2,3,7,8-TCDF-13C | 2.00 | 60 |
| Total TCDF | 48.00 | ----- | 0.26 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 |
| 2,3,7,8-TCDD | 0.84 | ----- | 0.27 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 68 |
| Total TCDD | 57.00 | ----- | 0.27 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDF | ----- | 2.7 | 0.26 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 65 |
| 2,3,4,7,8-PeCDF | 5.70 | ----- | 0.31 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 65 |
| Total PeCDF | 49.00 | ----- | 0.28 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 103 |
| 1,2,3,7,8-PeCDD | 4.20 | ----- | 0.58 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | 59.00 | ----- | 0.58 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 94 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 90 |
| 1,2,3,4,7,8-HxCDF | 7.10 | ----- | 0.25 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 112 |
| 1,2,3,6,7,8-HxCDF | 3.80 | ----- | 0.47 | J | OCDD-13C | 4.00 | 95 |
| 2,3,4,6,7,8-HxCDF | 3.00 | ----- | 0.39 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 1.8 | 0.16 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 70.00 | ----- | 0.32 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 4.60 | ----- | 0.22 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 10.00 | ----- | 0.47 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.40 | ----- | 0.37 | J | | | |
| Total HxCDD | 110.00 | ----- | 0.35 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 56.00 | ----- | 0.39 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.30 | ----- | 0.50 | | Equivalence: 15 ng/Kg | | |
| Total HpCDF | 180.00 | ----- | 0.45 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 240.00 | ----- | 1.00 | | | | |
| Total HpCDD | 450.00 | ----- | 1.00 | | | | |
| OCDF | 210.00 | ----- | 0.23 | | | | |
| OCDD | 3800.00 | ----- | 0.22 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-27-3 | | | |
| Lab Sample ID | 256547003 | | | |
| Filename | U110222B_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.1 g | Matrix | Solid | |
| % Moisture | 6.1 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/09/2011 | 13:20 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/22/2011 | 23:17 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.6 | ----- | 0.25 | | 2,3,7,8-TCDF-13C | 2.00 | 61 |
| Total TCDF | 57.0 | ----- | 0.25 | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | 1.1 | ----- | 0.34 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 68 |
| Total TCDD | 73.0 | ----- | 0.34 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDF | 4.6 | ----- | 0.47 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 14.0 | ----- | 0.40 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 120.0 | ----- | 0.43 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | 6.3 | ----- | 0.43 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 73 |
| Total PeCDD | 96.0 | ----- | 0.43 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 75 |
| 1,2,3,4,7,8-HxCDF | ----- | 40 | 0.41 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 90 |
| 1,2,3,6,7,8-HxCDF | 10.0 | ----- | 0.54 | | OCDD-13C | 4.00 | 81 |
| 2,3,4,6,7,8-HxCDF | 14.0 | ----- | 0.82 | | | | |
| 1,2,3,7,8,9-HxCDF | 7.6 | ----- | 0.59 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 350.0 | ----- | 0.59 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 5.5 | ----- | 0.42 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 25.0 | ----- | 0.51 | | | | |
| 1,2,3,7,8,9-HxCDD | 9.9 | ----- | 0.49 | | | | |
| Total HxCDD | 210.0 | ----- | 0.48 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 220.0 | ----- | 0.54 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 22.0 | ----- | 0.75 | | Equivalence: 31 ng/Kg | | |
| Total HpCDF | 830.0 | ----- | 0.65 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 700.0 | ----- | 1.20 | | | | |
| Total HpCDD | 1300.0 | ----- | 1.20 | | | | |
| OCDF | 860.0 | ----- | 1.30 | | | | |
| OCDD | 8100.0 | ----- | 0.32 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

## REPORT OF LABORATORY ANALYSIS

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-27-4 | | | |
| Lab Sample ID | 256547004 | | | |
| Filename | U110222B_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.9 g | Matrix | Solid | |
| % Moisture | 8.0 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 02/09/2011 | 13:35 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 00:04 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.70 | ----- | 0.24 | | 2,3,7,8-TCDF-13C | 2.00 | 62 |
| Total TCDF | 30.00 | ----- | 0.24 | | 2,3,7,8-TCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | 0.57 | ----- | 0.31 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | 30.00 | ----- | 0.31 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | 1.90 | ----- | 0.46 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 5.60 | ----- | 0.37 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 74 |
| Total PeCDF | 52.00 | ----- | 0.42 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 96 |
| 1,2,3,7,8-PeCDD | 2.20 | ----- | 0.32 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 70 |
| Total PeCDD | 41.00 | ----- | 0.32 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 78 |
| 1,2,3,4,7,8-HxCDF | 8.90 | ----- | 0.25 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 92 |
| 1,2,3,6,7,8-HxCDF | 4.10 | ----- | 0.25 | J | OCDD-13C | 4.00 | 79 |
| 2,3,4,6,7,8-HxCDF | 4.60 | ----- | 0.25 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.60 | ----- | 0.17 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 120.00 | ----- | 0.23 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 3.30 | ----- | 0.33 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 11.00 | ----- | 0.40 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.60 | ----- | 0.39 | J | | | |
| Total HxCDD | 96.00 | ----- | 0.37 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 69.00 | ----- | 0.37 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.80 | ----- | 0.36 | | Equivalence: 13 ng/Kg | | |
| Total HpCDF | 240.00 | ----- | 0.36 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 290.00 | ----- | 0.61 | | | | |
| Total HpCDD | 590.00 | ----- | 0.61 | | | | |
| OCDF | 250.00 | ----- | 1.30 | | | | |
| OCDD | 3400.00 | ----- | 3.70 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-27-5 | | | |
| Lab Sample ID | 256547005 | | | |
| Filename | U110222B_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.3 g | Matrix | Solid | |
| % Moisture | 9.7 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/09/2011 | 14:00 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 00:52 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.3 | ----- | 0.32 | | 2,3,7,8-TCDF-13C | 2.00 | 62 |
| Total TCDF | 38.0 | ----- | 0.32 | | 2,3,7,8-TCDD-13C | 2.00 | 74 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 68 |
| 2,3,7,8-TCDD | ----- | 0.56 | 0.33 | I | 2,3,4,7,8-PeCDF-13C | 2.00 | 70 |
| Total TCDD | 38.0 | ----- | 0.33 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDF | 2.3 | ----- | 0.48 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 6.4 | ----- | 0.38 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| Total PeCDF | 59.0 | ----- | 0.43 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 108 |
| 1,2,3,7,8-PeCDD | 3.1 | ----- | 0.50 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 68 |
| Total PeCDD | 47.0 | ----- | 0.50 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 80 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 76 |
| 1,2,3,4,7,8-HxCDF | 7.4 | ----- | 0.36 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 91 |
| 1,2,3,6,7,8-HxCDF | 4.3 | ----- | 0.28 | J | OCDD-13C | 4.00 | 76 |
| 2,3,4,6,7,8-HxCDF | 4.9 | ----- | 0.29 | | | | |
| 1,2,3,7,8,9-HxCDF | 2.7 | ----- | 0.25 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 120.0 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 4.0 | ----- | 0.34 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 12.0 | ----- | 0.32 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.7 | ----- | 0.28 | J | | | |
| Total HxCDD | 110.0 | ----- | 0.32 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 64.0 | ----- | 0.33 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.2 | ----- | 0.59 | | Equivalence: 15 ng/Kg | | |
| Total HpCDF | 200.0 | ----- | 0.46 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 340.0 | ----- | 0.96 | | | | |
| Total HpCDD | 800.0 | ----- | 0.96 | | | | |
| OCDF | 240.0 | ----- | 0.79 | | | | |
| OCDD | 4000.0 | ----- | 0.33 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-28-1 | | | |
| Lab Sample ID | 256547006 | | | |
| Filename | U110222B_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.0 g | Matrix | Solid | |
| % Moisture | 9.1 | Dilution | NA | |
| Dry Weight Extracted | 10.00 g | Collected | 02/09/2011 | 14:12 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 01:39 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.1 | ----- | 0.21 | | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 18.0 | ----- | 0.21 | | 2,3,7,8-TCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | ND | ----- | 0.27 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | 14.0 | ----- | 0.27 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDF | 1.1 | ----- | 0.53 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 64 |
| 2,3,4,7,8-PeCDF | 4.0 | ----- | 0.40 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| Total PeCDF | 43.0 | ----- | 0.46 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 92 |
| 1,2,3,7,8-PeCDD | 1.5 | ----- | 0.30 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 68 |
| Total PeCDD | 19.0 | ----- | 0.30 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | 5.0 | ----- | 0.24 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 85 |
| 1,2,3,6,7,8-HxCDF | 2.1 | ----- | 0.27 | J | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | 3.7 | ----- | 0.28 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.0 | ----- | 0.33 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 66.0 | ----- | 0.28 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.1 | ----- | 0.32 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 7.8 | ----- | 0.43 | | | | |
| 1,2,3,7,8,9-HxCDD | 2.9 | ----- | 0.41 | J | | | |
| Total HxCDD | 64.0 | ----- | 0.39 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 61.0 | ----- | 0.31 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.7 | ----- | 0.33 | J | Equivalence: 9.3 ng/Kg | | |
| Total HpCDF | 87.0 | ----- | 0.32 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 230.0 | ----- | 0.73 | | | | |
| Total HpCDD | 470.0 | ----- | 0.73 | | | | |
| OCDF | 230.0 | ----- | 0.25 | | | | |
| OCDD | 2400.0 | ----- | 0.46 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-28-2 | | | |
| Lab Sample ID | 256547007 | | | |
| Filename | U110222B_12 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.0 g | Matrix | Solid | |
| % Moisture | 8.6 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/09/2011 | 14:23 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 02:27 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.90 | ----- | 0.27 | J | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 17.00 | ----- | 0.27 | | 2,3,7,8-TCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 72 |
| 2,3,7,8-TCDD | 0.33 | ----- | 0.26 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| Total TCDD | 16.00 | ----- | 0.26 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDF | 1.60 | ----- | 0.38 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 5.20 | ----- | 0.34 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 56.00 | ----- | 0.36 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 88 |
| 1,2,3,7,8-PeCDD | 1.20 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 24.00 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 75 |
| 1,2,3,4,7,8-HxCDF | ----- | 16 | 0.28 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 90 |
| 1,2,3,6,7,8-HxCDF | 4.40 | ----- | 0.60 | J | OCDD-13C | 4.00 | 73 |
| 2,3,4,6,7,8-HxCDF | 5.10 | ----- | 0.40 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.40 | ----- | 0.19 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 210.00 | ----- | 0.37 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.00 | ----- | 0.28 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 11.00 | ----- | 0.28 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.50 | ----- | 0.31 | J | | | |
| Total HxCDD | 90.00 | ----- | 0.29 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 110.00 | ----- | 0.34 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 8.10 | ----- | 0.44 | | Equivalence: 12 ng/Kg | | |
| Total HpCDF | 390.00 | ----- | 0.39 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 370.00 | ----- | 0.81 | | | | |
| Total HpCDD | 770.00 | ----- | 0.81 | | | | |
| OCDF | 420.00 | ----- | 0.75 | | | | |
| OCDD | 4000.00 | ----- | 3.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-28-3 | | | |
| Lab Sample ID | 256547008 | | | |
| Filename | U110222B_13 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.5 g | Matrix | Solid | |
| % Moisture | 17.0 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/09/2011 | 14:34 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 03:15 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.00 | ----- | 0.37 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 17.00 | ----- | 0.37 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | 0.37 | ----- | 0.20 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 77 |
| Total TCDD | 12.00 | ----- | 0.20 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 92 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDF | 1.10 | ----- | 0.28 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 4.10 | ----- | 0.32 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 41.00 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 98 |
| 1,2,3,7,8-PeCDD | 1.10 | ----- | 0.26 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 73 |
| Total PeCDD | 19.00 | ----- | 0.26 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 74 |
| 1,2,3,4,7,8-HxCDF | 6.00 | ----- | 0.32 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 89 |
| 1,2,3,6,7,8-HxCDF | 2.60 | ----- | 0.32 | J | OCDD-13C | 4.00 | 74 |
| 2,3,4,6,7,8-HxCDF | 3.70 | ----- | 0.29 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.00 | ----- | 0.18 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 63.00 | ----- | 0.28 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.20 | ----- | 0.24 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 8.20 | ----- | 0.39 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.00 | ----- | 0.26 | J | | | |
| Total HxCDD | 67.00 | ----- | 0.30 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 66.00 | ----- | 0.24 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.60 | ----- | 0.33 | | Equivalence: 9.5 ng/Kg | | |
| Total HpCDF | 140.00 | ----- | 0.28 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 240.00 | ----- | 0.73 | | | | |
| Total HpCDD | 500.00 | ----- | 0.73 | | | | |
| OCDF | 260.00 | ----- | 0.80 | | | | |
| OCDD | 2800.00 | ----- | 0.35 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-28-4 | | | |
| Lab Sample ID | 256547009 | | | |
| Filename | U110222B_14 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.6 g | Matrix | Solid | |
| % Moisture | 9.9 | Dilution | NA | |
| Dry Weight Extracted | 10.5 g | Collected | 02/09/2011 | 14:45 |
| ICAL ID | U101204A | Received | 02/11/2011 | 10:03 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Extracted | 02/17/2011 | 17:00 |
| Method Blank ID | BLANK-27910 | Analyzed | 02/23/2011 | 04:02 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.95 | ----- | 0.27 | J | 2,3,7,8-TCDF-13C | 2.00 | 68 |
| Total TCDF | 18.00 | ----- | 0.27 | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 75 |
| 2,3,7,8-TCDD | 0.36 | ----- | 0.25 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 75 |
| Total TCDD | 12.00 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | 1.40 | ----- | 0.43 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 4.00 | ----- | 0.34 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| Total PeCDF | 41.00 | ----- | 0.39 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 101 |
| 1,2,3,7,8-PeCDD | 1.00 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | 17.00 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 73 |
| 1,2,3,4,7,8-HxCDF | 6.70 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 86 |
| 1,2,3,6,7,8-HxCDF | 3.30 | ----- | 0.36 | J | OCDD-13C | 4.00 | 71 |
| 2,3,4,6,7,8-HxCDF | 4.30 | ----- | 0.32 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.10 | ----- | 0.30 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 59.00 | ----- | 0.32 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.90 | ----- | 0.22 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 7.40 | ----- | 0.33 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.00 | ----- | 0.37 | J | | | |
| Total HxCDD | 62.00 | ----- | 0.31 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 69.00 | ----- | 0.50 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.60 | ----- | 0.45 | | Equivalence: 9.3 ng/Kg | | |
| Total HpCDF | 220.00 | ----- | 0.48 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 220.00 | ----- | 0.69 | | | | |
| Total HpCDD | 440.00 | ----- | 0.69 | | | | |
| OCDF | 240.00 | ----- | 0.59 | | | | |
| OCDD | 2600.00 | ----- | 1.70 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Minneapolis, MN 55414

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27910 | Matrix | Solid |
| Filename | U110222B_05 | Dilution | NA |
| Total Amount Extracted | 10.0 g | Extracted | 02/17/2011 17:00 |
| ICAL ID | U101204A | Analyzed | 02/22/2011 20:54 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Injected By | BAL |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| Total TCDF | ND | ----- | 0.140 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.200 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | ND | ----- | 0.200 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 69 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.130 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.120 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | ND | ----- | 0.120 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 85 |
| Total PeCDD | ND | ----- | 0.140 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 76 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.100 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 95 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.086 | | OCDD-13C | 4.00 | 73 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.088 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.120 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.098 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.160 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.160 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.150 | | | | |
| Total HxCDD | ND | ----- | 0.160 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.100 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.160 | | Equivalence: 0.24 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.130 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.210 | | | | |
| Total HpCDD | ND | ----- | 0.210 | | | | |
| OCDF | ----- | 0.35 | 0.170 | I | | | |
| OCDD | ----- | 0.83 | 0.280 | I | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
I = Interference present

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27911 | | |
| Filename | U110222B_03 | Matrix | Solid |
| Total Amount Extracted | 10.5 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/17/2011 17:00 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Analyzed | 02/22/2011 19:21 |
| Method Blank ID | BLANK-27910 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.21 | 107 | 2,3,7,8-TCDF-13C | 2.0 | 58 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 77 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 65 |
| 2,3,7,8-TCDD | 0.20 | 0.17 | 85 | 2,3,4,7,8-PeCDF-13C | 2.0 | 65 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 81 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 68 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.0 | 102 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 69 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 102 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 71 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 64 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 81 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.89 | 89 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 83 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 81 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 77 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.0 | 103 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 97 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 108 | OCDD-13C | 4.0 | 77 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.95 | 95 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 0.97 | 97 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 0.93 | 93 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.0 | 101 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 0.96 | 96 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.89 | 89 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 1.8 | 91 | | | |
| OCDD | 2.0 | 2.1 | 106 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-27-3-MS | | |
| Lab Sample ID | 256547003-MS | | |
| Filename | U110222B_15 | Matrix | Solid |
| Total Amount Extracted | 10.9 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/17/2011 17:00 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Analyzed | 02/23/2011 04:50 |
| Method Blank ID | BLANK-27910 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.26 | 132 | 2,3,7,8-TCDF-13C | 2.00 | 59 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 76 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 71 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 98 | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.08 | 108 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.22 | 122 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.97 | 97 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 85 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 76 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 68 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.51 | 151 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.20 | 120 | OCDD-13C | 4.00 | 64 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.20 | 120 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.16 | 116 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.01 | 101 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 71 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.21 | 121 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 0.99 | 99 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 3.57 | 357 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.21 | 121 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 7.75 | 775 | | | |
| OCDF | 2.00 | 11.59 | 579 | | | |
| OCDD | 2.00 | 84.05 | 4203 E | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = Exceeds calibration range

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-27-3-MSD | | |
| Lab Sample ID | 256547003-MSD | | |
| Filename | U110222B_16 | Matrix | Solid |
| Total Amount Extracted | 10.7 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/17/2011 17:00 |
| CCal Filename(s) | U110222B_02 & U110222B_17 | Analyzed | 02/23/2011 05:38 |
| Method Blank ID | BLANK-27910 | Injected By | BAL |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.26 | 128 | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 87 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 78 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 100 | 2,3,4,7,8-PeCDF-13C | 2.00 | 77 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 94 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.12 | 112 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.28 | 128 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.01 | 101 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 84 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 79 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 77 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.68 | 168 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 91 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.25 | 125 | OCDD-13C | 4.00 | 77 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.28 | 128 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.28 | 128 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.08 | 108 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 84 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.28 | 128 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.11 | 111 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 4.25 | 425 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.38 | 138 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 9.87 | 987 | | | |
| OCDF | 2.00 | 19.95 | 998 | | | |
| OCDD | 2.00 | 120.49 | 6024 E | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = Exceeds calibration range

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-27-3 | | | Dry Weights | |
| Lab Sample ID | 256547003 | Sample Filename | U110222B_08 | Sample Amount | 10.4 g |
| MS ID | 256547003-MS | MS Filename | U110222B_15 | MS Amount | 10.2 g |
| MSD ID | 256547003-MSD | MSD Filename | U110222B_16 | MSD Amount | 10.0 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.566 | 0.20 | 0.26 | 0.26 | 3.0 | 114 | 110 | 3.1 |
| 2,3,7,8-TCDD | 1.117 | 0.20 | 0.20 | 0.20 | 2.1 | 92 | 94 | 2.3 |
| 1,2,3,7,8-PeCDF | 4.621 | 1.00 | 1.08 | 1.12 | 3.4 | 103 | 107 | 3.7 |
| 2,3,4,7,8-PeCDF | 14.499 | 1.00 | 1.22 | 1.28 | 4.8 | 107 | 113 | 5.6 |
| 1,2,3,7,8-PeCDD | 6.252 | 1.00 | 0.97 | 1.01 | 4.3 | 91 | 95 | 4.7 |
| 1,2,3,4,7,8-HxCDF | 0.000 | 1.00 | 1.51 | 1.68 | 10.1 | 110 | 127 | 14.2 |
| 1,2,3,6,7,8-HxCDF | 10.184 | 1.00 | 1.20 | 1.25 | 4.7 | 109 | 115 | 5.3 |
| 2,3,4,6,7,8-HxCDF | 13.677 | 1.00 | 1.20 | 1.28 | 5.8 | 106 | 114 | 6.8 |
| 1,2,3,7,8,9-HxCDF | 7.612 | 1.00 | 1.16 | 1.28 | 10.0 | 108 | 121 | 10.8 |
| 1,2,3,4,7,8-HxCDD | 5.498 | 1.00 | 1.01 | 1.08 | 6.8 | 95 | 102 | 7.3 |
| 1,2,3,6,7,8-HxCDD | 25.093 | 1.00 | 1.21 | 1.28 | 5.6 | 95 | 103 | 7.5 |
| 1,2,3,7,8,9-HxCDD | 9.857 | 1.00 | 0.99 | 1.11 | 10.8 | 89 | 101 | 12.1 |
| 1,2,3,4,6,7,8-HpCDF | 215.950 | 1.00 | 3.57 | 4.25 | 17.3 | 136 | 208 | 41.7 |
| 1,2,3,4,7,8,9-HpCDF | 22.236 | 1.00 | 1.21 | 1.38 | 13.4 | 98 | 116 | 16.7 |
| 1,2,3,4,6,7,8-HpCDD | 700.994 | 1.00 | 7.75 | 9.87 | 24.0 | 58 | 282 | 132.2 |
| OCDF | 863.205 | 2.00 | 11.59 | 19.95 | 53.0 | 138 | 564 | 121.6 |
| OCDD | 8072.033 | 2.00 | 84.05 | 120.49 | 35.6 | 72 | 1969 | 186.0 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 24, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256549

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Andrea R. Brownfield

Andy Brownfield for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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Seattle, WA 98108
(206)767-5060

## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 256549 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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940 South Harney
Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256549001** | **SPL-27-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549002** | **SPL-27-2** | NWTPH-Dx | AY1 | 6 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549003** | **SPL-27-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549004** | **SPL-27-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549005** | **SPL-27-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549006** | **SPL-28-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549007** | **SPL-28-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549008** | **SPL-28-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |



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(206)767-5060

## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549009** | **SPL-28-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256549010** | **TB020911-B** | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-27-1** **Lab ID: 256549001** Collected: 02/09/11 12:47 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.6 | 1 | 02/11/11 11:00 | 02/15/11 03:55 | | |
| Motor Oil Range SG | ND | mg/kg | 86.4 | 1 | 02/11/11 11:00 | 02/15/11 03:55 | 64742-65-0 | |
| n-Octacosane (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 03:55 | 630-02-4 | |
| o-Terphenyl (S) SG | 104 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 03:55 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/11/11 15:20 | 02/12/11 11:45 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 11:45 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 90 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 11:45 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 83-32-9 | |
| Acenaphthylene | **19.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 208-96-8 | |
| Anthracene | **27.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 120-12-7 | |
| Benzo(a)anthracene | **101** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 56-55-3 | |
| Benzo(a)pyrene | **112** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 50-32-8 | |
| Benzo(b)fluoranthene | **104** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 205-99-2 | |
| Benzo(g,h,i)perylene | **67.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 191-24-2 | |
| Benzo(k)fluoranthene | **63.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 207-08-9 | |
| Chrysene | **123** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 218-01-9 | |
| Dibenz(a,h)anthracene | **19.2** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 53-70-3 | |
| Fluoranthene | **162** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 206-44-0 | |
| Fluorene | **12.1** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **54.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 90-12-0 | |
| 2-Methylnaphthalene | **9.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 91-57-6 | |
| Naphthalene | **16.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 91-20-3 | |
| Phenanthrene | **103** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 85-01-8 | |
| Pyrene | **296** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 47 | % | 31-131 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 321-60-8 | |
| Terphenyl-d14 (S) | 60 | % | 30-133 | 1 | 02/11/11 11:55 | 02/14/11 22:32 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.7 | 1 | | 02/11/11 13:40 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.7 | 1 | | 02/11/11 13:40 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.7 | 1 | | 02/11/11 13:40 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.2 | 1 | | 02/11/11 13:40 | 1330-20-7 | |
| Dibromofluoromethane (S) | 94 | % | 80-136 | 1 | | 02/11/11 13:40 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/11/11 13:40 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/11/11 13:40 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 02/11/11 13:40 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.9** | % | 0.10 | 1 | | 02/12/11 16:21 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-27-2** **Lab ID: 256549002** Collected: 02/09/11 13:05 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **35.0** | mg/kg | 22.0 | 1 | 02/11/11 11:00 | 02/15/11 04:12 | | |
| Motor Oil Range SG | **212** | mg/kg | 88.0 | 1 | 02/11/11 11:00 | 02/15/11 04:12 | 64742-65-0 | |
| n-Octacosane (S) | 97 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 04:12 | 630-02-4 | |
| n-Octacosane (S) SG | 97 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 04:12 | 630-02-4 | |
| o-Terphenyl (S) | 98 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 04:12 | 84-15-1 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 04:12 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.2 | 1 | 02/11/11 15:20 | 02/14/11 16:53 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/11/11 15:20 | 02/14/11 16:53 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 81 | % | 50-150 | 1 | 02/11/11 15:20 | 02/14/11 16:53 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **42.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 83-32-9 | |
| Acenaphthylene | **127** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 208-96-8 | |
| Anthracene | **256** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 120-12-7 | |
| Benzo(a)anthracene | **509** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 56-55-3 | |
| Benzo(a)pyrene | **468** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 50-32-8 | |
| Benzo(b)fluoranthene | **405** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 205-99-2 | |
| Benzo(g,h,i)perylene | **262** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 191-24-2 | |
| Benzo(k)fluoranthene | **139** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 207-08-9 | |
| Chrysene | **445** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 218-01-9 | |
| Dibenz(a,h)anthracene | **74.5** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 53-70-3 | |
| Fluoranthene | **837** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 206-44-0 | |
| Fluorene | **175** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **218** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 193-39-5 | |
| 1-Methylnaphthalene | **49.2** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 90-12-0 | |
| 2-Methylnaphthalene | **64.2** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 91-57-6 | |
| Naphthalene | **87.0** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 91-20-3 | |
| Phenanthrene | **1130** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 85-01-8 | |
| Pyrene | **1450** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 49 | % | 31-131 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 321-60-8 | |
| Terphenyl-d14 (S) | 58 | % | 30-133 | 1 | 02/11/11 11:55 | 02/14/11 23:27 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 14:19 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/11/11 14:19 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/11/11 14:19 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/11/11 14:19 | 1330-20-7 | |
| Dibromofluoromethane (S) | 94 | % | 80-136 | 1 | | 02/11/11 14:19 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 02/11/11 14:19 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 72-122 | 1 | | 02/11/11 14:19 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 02/11/11 14:19 | 17060-07-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-27-2** **Lab ID: 256549002** Collected: 02/09/11 13:05 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.9** | % | 0.10 | 1 | | 02/12/11 16:23 | | |

**Sample: SPL-27-3** **Lab ID: 256549003** Collected: 02/09/11 13:20 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | **23.9** | mg/kg | 21.1 | 1 | 02/11/11 11:00 | 02/15/11 04:44 | | |
| Motor Oil Range SG | **161** | mg/kg | 84.6 | 1 | 02/11/11 11:00 | 02/15/11 04:44 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 04:44 | 630-02-4 | |
| o-Terphenyl (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 04:44 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.4 | 1 | 02/11/11 15:20 | 02/12/11 12:57 | | |
| a,a,a-Trifluorotoluene (S) | 112 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 12:57 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 99 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 12:57 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | **58.3** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 83-32-9 | |
| Acenaphthylene | **12.7** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 208-96-8 | |
| Anthracene | **139** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 120-12-7 | |
| Benzo(a)anthracene | **252** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 56-55-3 | |
| Benzo(a)pyrene | **202** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 50-32-8 | |
| Benzo(b)fluoranthene | **178** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 205-99-2 | |
| Benzo(g,h,i)perylene | **118** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 191-24-2 | |
| Benzo(k)fluoranthene | **126** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 207-08-9 | |
| Chrysene | **269** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 218-01-9 | |
| Dibenz(a,h)anthracene | **41.7** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 53-70-3 | |
| Fluoranthene | **407** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 206-44-0 | |
| Fluorene | **54.7** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **104** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 193-39-5 | |
| 1-Methylnaphthalene | **8.0** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 90-12-0 | |
| 2-Methylnaphthalene | **10.8** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 91-57-6 | |
| Naphthalene | **13.0** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 91-20-3 | |
| Phenanthrene | **403** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 85-01-8 | |
| Pyrene | **574** | ug/kg | 7.1 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 49 | % | 31-131 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 321-60-8 | |
| Terphenyl-d14 (S) | 57 | % | 30-133 | 1 | 02/11/11 11:55 | 02/14/11 23:45 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 14:39 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 14:39 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/11/11 14:39 | 108-88-3 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-27-3** **Lab ID: 256549003** Collected: 02/09/11 13:20 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Xylene (Total) | ND | ug/kg | 8.8 | 1 | | 02/11/11 14:39 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 02/11/11 14:39 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/11/11 14:39 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/11/11 14:39 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/11/11 14:39 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.9** | % | 0.10 | 1 | | 02/12/11 16:24 | | |

**Sample: SPL-27-4** **Lab ID: 256549004** Collected: 02/09/11 13:35 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **24.0** | mg/kg | 21.3 | 1 | 02/11/11 11:00 | 02/15/11 05:01 | | |
| Motor Oil Range SG | **91.7** | mg/kg | 85.3 | 1 | 02/11/11 11:00 | 02/15/11 05:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 05:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 05:01 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.4 | 1 | 02/11/11 15:20 | 02/12/11 13:21 | | |
| a,a,a-Trifluorotoluene (S) | 109 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 13:21 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 97 | % | 50-150 | 1 | 02/11/11 15:20 | 02/12/11 13:21 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **33.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 83-32-9 | |
| Acenaphthylene | **38.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 208-96-8 | |
| Anthracene | **116** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 120-12-7 | |
| Benzo(a)anthracene | **194** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 56-55-3 | |
| Benzo(a)pyrene | **197** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 50-32-8 | |
| Benzo(b)fluoranthene | **144** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 205-99-2 | |
| Benzo(g,h,i)perylene | **125** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 191-24-2 | |
| Benzo(k)fluoranthene | **93.1** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 207-08-9 | |
| Chrysene | **194** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 218-01-9 | |
| Dibenz(a,h)anthracene | **31.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 53-70-3 | |
| Fluoranthene | **347** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 206-44-0 | |
| Fluorene | **87.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **101** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 193-39-5 | |
| 1-Methylnaphthalene | **39.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 90-12-0 | |
| 2-Methylnaphthalene | **50.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 91-57-6 | |
| Naphthalene | **61.2** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 91-20-3 | |
| Phenanthrene | **491** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 85-01-8 | |
| Pyrene | **556** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 129-00-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-27-4** **Lab ID: 256549004** Collected: 02/09/11 13:35 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| 2-Fluorobiphenyl (S) | 48 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 321-60-8 | |
| Terphenyl-d14 (S) | 58 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 00:04 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 14:59 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 14:59 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/11/11 14:59 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.7 | 1 | | 02/11/11 14:59 | 1330-20-7 | |
| Dibromofluoromethane (S) | 94 | % | 80-136 | 1 | | 02/11/11 14:59 | 1868-53-7 | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 02/11/11 14:59 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 72-122 | 1 | | 02/11/11 14:59 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/11/11 14:59 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.9** | % | 0.10 | 1 | | 02/12/11 16:25 | | |

**Sample: SPL-27-5** **Lab ID: 256549005** Collected: 02/09/11 14:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | ND | mg/kg | 21.6 | 1 | 02/11/11 11:00 | 02/15/11 05:18 | | |
| Motor Oil Range SG | ND | mg/kg | 86.2 | 1 | 02/11/11 11:00 | 02/15/11 05:18 | 64742-65-0 | |
| n-Octacosane (S) SG | 104 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 05:18 | 630-02-4 | |
| o-Terphenyl (S) SG | 102 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 05:18 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 02/17/11 14:17 | 02/18/11 16:51 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/17/11 14:17 | 02/18/11 16:51 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 82 | % | 50-150 | 1 | 02/17/11 14:17 | 02/18/11 16:51 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | ND | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 83-32-9 | |
| Acenaphthylene | **15.4** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 208-96-8 | |
| Anthracene | **26.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 120-12-7 | |
| Benzo(a)anthracene | **64.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 56-55-3 | |
| Benzo(a)pyrene | **64.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 50-32-8 | |
| Benzo(b)fluoranthene | **57.3** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 205-99-2 | |
| Benzo(g,h,i)perylene | **46.7** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 191-24-2 | |
| Benzo(k)fluoranthene | **25.5** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 207-08-9 | |
| Chrysene | **62.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 218-01-9 | |
| Dibenz(a,h)anthracene | **13.4** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 53-70-3 | |
| Fluoranthene | **93.7** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 206-44-0 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-27-5** **Lab ID: 256549005** Collected: 02/09/11 14:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Fluorene | **15.2** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **40.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 193-39-5 | |
| 1-Methylnaphthalene | **7.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 90-12-0 | |
| 2-Methylnaphthalene | **11.1** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 91-57-6 | |
| Naphthalene | **15.9** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 91-20-3 | |
| Phenanthrene | **101** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 85-01-8 | |
| Pyrene | **158** | ug/kg | 7.3 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 45 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 321-60-8 | |
| Terphenyl-d14 (S) | 53 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 00:22 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 15:18 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 15:18 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/11/11 15:18 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.6 | 1 | | 02/11/11 15:18 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/11/11 15:18 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/11/11 15:18 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 72-122 | 1 | | 02/11/11 15:18 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/11/11 15:18 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.5** | % | 0.10 | 1 | | 02/12/11 16:27 | | |

**Sample: SPL-28-1** **Lab ID: 256549006** Collected: 02/09/11 14:12 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.2 | 1 | 02/11/11 11:00 | 02/15/11 05:34 | | |
| Motor Oil Range SG | **136** | mg/kg | 84.9 | 1 | 02/11/11 11:00 | 02/15/11 05:34 | 64742-65-0 | |
| n-Octacosane (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 05:34 | 630-02-4 | |
| o-Terphenyl (S) SG | 99 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 05:34 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 02/18/11 15:45 | 02/18/11 20:52 | | |
| a,a,a-Trifluorotoluene (S) | 103 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 20:52 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 84 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 20:52 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **7.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 83-32-9 | |
| Acenaphthylene | **14.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 208-96-8 | |
| Anthracene | **34.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 120-12-7 | |
| Benzo(a)anthracene | **53.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 56-55-3 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-28-1** **Lab ID: 256549006** Collected: 02/09/11 14:12 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Benzo(a)pyrene | **57.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 50-32-8 | |
| Benzo(b)fluoranthene | **49.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 205-99-2 | |
| Benzo(g,h,i)perylene | **40.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 191-24-2 | |
| Benzo(k)fluoranthene | **25.1** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 207-08-9 | |
| Chrysene | **54.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 218-01-9 | |
| Dibenz(a,h)anthracene | **10.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 53-70-3 | |
| Fluoranthene | **87.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 206-44-0 | |
| Fluorene | **20.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **32.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 90-12-0 | |
| 2-Methylnaphthalene | **7.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 91-57-6 | |
| Naphthalene | **13.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 91-20-3 | |
| Phenanthrene | **136** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 85-01-8 | |
| Pyrene | **157** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 48 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 321-60-8 | |
| Terphenyl-d14 (S) | 56 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 00:41 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 15:37 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/11/11 15:37 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/11/11 15:37 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.7 | 1 | | 02/11/11 15:37 | 1330-20-7 | |
| Dibromofluoromethane (S) | 87 | % | 80-136 | 1 | | 02/11/11 15:37 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/11/11 15:37 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/11/11 15:37 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 02/11/11 15:37 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.7** | % | 0.10 | 1 | | 02/12/11 16:28 | | |

**Sample: SPL-28-2** **Lab ID: 256549007** Collected: 02/09/11 14:23 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.4 | 1 | 02/11/11 11:00 | 02/15/11 06:24 | | |
| Motor Oil Range SG | **119** | mg/kg | 85.7 | 1 | 02/11/11 11:00 | 02/15/11 06:24 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 06:24 | 630-02-4 | |
| o-Terphenyl (S) SG | 99 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 06:24 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.7 | 1 | 02/18/11 15:45 | 02/18/11 21:16 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 21:16 | 98-08-8 | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-28-2** **Lab ID: 256549007** Collected: 02/09/11 14:23 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| 4-Bromofluorobenzene (S) | 80 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 21:16 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM | | Preparation Method: EPA 3546 | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 208-96-8 | |
| Anthracene | **13.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 120-12-7 | |
| Benzo(a)anthracene | **38.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 56-55-3 | |
| Benzo(a)pyrene | **32.7** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 50-32-8 | |
| Benzo(b)fluoranthene | **29.9** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 205-99-2 | |
| Benzo(g,h,i)perylene | **23.4** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 191-24-2 | |
| Benzo(k)fluoranthene | **18.2** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 207-08-9 | |
| Chrysene | **45.1** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 53-70-3 | |
| Fluoranthene | **77.3** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **17.4** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 91-57-6 | |
| Naphthalene | **9.1** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 91-20-3 | |
| Phenanthrene | **41.9** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 85-01-8 | |
| Pyrene | **132** | ug/kg | 7.4 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 40 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 321-60-8 | |
| Terphenyl-d14 (S) | 48 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 00:59 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.5 | 1 | | 02/11/11 15:57 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.5 | 1 | | 02/11/11 15:57 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.5 | 1 | | 02/11/11 15:57 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.4 | 1 | | 02/11/11 15:57 | 1330-20-7 | |
| Dibromofluoromethane (S) | 88 | % | 80-136 | 1 | | 02/11/11 15:57 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/11/11 15:57 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 108 | % | 72-122 | 1 | | 02/11/11 15:57 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 97 | % | 80-143 | 1 | | 02/11/11 15:57 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.3** | % | 0.10 | 1 | | 02/12/11 16:28 | | |

**Sample: SPL-28-3** **Lab ID: 256549008** Collected: 02/09/11 14:34 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx | | Preparation Method: EPA 3546 | | | | | |
| Diesel Range SG | **27.1** | mg/kg | 20.8 | 1 | 02/11/11 11:00 | 02/15/11 06:41 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-28-3** **Lab ID: 256549008** Collected: 02/09/11 14:34 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Motor Oil Range SG | **149** | mg/kg | 83.3 | 1 | 02/11/11 11:00 | 02/15/11 06:41 | 64742-65-0 | |
| n-Octacosane (S) SG | 101 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 06:41 | 630-02-4 | |
| o-Terphenyl (S) SG | 102 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 06:41 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/18/11 15:45 | 02/18/11 22:04 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 22:04 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 83 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 22:04 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **12.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 83-32-9 | |
| Acenaphthylene | **25.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 208-96-8 | |
| Anthracene | **42.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 120-12-7 | |
| Benzo(a)anthracene | **95.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 56-55-3 | |
| Benzo(a)pyrene | **107** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 50-32-8 | |
| Benzo(b)fluoranthene | **75.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 205-99-2 | |
| Benzo(g,h,i)perylene | **63.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 191-24-2 | |
| Benzo(k)fluoranthene | **49.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 207-08-9 | |
| Chrysene | **91.1** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 218-01-9 | |
| Dibenz(a,h)anthracene | **18.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 53-70-3 | |
| Fluoranthene | **137** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 206-44-0 | |
| Fluorene | **29.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **56.1** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 193-39-5 | |
| 1-Methylnaphthalene | **7.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 90-12-0 | |
| 2-Methylnaphthalene | **8.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 91-57-6 | |
| Naphthalene | **15.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 91-20-3 | |
| Phenanthrene | **155** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 85-01-8 | |
| Pyrene | **230** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 45 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 321-60-8 | |
| Terphenyl-d14 (S) | 52 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 01:17 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.6 | 1 | | 02/11/11 16:16 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.6 | 1 | | 02/11/11 16:16 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.6 | 1 | | 02/11/11 16:16 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.8 | 1 | | 02/11/11 16:16 | 1330-20-7 | |
| Dibromofluoromethane (S) | 87 | % | 80-136 | 1 | | 02/11/11 16:16 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 02/11/11 16:16 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/11/11 16:16 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 94 | % | 80-143 | 1 | | 02/11/11 16:16 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.3** | % | 0.10 | 1 | | 02/12/11 16:29 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: SPL-28-4** **Lab ID: 256549009** Collected: 02/09/11 14:45 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.4 | 1 | 02/11/11 11:00 | 02/15/11 06:57 | | |
| Motor Oil Range SG | ND | mg/kg | 85.7 | 1 | 02/11/11 11:00 | 02/15/11 06:57 | 64742-65-0 | |
| n-Octacosane (S) SG | 107 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 06:57 | 630-02-4 | |
| o-Terphenyl (S) SG | 104 | % | 50-150 | 1 | 02/11/11 11:00 | 02/15/11 06:57 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/18/11 15:45 | 02/18/11 22:29 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 22:29 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 82 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 22:29 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **11.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 83-32-9 | |
| Acenaphthylene | **17.5** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 208-96-8 | |
| Anthracene | **33.4** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 120-12-7 | |
| Benzo(a)anthracene | **68.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 56-55-3 | |
| Benzo(a)pyrene | **71.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 50-32-8 | |
| Benzo(b)fluoranthene | **55.1** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 205-99-2 | |
| Benzo(g,h,i)perylene | **50.2** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 191-24-2 | |
| Benzo(k)fluoranthene | **35.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 207-08-9 | |
| Chrysene | **67.9** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 218-01-9 | |
| Dibenz(a,h)anthracene | **12.8** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 53-70-3 | |
| Fluoranthene | **100** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 206-44-0 | |
| Fluorene | **23.7** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **38.9** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 193-39-5 | |
| 1-Methylnaphthalene | **7.3** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 90-12-0 | |
| 2-Methylnaphthalene | **8.0** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 91-57-6 | |
| Naphthalene | **15.6** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 91-20-3 | |
| Phenanthrene | **120** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 85-01-8 | |
| Pyrene | **184** | ug/kg | 7.2 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 44 | % | 31-131 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 321-60-8 | |
| Terphenyl-d14 (S) | 50 | % | 30-133 | 1 | 02/11/11 11:55 | 02/15/11 01:36 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.2 | 1 | | 02/14/11 14:57 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.2 | 1 | | 02/14/11 14:57 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.2 | 1 | | 02/14/11 14:57 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.6 | 1 | | 02/14/11 14:57 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 02/14/11 14:57 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/14/11 14:57 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 72-122 | 1 | | 02/14/11 14:57 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/14/11 14:57 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.0** | % | 0.10 | 1 | | 02/12/11 16:31 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

**Sample: TB020911-B** **Lab ID: 256549010** Collected: 02/09/11 00:00 Received: 02/10/11 07:45 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/18/11 15:45 | 02/18/11 19:40 | | |
| a,a,a-Trifluorotoluene (S) | 101 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 19:40 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 82 | % | 50-150 | 1 | 02/18/11 15:45 | 02/18/11 19:40 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/11/11 13:01 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/11/11 13:01 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/11/11 13:01 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/11/11 13:01 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/11/11 13:01 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/11/11 13:01 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 72-122 | 1 | | 02/11/11 13:01 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 02/11/11 13:01 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: OEXT/3298 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549009

METHOD BLANK: 58160 Matrix: Solid
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 02/15/11 03:22 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 02/15/11 03:22 | |
| n-Octacosane (S) | % | 102 | 50-150 | 02/15/11 01:59 | |
| n-Octacosane (S) SG | % | 105 | 50-150 | 02/15/11 03:22 | |
| o-Terphenyl (S) | % | 96 | 50-150 | 02/15/11 01:59 | |
| o-Terphenyl (S) SG | % | 95 | 50-150 | 02/15/11 03:22 | |

LABORATORY CONTROL SAMPLE: 58161

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 536 | 107 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 576 | 115 | 50-150 | |
| n-Octacosane (S) | % | | | 101 | 50-150 | |
| n-Octacosane (S) SG | % | | | 105 | 50-150 | |
| o-Terphenyl (S) | % | | | 125 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 126 | 50-150 | |

SAMPLE DUPLICATE: 58162

| Parameter | Units | 256549002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 35.0 | 33.3 | 5 | |
| Motor Oil Range SG | mg/kg | 212 | 184 | 14 | |
| n-Octacosane (S) | % | 97 | 96 | 2 | |
| n-Octacosane (S) SG | % | 97 | 96 | 2 | |
| o-Terphenyl (S) | % | 98 | 99 | .2 | |
| o-Terphenyl (S) SG | % | 98 | 99 | .2 | |

SAMPLE DUPLICATE: 58163

| Parameter | Units | 256550003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 14.7J | | |
| Motor Oil Range SG | mg/kg | 111 | 89.4 | 21 | |
| n-Octacosane (S) | % | 107 | 104 | 3 | |
| n-Octacosane (S) SG | % | 107 | 104 | 3 | |
| o-Terphenyl (S) | % | 105 | 101 | 3 | |
| o-Terphenyl (S) SG | % | 105 | 101 | 3 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: GCV/2161 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256549001, 256549003, 256549004

METHOD BLANK: 58273 Matrix: Solid
Associated Lab Samples: 256549001, 256549003, 256549004

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/12/11 03:50 | |
| 4-Bromofluorobenzene (S) | % | 87 | 50-150 | 02/12/11 03:50 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 50-150 | 02/12/11 03:50 | |

LABORATORY CONTROL SAMPLE: 58274

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.3 | 99 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 92 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 95 | 50-150 | |

SAMPLE DUPLICATE: 58443

| Parameter | Units | 256575003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 1.2J | | |
| 4-Bromofluorobenzene (S) | % | 97 | 93 | 4 | |
| a,a,a-Trifluorotoluene (S) | % | 109 | 105 | 3 | |

SAMPLE DUPLICATE: 58444

| Parameter | Units | 256520004 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 19.5 | 15.1 | 26 | |
| 4-Bromofluorobenzene (S) | % | 100 | 99 | 1 | |
| a,a,a-Trifluorotoluene (S) | % | 112 | 110 | 1 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: GCV/2172 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256549002

METHOD BLANK: 58791 | Matrix: Solid
Associated Lab Samples: 256549002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/14/11 15:09 | |
| 4-Bromofluorobenzene (S) | % | 90 | 50-150 | 02/14/11 15:09 | |
| a,a,a-Trifluorotoluene (S) | % | 104 | 50-150 | 02/14/11 15:09 | |

LABORATORY CONTROL SAMPLE: 58792

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.1 | 105 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 74 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 82 | 50-150 | |

SAMPLE DUPLICATE: 58793

| Parameter | Units | 256549002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .81J | | |
| 4-Bromofluorobenzene (S) | % | 81 | 80 | 2 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 102 | .9 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: GCV/2174 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256549005

METHOD BLANK: 58919 | Matrix: Solid
Associated Lab Samples: 256549005

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/18/11 08:56 | |
| 4-Bromofluorobenzene (S) | % | 75 | 50-150 | 02/18/11 08:56 | |
| a,a,a-Trifluorotoluene (S) | % | 94 | 50-150 | 02/18/11 08:56 | |

LABORATORY CONTROL SAMPLE: 58920

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.1 | 97 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 76 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 91 | 50-150 | |

SAMPLE DUPLICATE: 59193

| Parameter | Units | 256575005 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .76J | | |
| 4-Bromofluorobenzene (S) | % | 76 | 77 | .9 | |
| a,a,a-Trifluorotoluene (S) | % | 96 | 98 | 2 | |

SAMPLE DUPLICATE: 59258

| Parameter | Units | 256597013 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 6.5J | | |
| 4-Bromofluorobenzene (S) | % | 81 | 82 | 2 | |
| a,a,a-Trifluorotoluene (S) | % | 99 | 101 | 2 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: GCV/2177 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256549006, 256549007, 256549008, 256549009, 256549010

METHOD BLANK: 59173 Matrix: Solid
Associated Lab Samples: 256549006, 256549007, 256549008, 256549009, 256549010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/18/11 19:16 | |
| 4-Bromofluorobenzene (S) | % | 84 | 50-150 | 02/18/11 19:16 | |
| a,a,a-Trifluorotoluene (S) | % | 105 | 50-150 | 02/18/11 19:16 | |

LABORATORY CONTROL SAMPLE: 59174

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 12.9 | 103 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 85 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 101 | 50-150 | |

SAMPLE DUPLICATE: 59555

| Parameter | Units | 256549007 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .85J | | |
| 4-Bromofluorobenzene (S) | % | 80 | 83 | 4 | |
| a,a,a-Trifluorotoluene (S) | % | 98 | 102 | 4 | |

SAMPLE DUPLICATE: 59556

| Parameter | Units | 256550001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .7J | | |
| 4-Bromofluorobenzene (S) | % | 83 | 80 | 3 | |
| a,a,a-Trifluorotoluene (S) | % | 101 | 99 | 2 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: OEXT/3297 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549009

METHOD BLANK: 58156 Matrix: Solid
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Acenaphthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Anthracene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Chrysene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Fluoranthene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Fluorene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Naphthalene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Phenanthrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| Pyrene | ug/kg | ND | 6.7 | 02/14/11 14:16 | |
| 2-Fluorobiphenyl (S) | % | 54 | 31-131 | 02/14/11 14:16 | |
| Terphenyl-d14 (S) | % | 69 | 30-133 | 02/14/11 14:16 | |

LABORATORY CONTROL SAMPLE: 58157

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 98.0 | 73 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 98.3 | 74 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 78.4 | 59 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 78.0 | 58 | 31-134 | |
| Anthracene | ug/kg | 133 | 80.5 | 60 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 91.4 | 69 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 91.4 | 69 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 86.0 | 65 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 73.8 | 55 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 85.1 | 64 | 45-147 | |
| Chrysene | ug/kg | 133 | 79.9 | 60 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 76.8 | 58 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 84.2 | 63 | 44-143 | |
| Fluorene | ug/kg | 133 | 83.6 | 63 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 76.5 | 57 | 47-140 | |
| Naphthalene | ug/kg | 133 | 71.2 | 53 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 81.9 | 61 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

LABORATORY CONTROL SAMPLE: 58157

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 88.9 | 67 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 55 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 68 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58158 58159

| Parameter | Units | 256549001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 143 | 144 | 84.5 | 95.3 | 54 | 61 | 31-123 | 12 | |
| 2-Methylnaphthalene | ug/kg | 9.7 | 143 | 144 | 90.4 | 102 | 56 | 64 | 15-146 | 12 | |
| Acenaphthene | ug/kg | ND | 143 | 144 | 86.2 | 94.8 | 57 | 62 | 19-141 | 9 | |
| Acenaphthylene | ug/kg | 19.7 | 143 | 144 | 89.9 | 108 | 49 | 61 | 30-142 | 18 | |
| Anthracene | ug/kg | 27.0 | 143 | 144 | 108 | 142 | 56 | 80 | 38-137 | 28 | R1 |
| Benzo(a)anthracene | ug/kg | 101 | 143 | 144 | 166 | 229 | 45 | 88 | 37-143 | 32 | R1 |
| Benzo(a)pyrene | ug/kg | 112 | 143 | 144 | 154 | 270 | 29 | 109 | 33-147 | 55 | M1,R1 |
| Benzo(b)fluoranthene | ug/kg | 104 | 143 | 144 | 129 | 235 | 17 | 91 | 25-156 | 58 | M1,R1 |
| Benzo(g,h,i)perylene | ug/kg | 67.6 | 143 | 144 | 140 | 225 | 51 | 109 | 26-142 | 46 | R1 |
| Benzo(k)fluoranthene | ug/kg | 63.3 | 143 | 144 | 107 | 151 | 30 | 61 | 35-142 | 35 | M1,R1 |
| Chrysene | ug/kg | 123 | 143 | 144 | 150 | 221 | 19 | 68 | 23-150 | 38 | M1,R1 |
| Dibenz(a,h)anthracene | ug/kg | 19.2 | 143 | 144 | 98.8 | 119 | 56 | 69 | 41-140 | 18 | |
| Fluoranthene | ug/kg | 162 | 143 | 144 | 200 | 307 | 26 | 100 | 25-155 | 42 | R1 |
| Fluorene | ug/kg | 12.1 | 143 | 144 | 101 | 117 | 62 | 73 | 33-152 | 15 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 54.3 | 143 | 144 | 125 | 192 | 49 | 95 | 36-139 | 42 | R1 |
| Naphthalene | ug/kg | 16.5 | 143 | 144 | 90.9 | 98.3 | 52 | 57 | 25-121 | 8 | |
| Phenanthrene | ug/kg | 103 | 143 | 144 | 226 | 341 | 86 | 164 | 29-141 | 41 | M1,R1 |
| Pyrene | ug/kg | 296 | 143 | 144 | 334 | 457 | 26 | 111 | 36-145 | 31 | M1,R1 |
| 2-Fluorobiphenyl (S) | % | | | | | | 49 | 51 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 62 | 57 | 30-133 | | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: MSV/3844 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549010

METHOD BLANK: 58168 Matrix: Solid
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/11/11 12:22 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/11/11 12:22 | |
| Toluene | ug/kg | ND | 3.0 | 02/11/11 12:22 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/11/11 12:22 | |
| 1,2-Dichloroethane-d4 (S) | % | 98 | 80-143 | 02/11/11 12:22 | |
| 4-Bromofluorobenzene (S) | % | 100 | 72-122 | 02/11/11 12:22 | |
| Dibromofluoromethane (S) | % | 93 | 80-136 | 02/11/11 12:22 | |
| Toluene-d8 (S) | % | 102 | 80-120 | 02/11/11 12:22 | |

LABORATORY CONTROL SAMPLE: 58169

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 45.8 | 92 | 75-133 | |
| Ethylbenzene | ug/kg | 50 | 45.3 | 91 | 68-131 | |
| Toluene | ug/kg | 50 | 47.1 | 94 | 73-124 | |
| Xylene (Total) | ug/kg | 150 | 140 | 93 | 68-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 98 | 80-143 | |
| 4-Bromofluorobenzene (S) | % | | | 111 | 72-122 | |
| Dibromofluoromethane (S) | % | | | 95 | 80-136 | |
| Toluene-d8 (S) | % | | | 101 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58249 58250

| Parameter | Units | 256598001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 48.5 | 45.4 | 43.6 | 41.5 | 90 | 92 | 68-124 | 5 | |
| Ethylbenzene | ug/kg | ND | 48.5 | 45.4 | 42.7 | 40.5 | 88 | 89 | 63-131 | 5 | |
| Toluene | ug/kg | ND | 48.5 | 45.4 | 44.7 | 42.3 | 92 | 93 | 61-126 | 5 | |
| Xylene (Total) | ug/kg | ND | 146 | 136 | 131 | 124 | 89 | 90 | 68-129 | 5 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 99 | 99 | 80-143 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 109 | 115 | 72-122 | | |
| Dibromofluoromethane (S) | % | | | | | | 91 | 99 | 80-136 | | |
| Toluene-d8 (S) | % | | | | | | 101 | 103 | 80-120 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: MSV/3857
Analysis Method: EPA 8260
QC Batch Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256549009

METHOD BLANK: 58439
Matrix: Solid
Associated Lab Samples: 256549009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/14/11 12:49 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/14/11 12:49 | |
| Toluene | ug/kg | ND | 3.0 | 02/14/11 12:49 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/14/11 12:49 | |
| 1,2-Dichloroethane-d4 (S) | % | 114 | 80-143 | 02/14/11 12:49 | |
| 4-Bromofluorobenzene (S) | % | 98 | 72-122 | 02/14/11 12:49 | |
| Dibromofluoromethane (S) | % | 100 | 80-136 | 02/14/11 12:49 | |
| Toluene-d8 (S) | % | 102 | 80-120 | 02/14/11 12:49 | |

LABORATORY CONTROL SAMPLE: 58440

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 54.4 | 109 | 75-133 | |
| Ethylbenzene | ug/kg | 50 | 51.1 | 102 | 68-131 | |
| Toluene | ug/kg | 50 | 56.5 | 113 | 73-124 | |
| Xylene (Total) | ug/kg | 150 | 160 | 107 | 68-130 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 100 | 80-143 | |
| 4-Bromofluorobenzene (S) | % | | | 106 | 72-122 | |
| Dibromofluoromethane (S) | % | | | 96 | 80-136 | |
| Toluene-d8 (S) | % | | | 103 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 58441 58442

| Parameter | Units | 256550004 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 50.2 | 46.1 | 49.4 | 44.7 | 98 | 97 | 68-124 | 10 | |
| Ethylbenzene | ug/kg | ND | 50.2 | 46.1 | 47.0 | 44.6 | 94 | 97 | 63-131 | 5 | |
| Toluene | ug/kg | ND | 50.2 | 46.1 | 49.4 | 46.6 | 98 | 101 | 61-126 | 6 | |
| Xylene (Total) | ug/kg | ND | 151 | 138 | 142 | 135 | 94 | 97 | 68-129 | 5 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 84 | 81 | 80-143 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 108 | 111 | 72-122 | | |
| Dibromofluoromethane (S) | % | | | | | | 91 | 83 | 80-136 | | |
| Toluene-d8 (S) | % | | | | | | 105 | 107 | 80-120 | | |



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(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

QC Batch: PMST/1518 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256549001, 256549002, 256549003, 256549004, 256549005, 256549006, 256549007, 256549008, 256549009

SAMPLE DUPLICATE: 58351

| Parameter | Units | 256549001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 9.9 | 11.2 | 13 | |

SAMPLE DUPLICATE: 58352

| Parameter | Units | 256549009 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.0 | 10.1 | .6 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-S | Pace Analytical Services - Seattle |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| R1 | RPD value was outside control limits. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256549001** | **SPL-27-1** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549002** | **SPL-27-2** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549003** | **SPL-27-3** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549004** | **SPL-27-4** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549005** | **SPL-27-5** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549006** | **SPL-28-1** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549007** | **SPL-28-2** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549008** | **SPL-28-3** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549009** | **SPL-28-4** | EPA 3546 | OEXT/3298 | NWTPH-Dx | GCSV/2256 |
| **256549001** | **SPL-27-1** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256549002** | **SPL-27-2** | NWTPH-Gx | GCV/2172 | NWTPH-Gx | GCV/2183 |
| **256549003** | **SPL-27-3** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256549004** | **SPL-27-4** | NWTPH-Gx | GCV/2161 | NWTPH-Gx | GCV/2163 |
| **256549005** | **SPL-27-5** | NWTPH-Gx | GCV/2174 | NWTPH-Gx | GCV/2182 |
| **256549006** | **SPL-28-1** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256549007** | **SPL-28-2** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256549008** | **SPL-28-3** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256549009** | **SPL-28-4** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256549010** | **TB020911-B** | NWTPH-Gx | GCV/2177 | NWTPH-Gx | GCV/2186 |
| **256549001** | **SPL-27-1** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549002** | **SPL-27-2** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549003** | **SPL-27-3** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549004** | **SPL-27-4** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549005** | **SPL-27-5** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549006** | **SPL-28-1** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549007** | **SPL-28-2** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549008** | **SPL-28-3** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549009** | **SPL-28-4** | EPA 3546 | OEXT/3297 | EPA 8270 by SIM | MSSV/1524 |
| **256549001** | **SPL-27-1** | EPA 8260 | MSV/3844 | | |
| **256549002** | **SPL-27-2** | EPA 8260 | MSV/3844 | | |
| **256549003** | **SPL-27-3** | EPA 8260 | MSV/3844 | | |
| **256549004** | **SPL-27-4** | EPA 8260 | MSV/3844 | | |
| **256549005** | **SPL-27-5** | EPA 8260 | MSV/3844 | | |
| **256549006** | **SPL-28-1** | EPA 8260 | MSV/3844 | | |
| **256549007** | **SPL-28-2** | EPA 8260 | MSV/3844 | | |
| **256549008** | **SPL-28-3** | EPA 8260 | MSV/3844 | | |
| **256549009** | **SPL-28-4** | EPA 8260 | MSV/3857 | | |
| **256549010** | **TB020911-B** | EPA 8260 | MSV/3844 | | |
| **256549001** | **SPL-27-1** | ASTM D2974-87 | PMST/1518 | | |
| **256549002** | **SPL-27-2** | ASTM D2974-87 | PMST/1518 | | |
| **256549003** | **SPL-27-3** | ASTM D2974-87 | PMST/1518 | | |
| **256549004** | **SPL-27-4** | ASTM D2974-87 | PMST/1518 | | |
| **256549005** | **SPL-27-5** | ASTM D2974-87 | PMST/1518 | | |
| **256549006** | **SPL-28-1** | ASTM D2974-87 | PMST/1518 | | |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256549

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256549007** | **SPL-28-2** | ASTM D2974-87 | PMST/1518 | | |
| **256549008** | **SPL-28-3** | ASTM D2974-87 | PMST/1518 | | |
| **256549009** | **SPL-28-4** | ASTM D2974-87 | PMST/1518 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256549

Page: of

1446266

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBUS NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360-943-7525 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY DEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) SG | TPH-Hc, TPH-D | DIOXIN, FURAN | CPAH, Naphthalene | Cd, Cu, Pb, As, Ni | SG BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-27-1 | SL | G | | | 02-09-11 | 12:47 | 07 | 7 | X | | | | | | X | X | | X | X | X | X | X | | |
| 2 | SPL-27-2 | | | | | | 13:05 | | | | | | | | | | | | | | | | | | |
| 3 | SPL-27-3 | | | | | | 13:20 | | | | | | | | | | | | | | | | | | |
| 4 | SPL-27-4 | | | | | | 13:35 | | | | | | | | | | | | | | | | | | |
| 5 | SPL-27-5 | | | | | | 14:00 | | | | | | | | | | | | | | | | | | |
| 6 | SPL-28-1 | | | | | | 14:12 | | | | | | | | | | | | | | | | | | |
| 7 | SPL-28-2 | | | | | | 14:23 | | | | | | | | | | | | | | | | | | |
| 8 | SPL-28-3 | | | | | | 14:34 | | | | | | | | | | | | | | | | | | |
| 9 | SPL-28-4 | | | | | | 14:45 | | | | | | | | | | | | | | | | | | |
| 10 | TB020911-B | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| temp blank included | Ada Hamilton / BC | 2-10-11 | 0745 | Pace | 2-10-11 | 0745 | 1.3 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: ADA HAMILTON

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 02/09/11

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

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

# Sample Container Count

CLIENT: Brown & Caldwell

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COC PAGE 1 of 1
COC ID# 1446266

256549

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9H | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 1 | 2 | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? Yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

Pace Analytical

## Sample Condition Upon Receipt

256549

Client Name: Brown & Caldwell Project # 256549

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

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

**Packing Material:** ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ✓ No _____

**Thermometer Used** 132013 or 101731962 or 226099 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.3c **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** 021011 CW

| | | **Comments:** |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed _____ Lot # of added preservative _____ |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS **Date:** 2/10/11

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 18, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256490

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 05, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256490001** | **SPL-29-1** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490002** | **SPL-29-2** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490003** | **SPL-29-3** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490004** | **SPL-29-4** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490005** | **SPL-29-5** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490006** | **SPL-29-6** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490007** | **SPL-29-7** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256490008** | **SPL-29-8** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

**Sample: SPL-29-1** **Lab ID: 256490001** Collected: 02/04/11 09:35 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.0** | mg/kg | 0.38 | 20 | 02/08/11 17:26 | 02/17/11 20:39 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.061 | 20 | 02/08/11 17:26 | 02/17/11 20:39 | 7440-43-9 | |
| Copper | **23.3** | mg/kg | 0.38 | 20 | 02/08/11 17:26 | 02/17/11 20:39 | 7440-50-8 | |
| Lead | **8.7** | mg/kg | 0.38 | 20 | 02/08/11 17:26 | 02/17/11 20:39 | 7439-92-1 | |
| Nickel | **36.1** | mg/kg | 0.38 | 20 | 02/08/11 17:26 | 02/17/11 20:39 | 7440-02-0 | M6 |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **8.8** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-29-2** **Lab ID: 256490002** Collected: 02/04/11 09:50 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.8** | mg/kg | 0.46 | 20 | 02/08/11 17:26 | 02/17/11 20:30 | 7440-38-2 | |
| Cadmium | **0.14** | mg/kg | 0.074 | 20 | 02/08/11 17:26 | 02/17/11 20:30 | 7440-43-9 | |
| Copper | **22.8** | mg/kg | 0.46 | 20 | 02/08/11 17:26 | 02/17/11 20:30 | 7440-50-8 | |
| Lead | **9.0** | mg/kg | 0.46 | 20 | 02/08/11 17:26 | 02/17/11 20:30 | 7439-92-1 | |
| Nickel | **31.2** | mg/kg | 0.46 | 20 | 02/08/11 17:26 | 02/17/11 20:30 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **15.1** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-29-3** **Lab ID: 256490003** Collected: 02/04/11 10:10 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.9** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 20:35 | 7440-38-2 | |
| Cadmium | **0.14** | mg/kg | 0.077 | 20 | 02/08/11 17:26 | 02/17/11 20:35 | 7440-43-9 | |
| Copper | **22.6** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 20:35 | 7440-50-8 | |
| Lead | **7.1** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 20:35 | 7439-92-1 | |
| Nickel | **32.0** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 20:35 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **14.6** | % | 0.10 | 1 | | 02/08/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

**Sample: SPL-29-4** **Lab ID: 256490004** Collected: 02/04/11 10:35 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.8** | mg/kg | 0.53 | 20 | 02/08/11 17:26 | 02/17/11 21:06 | 7440-38-2 | |
| Cadmium | **0.085** | mg/kg | 0.084 | 20 | 02/08/11 17:26 | 02/17/11 21:06 | 7440-43-9 | |
| Copper | **12.8** | mg/kg | 0.53 | 20 | 02/08/11 17:26 | 02/17/11 21:06 | 7440-50-8 | |
| Lead | **4.3** | mg/kg | 0.53 | 20 | 02/08/11 17:26 | 02/17/11 21:06 | 7439-92-1 | |
| Nickel | **32.4** | mg/kg | 0.53 | 20 | 02/08/11 17:26 | 02/17/11 21:06 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **12.1** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-29-5** **Lab ID: 256490005** Collected: 02/04/11 10:45 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.7** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 21:11 | 7440-38-2 | |
| Cadmium | **0.088** | mg/kg | 0.076 | 20 | 02/08/11 17:26 | 02/17/11 21:11 | 7440-43-9 | |
| Copper | **13.6** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 21:11 | 7440-50-8 | |
| Lead | **3.5** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 21:11 | 7439-92-1 | |
| Nickel | **26.3** | mg/kg | 0.48 | 20 | 02/08/11 17:26 | 02/17/11 21:11 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.6** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-29-6** **Lab ID: 256490006** Collected: 02/04/11 10:55 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **14.2** | mg/kg | 0.55 | 20 | 02/08/11 17:26 | 02/17/11 21:15 | 7440-38-2 | |
| Cadmium | **0.098** | mg/kg | 0.088 | 20 | 02/08/11 17:26 | 02/17/11 21:15 | 7440-43-9 | |
| Copper | **58.7** | mg/kg | 0.55 | 20 | 02/08/11 17:26 | 02/17/11 21:15 | 7440-50-8 | |
| Lead | **9.3** | mg/kg | 0.55 | 20 | 02/08/11 17:26 | 02/17/11 21:15 | 7439-92-1 | |
| Nickel | **68.7** | mg/kg | 0.55 | 20 | 02/08/11 17:26 | 02/17/11 21:15 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **26.5** | % | 0.10 | 1 | | 02/08/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

**Sample: SPL-29-7** **Lab ID: 256490007** Collected: 02/04/11 11:05 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.0** | mg/kg | 0.64 | 20 | 02/08/11 17:26 | 02/17/11 21:20 | 7440-38-2 | |
| Cadmium | **0.17** | mg/kg | 0.10 | 20 | 02/08/11 17:26 | 02/17/11 21:20 | 7440-43-9 | |
| Copper | **37.9** | mg/kg | 0.64 | 20 | 02/08/11 17:26 | 02/17/11 21:20 | 7440-50-8 | |
| Lead | **5.3** | mg/kg | 0.64 | 20 | 02/08/11 17:26 | 02/17/11 21:20 | 7439-92-1 | |
| Nickel | **61.0** | mg/kg | 0.64 | 20 | 02/08/11 17:26 | 02/17/11 21:20 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **30.0** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-29-8** **Lab ID: 256490008** Collected: 02/04/11 11:15 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.7** | mg/kg | 0.52 | 20 | 02/08/11 17:26 | 02/17/11 21:24 | 7440-38-2 | |
| Cadmium | **0.095** | mg/kg | 0.084 | 20 | 02/08/11 17:26 | 02/17/11 21:24 | 7440-43-9 | |
| Copper | **18.3** | mg/kg | 0.52 | 20 | 02/08/11 17:26 | 02/17/11 21:24 | 7440-50-8 | |
| Lead | **4.0** | mg/kg | 0.52 | 20 | 02/08/11 17:26 | 02/17/11 21:24 | 7439-92-1 | |
| Nickel | **29.8** | mg/kg | 0.52 | 20 | 02/08/11 17:26 | 02/17/11 21:24 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **9.7** | % | 0.10 | 1 | | 02/08/11 00:00 | | |



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(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

QC Batch: ICPM/24628 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256490001, 256490002, 256490003, 256490004, 256490005, 256490006, 256490007, 256490008

METHOD BLANK: 927810 Matrix: Solid
Associated Lab Samples: 256490001, 256490002, 256490003, 256490004, 256490005, 256490006, 256490007, 256490008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 02/17/11 20:21 | |
| Cadmium | mg/kg | ND | 0.076 | 02/17/11 20:21 | |
| Copper | mg/kg | ND | 0.48 | 02/17/11 20:21 | |
| Lead | mg/kg | ND | 0.48 | 02/17/11 20:21 | |
| Nickel | mg/kg | ND | 0.48 | 02/17/11 20:21 | |

LABORATORY CONTROL SAMPLE: 927811

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19 | 18.8 | 99 | 75-125 | |
| Cadmium | mg/kg | 19 | 19.5 | 102 | 75-125 | |
| Copper | mg/kg | 19 | 19.9 | 104 | 75-125 | |
| Lead | mg/kg | 19 | 19.7 | 103 | 75-125 | |
| Nickel | mg/kg | 19 | 20.4 | 107 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927812 927813

| Parameter | Units | 256490001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.0 | 18.9 | 17.4 | 22.1 | 22.2 | 95 | 104 | 75-125 | .7 | |
| Cadmium | mg/kg | 0.10 | 18.9 | 17.4 | 18.9 | 18.7 | 99 | 107 | 75-125 | .9 | |
| Copper | mg/kg | 23.3 | 18.9 | 17.4 | 40.3 | 43.2 | 90 | 114 | 75-125 | 7 | |
| Lead | mg/kg | 8.7 | 18.9 | 17.4 | 27.0 | 28.6 | 97 | 114 | 75-125 | 6 | |
| Nickel | mg/kg | 36.1 | 18.9 | 17.4 | 48.2 | 48.1 | 64 | 69 | 75-125 | .1 | M6 |

MATRIX SPIKE SAMPLE: 927814

| Parameter | Units | 256491001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.2 | 17.8 | 26.2 | 125 | 75-125 | |
| Cadmium | mg/kg | 0.086 | 17.8 | 20.4 | 114 | 75-125 | |
| Copper | mg/kg | 21.0 | 17.8 | 47.6 | 150 | 75-125 | M6 |
| Lead | mg/kg | 5.2 | 17.8 | 28.6 | 132 | 75-125 | M6 |
| Nickel | mg/kg | 22.5 | 17.8 | 51.3 | 162 | 75-125 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

QC Batch: MPRP/24633 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256490001, 256490002, 256490003, 256490004, 256490005, 256490006, 256490007, 256490008

SAMPLE DUPLICATE: 928009

| Parameter | Units | 256491001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 20.6 | 23.4 | 13 | |

SAMPLE DUPLICATE: 928010

| Parameter | Units | 10148885002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 5.0 | 5.5 | 10 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256490

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256490001** | **SPL-29-1** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490002** | **SPL-29-2** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490003** | **SPL-29-3** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490004** | **SPL-29-4** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490005** | **SPL-29-5** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490006** | **SPL-29-6** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490007** | **SPL-29-7** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490008** | **SPL-29-8** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256490001** | **SPL-29-1** | % Moisture | MPRP/24633 | | |
| **256490002** | **SPL-29-2** | % Moisture | MPRP/24633 | | |
| **256490003** | **SPL-29-3** | % Moisture | MPRP/24633 | | |
| **256490004** | **SPL-29-4** | % Moisture | MPRP/24633 | | |
| **256490005** | **SPL-29-5** | % Moisture | MPRP/24633 | | |
| **256490006** | **SPL-29-6** | % Moisture | MPRP/24633 | | |
| **256490007** | **SPL-29-7** | % Moisture | MPRP/24633 | | |
| **256490008** | **SPL-29-8** | % Moisture | MPRP/24633 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256490

Page: 1 of 1

1195894

**Section A** Required Client Information:
Company: Brown + Caldwell
Address: 24 Columbia St NW Ste 480 Olympia WA 98501
Email To: jturk@brwncald.com
Phone: 5341206 Fax: 3609437513
Requested Due Date/TAT: 10-day

**Section B** Required Project Information:
Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:
Attention: Jon Turk
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER EXY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): As, Pb, Ni, Cu, Cd SG; TPH-D, HO; Dioxins, furans; PAHs, Naphthalenes SG; TPH-G; BTEX

| SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other water | Analysis Test (Y/N) | As, Pb, Ni, Cu, Cd | TPH-D, HO | Dioxins, furans | PAHs, Naphthalenes | TPH-G | BTEX | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPL-29-1 | SL | G | | | 2/4/11 | 0935 | | 7 | X | | | | | | X | X | | | | | | | | | |
| SPL-29-2 | ↓ | ↓ | | | ↓ | 0950 | | ↓ | | | | | | | | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| SPL-29-3 | | | | | | 1010 | | | | | | | | | | | | | | | | | | | |
| SPL-29-4 | | | | | | 1035 | | | | | | | | | | | | | | | | | | | |
| SPL-29-5 | | | | | | 1045 | | | | | | | | | | | | | | | | | | | |
| SPL-29-6 | | | | | | 1055 | | | | | | | | | | | | | | | | | | | |
| SPL-29-7 | | | | | | 1105 | | | | | | | | | | | | | | | | | | | |
| SPL-29-8 | ✓ | ✓ | | | | 1115 | | ↓ | | | | | | | | | | | | | | | | | |
| TB-020411 | WT | | | | ↓ | | | 3 | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Jon Turk | 2/4/11 | 1330 | Custody Seal | 2/4/11 | 1330 | | | | |
| | Fedex | 2/5/11 | 1138 | Jyothi Singh | 2/5/11 | 1138 | 0.4 | Y | Y | Y |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/4/11

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

F-ALL-Q-020rev.07, 15-Nov-2007

# Sample Container Count

CLIENT: Brown + Caldwell

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COC PAGE 1 of
COC ID# 1195894

256490

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | | | | |
| 2 | | | | | | | | | | 2 | | | | | |
| 3 | | | | | | | | | | 2 | | | | | |
| 4 | | | | | | | | | | 2 | | | | | |
| 5 | | | | | | | | | | 2 | | | | | |
| 6 | | | | | | | | | | 2 | | | | | |
| 7 | | | | | | | | | | 2 | | | | | |
| 8 | | | | | | | | | | 2 | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? ~~No~~ yes |

NT 2/5/11

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

# Sample Condition Upon Receipt

256490

Pace Analytical

Client Name: Brown + Caldwell  Project # _____

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____ #139

Tracking #: 8738 8214 4947

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No  Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank Yes ____ No

Thermometer Used 132013 or 101731362 or 226099  Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 04  Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 2/5/11

Temp should be above freezing ≤ 6°C

Comments:

| | | | | Comments |
|---|---|---|---|---|
| Chain of Custody Present: | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out: | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished: | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name & Signature on COC: | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time: | ☑ Yes | ☐ No | ☐ N/A | 5. |
| Short Hold Time Analysis (<72hr): | ☐ Yes | ☑ No | ☐ N/A | 6. |
| Rush Turn Around Time Requested: | ☐ Yes | ☑ No | ☐ N/A | 7. |
| Sufficient Volume: | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used: | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used: | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact: | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Filtered volume received for Dissolved tests | ☐ Yes | ☐ No | ☑ N/A | 11. |
| Sample Labels match COC: | ☑ Yes | ☐ No | ☐ N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | | | |
| All containers needing preservation have been checked. | ☐ Yes | ☐ No | ☑ N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐ Yes | ☐ No | ☑ N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐ Yes | ☐ No | ☑ N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐ Yes | ☐ No | ☑ N/A | 15. |
| Trip Blanks Present: | ☐ Yes | ☐ No | ☐ N/A | 16. |
| Trip Blank Custody Seals Present | ☐ Yes | ☐ No | ☐ N/A | |
| Pace Trip Blank Lot # (if purchased): | | | | |

Client Notification/ Resolution:  Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JENNI GROSS  Date: 2/7/11

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**
February 15, 2011

## Report Information:

**Pace Project #: 10148907**
**Sample Receipt Date: 02/07/2011**
**Client Project #: 256490**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

February 16, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on eight samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 45-91%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show Blank-27836 to contain a trace level of OCDD. This was below the calibration range of the method. The OCDD levels reported for the associated field samples were higher than the OCDD level in the blank by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

A laboratory spike sample was also prepared with each sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 87-113%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batches using sample materials from separate projects; results from these analyses will be provided upon request.

The amount of the labeled cleanup standard used in the preparation of the extracts for samples SPL-29-6, SPL-29-7, and the associated quality control blank and spike was twice the amount specified in our procedures. The actual spike amounts were used in the calculations, and accurate recovery values were reported. It should be noted that the accuracy of the native congener determinations was not impacted by this deviation.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

Rush Dioxins Due 2/21/11

10148907

# Chain of Custody

Pace Analytical®
www.pacelabs.com

**Workorder:** 256490 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 2/5/2011 **Results Requested By:** ~~2/18/2011~~ 2/21/11 Rush

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxin, Furans | Cu, Cd, Pb, Ni, As by 6020 | Dry Weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-29-1 | PS | 2/4/2011 09:35 | 256490001 | Solid | 2 | X | X | X | |
| 2 | SPL-29-2 | PS | 2/4/2011 09:50 | 256490002 | Solid | 2 | X | X | X | |
| 3 | SPL-29-3 | PS | 2/4/2011 10:10 | 256490003 | Solid | 2 | X | X | X | |
| 4 | SPL-29-4 | PS | 2/4/2011 10:35 | 256490004 | Solid | 2 | X | X | X | |
| 5 | SPL-29-5 | PS | 2/4/2011 10:45 | 256490005 | Solid | 2 | X | X | X | |
| 6 | SPL-29-6 | PS | 2/4/2011 10:55 | 256490006 | Solid | 2 | X | X | X | |
| 7 | SPL-29-7 | PS | 2/4/2011 11:05 | 256490007 | Solid | 2 | X | X | X | |
| 8 | SPL-29-8 | PS | 2/4/2011 11:15 | 256490008 | Solid | 2 | X | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Jyothi Sway | 2/3/11 1350 | | |
| 2 | | | | |
| 3 | | | | |

**Comments**

10 - Rush Dioxins

**Cooler Temperature on Receipt** ____ °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace-WA **Project #** 10148907

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

**Tracking #:** 7943 9510 9505

Optional:
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No ✓

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1-4 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 2/7/11 SH

Temp should be above freezing to 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☐No ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Jenni Gray Date/Time: 2/7/11 @ 11:07

Comments/ Resolution:

Confirmed due 2/18, despite note on inv.

**Project Manager Review:** NAH **Date:** 2/7/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-1 | | | |
| Lab Sample ID | 256490001 | | | |
| Filename | F110211A_05 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 10.9 g | Matrix | Solid | |
| % Moisture | 8.8 | Dilution | NA | |
| Dry Weight Extracted | 9.94 g | Collected | 02/04/2011 | 09:35 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 18:04 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.54 | ----- | 0.21 | J | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | 6.70 | ----- | 0.21 | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 79 |
| 2,3,7,8-TCDD | ND | ----- | 0.16 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 |
| Total TCDD | 4.60 | ----- | 0.16 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 87 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | 0.64 | ----- | 0.31 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 1.80 | ----- | 0.24 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 18.00 | ----- | 0.27 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDD | ----- | 0.31 | 0.25 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 9.90 | ----- | 0.25 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 |
| 1,2,3,4,7,8-HxCDF | 2.70 | ----- | 0.31 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | 1.10 | ----- | 0.27 | J | OCDD-13C | 4.00 | 55 |
| 2,3,4,6,7,8-HxCDF | 1.70 | ----- | 0.19 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.89 | ----- | 0.20 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 20.00 | ----- | 0.24 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | ----- | 0.29 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 2.70 | ----- | 0.37 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.20 | ----- | 0.29 | J | | | |
| Total HxCDD | 22.00 | ----- | 0.32 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 15.00 | ----- | 0.22 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.30 | ----- | 0.29 | J | Equivalence: 2.7 ng/Kg | | |
| Total HpCDF | 17.00 | ----- | 0.26 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 44.00 | ----- | 0.34 | | | | |
| Total HpCDD | 78.00 | ----- | 0.34 | | | | |
| OCDF | 46.00 | ----- | 0.32 | | | | |
| OCDD | 340.00 | ----- | 0.64 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-2 | | | |
| Lab Sample ID | 256490002 | | | |
| Filename | F110211A_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.9 g | Matrix | Solid | |
| % Moisture | 15.1 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/04/2011 | 09:50 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 18:49 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.0 | ----- | 0.30 | | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 13.0 | ----- | 0.30 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 78 |
| Total TCDD | 22.0 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDF | 1.2 | ----- | 0.51 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 3.5 | ----- | 0.46 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 30.0 | ----- | 0.49 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDD | 1.8 | ----- | 0.26 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 76 |
| Total PeCDD | 25.0 | ----- | 0.26 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 66 |
| 1,2,3,4,7,8-HxCDF | 8.8 | ----- | 0.28 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 71 |
| 1,2,3,6,7,8-HxCDF | 2.7 | ----- | 0.40 | J | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | 3.8 | ----- | 0.21 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.9 | ----- | 0.30 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 53.0 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.6 | ----- | 0.86 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | 9.0 | ----- | 0.43 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.7 | ----- | 0.40 | J | | | |
| Total HxCDD | 69.0 | ----- | 0.57 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 61.0 | ----- | 0.30 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.4 | ----- | 0.52 | J | Equivalence: 11 ng/Kg | | |
| Total HpCDF | 230.0 | ----- | 0.41 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 300.0 | ----- | 0.85 | | | | |
| Total HpCDD | 560.0 | ----- | 0.85 | | | | |
| OCDF | 250.0 | ----- | 0.45 | | | | |
| OCDD | 3500.0 | ----- | 0.28 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-3 | | | |
| Lab Sample ID | 256490003 | | | |
| Filename | F110211A_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.5 g | Matrix | Solid | |
| % Moisture | 14.6 | Dilution | NA | |
| Dry Weight Extracted | 10.7 g | Collected | 02/04/2011 | 10:10 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 19:35 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.0 | ----- | 0.19 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 19.0 | ----- | 0.19 | | 2,3,7,8-TCDD-13C | 2.00 | 75 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 72 |
| 2,3,7,8-TCDD | ND | ----- | 0.31 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 72 |
| Total TCDD | 21.0 | ----- | 0.31 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDF | 1.3 | ----- | 0.53 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 67 |
| 2,3,4,7,8-PeCDF | 5.3 | ----- | 0.43 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 67 |
| Total PeCDF | 44.0 | ----- | 0.48 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDD | 2.3 | ----- | 0.34 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 71 |
| Total PeCDD | 19.0 | ----- | 0.34 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 65 |
| 1,2,3,4,7,8-HxCDF | ----- | 18 | 0.27 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 69 |
| 1,2,3,6,7,8-HxCDF | 3.6 | ----- | 0.26 | J | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | 5.1 | ----- | 0.24 | | | | |
| 1,2,3,7,8,9-HxCDF | 2.7 | ----- | 0.46 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 58.0 | ----- | 0.31 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.0 | ----- | 0.57 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 9.8 | ----- | 0.50 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.8 | ----- | 0.59 | | | | |
| Total HxCDD | 68.0 | ----- | 0.56 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 85.0 | ----- | 0.61 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 5.9 | ----- | 0.76 | | Equivalence: 12 ng/Kg | | |
| Total HpCDF | 280.0 | ----- | 0.68 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 270.0 | ----- | 1.10 | | | | |
| Total HpCDD | 470.0 | ----- | 1.10 | | | | |
| OCDF | 350.0 | ----- | 0.96 | | | | |
| OCDD | 2900.0 | ----- | 0.41 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-4 | | | |
| Lab Sample ID | 256490004 | | | |
| Filename | F110211A_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.7 g | Matrix | Solid | |
| % Moisture | 12.1 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/04/2011 | 10:35 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 20:21 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.1 | ----- | 0.26 | | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 17.0 | ----- | 0.26 | | 2,3,7,8-TCDD-13C | 2.00 | 72 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 70 |
| 2,3,7,8-TCDD | ND | ----- | 0.31 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 70 |
| Total TCDD | 23.0 | ----- | 0.31 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 66 |
| 1,2,3,7,8-PeCDF | 1.7 | ----- | 0.48 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 66 |
| 2,3,4,7,8-PeCDF | 5.1 | ----- | 0.31 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 65 |
| Total PeCDF | 42.0 | ----- | 0.39 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 69 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDD | ----- | 1.4 | 0.39 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 69 |
| Total PeCDD | 27.0 | ----- | 0.39 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 63 |
| 1,2,3,4,7,8-HxCDF | ----- | 20.0 | 0.39 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 65 |
| 1,2,3,6,7,8-HxCDF | 4.2 | ----- | 0.44 | J | OCDD-13C | 4.00 | 67 |
| 2,3,4,6,7,8-HxCDF | 5.2 | ----- | 0.32 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.0 | ----- | 0.32 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 64.0 | ----- | 0.37 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.1 | ----- | 0.39 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 77 |
| 1,2,3,6,7,8-HxCDD | 9.8 | ----- | 0.61 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.6 | ----- | 0.42 | J | | | |
| Total HxCDD | 71.0 | ----- | 0.47 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 88.0 | ----- | 0.37 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 6.1 | ----- | 0.61 | | Equivalence: 9.8 ng/Kg | | |
| Total HpCDF | 300.0 | ----- | 0.49 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 290.0 | ----- | 1.40 | | | | |
| Total HpCDD | 500.0 | ----- | 1.40 | | | | |
| OCDF | 380.0 | ----- | 0.27 | | | | |
| OCDD | 3000.0 | ----- | 0.31 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

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Minneapolis, MN 55414

Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-5 | | | |
| Lab Sample ID | 256490005 | | | |
| Filename | F110211A_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 10.6 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/04/2011 | 10:45 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 21:07 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.59 | 0.22 | I | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 8.30 | ----- | 0.22 | | 2,3,7,8-TCDD-13C | 2.00 | 69 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 67 |
| 2,3,7,8-TCDD | ND | ----- | 0.27 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | 6.70 | ----- | 0.27 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | 0.77 | ----- | 0.36 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 61 |
| 2,3,4,7,8-PeCDF | 1.30 | ----- | 0.24 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 61 |
| Total PeCDF | 15.00 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 68 |
| 1,2,3,7,8-PeCDD | 1.40 | ----- | 0.23 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 62 |
| Total PeCDD | 11.00 | ----- | 0.23 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 54 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 57 |
| 1,2,3,4,7,8-HxCDF | ----- | 2.90 | 0.26 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 59 |
| 1,2,3,6,7,8-HxCDF | 1.10 | ----- | 0.26 | J | OCDD-13C | 4.00 | 54 |
| 2,3,4,6,7,8-HxCDF | 1.40 | ----- | 0.25 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.30 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 14.00 | ----- | 0.27 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.77 | ----- | 0.37 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 79 |
| 1,2,3,6,7,8-HxCDD | 3.50 | ----- | 0.38 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.50 | ----- | 0.35 | J | | | |
| Total HxCDD | 27.00 | ----- | 0.37 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 22.00 | ----- | 0.41 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.50 | ----- | 0.33 | J | Equivalence: 4.0 ng/Kg | | |
| Total HpCDF | 57.00 | ----- | 0.37 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 66.00 | ----- | 0.52 | | | | |
| Total HpCDD | 120.00 | ----- | 0.52 | | | | |
| OCDF | 98.00 | ----- | 0.46 | | | | |
| OCDD | 690.00 | ----- | 0.37 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-6 | | | |
| Lab Sample ID | 256490006 | | | |
| Filename | F110212A_06 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 16.2 g | Matrix | Solid | |
| % Moisture | 26.5 | Dilution | NA | |
| Dry Weight Extracted | 11.9 g | Collected | 02/04/2011 | 10:55 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110211B_16 & F110212A_17 | Extracted | 02/09/2011 | 17:15 |
| Method Blank ID | BLANK-27842 | Analyzed | 02/12/2011 | 19:28 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.40 | 0.180 | I | 2,3,7,8-TCDF-13C | 2.00 | 71 |
| Total TCDF | 4.30 | ----- | 0.180 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 82 |
| 2,3,7,8-TCDD | ND | ----- | 0.190 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 85 |
| Total TCDD | 0.57 | ----- | 0.190 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.210 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 83 |
| 2,3,4,7,8-PeCDF | 0.28 | ----- | 0.150 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 82 |
| Total PeCDF | 1.80 | ----- | 0.180 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 89 |
| 1,2,3,7,8-PeCDD | ----- | 0.23 | 0.130 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 2.50 | ----- | 0.130 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 63 |
| 1,2,3,4,7,8-HxCDF | ----- | 0.44 | 0.110 | I | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 70 |
| 1,2,3,6,7,8-HxCDF | 0.22 | ----- | 0.110 | J | OCDD-13C | 4.00 | 53 |
| 2,3,4,6,7,8-HxCDF | 0.21 | ----- | 0.120 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.095 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.60 | ----- | 0.110 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.15 | 0.110 | I | 2,3,7,8-TCDD-37Cl4 | 0.40 | 75 |
| 1,2,3,6,7,8-HxCDD | 0.52 | ----- | 0.130 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.32 | ----- | 0.160 | J | | | |
| Total HxCDD | 3.60 | ----- | 0.130 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.50 | ----- | 0.130 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.210 | | Equivalence: 0.63 ng/Kg | | |
| Total HpCDF | 5.60 | ----- | 0.170 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 11.00 | ----- | 0.210 | | | | |
| Total HpCDD | 21.00 | ----- | 0.210 | | | | |
| OCDF | 4.90 | ----- | 0.400 | J | | | |
| OCDD | 350.00 | ----- | 0.520 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-7 | | | |
| Lab Sample ID | 256490007 | | | |
| Filename | F110212A_07 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 16.6 g | Matrix | Solid | |
| % Moisture | 30.0 | Dilution | NA | |
| Dry Weight Extracted | 11.6 g | Collected | 02/04/2011 | 11:05 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110211B_16 & F110212A_17 | Extracted | 02/09/2011 | 17:15 |
| Method Blank ID | BLANK-27842 | Analyzed | 02/12/2011 | 20:13 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.24 | ----- | 0.160 | J | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 0.91 | ----- | 0.160 | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 85 |
| 2,3,7,8-TCDD | ND | ----- | 0.180 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 84 |
| Total TCDD | 0.32 | ----- | 0.180 | J | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.180 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 84 |
| 2,3,4,7,8-PeCDF | 0.27 | ----- | 0.130 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 87 |
| Total PeCDF | 1.20 | ----- | 0.150 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 91 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.190 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 0.96 | ----- | 0.190 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | ----- | 1.10 | 0.120 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 76 |
| 1,2,3,6,7,8-HxCDF | 0.22 | ----- | 0.090 | J | OCDD-13C | 4.00 | 58 |
| 2,3,4,6,7,8-HxCDF | 0.24 | ----- | 0.072 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.100 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 1.60 | ----- | 0.095 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.170 | | 2,3,7,8-TCDD-37Cl4 | 0.40 | 79 |
| 1,2,3,6,7,8-HxCDD | 0.46 | ----- | 0.160 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.22 | ----- | 0.170 | J | | | |
| Total HxCDD | 3.60 | ----- | 0.170 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 2.90 | ----- | 0.130 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 0.18 | 0.160 | I | Equivalence: 0.62 ng/Kg | | |
| Total HpCDF | 14.00 | ----- | 0.140 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 12.00 | ----- | 0.170 | | | | |
| Total HpCDD | 21.00 | ----- | 0.170 | | | | |
| OCDF | 12.00 | ----- | 0.210 | | | | |
| OCDD | 140.00 | ----- | 0.290 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-29-8 | | | |
| Lab Sample ID | 256490008 | | | |
| Filename | F110211A_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.7 g | Matrix | Solid | |
| % Moisture | 9.7 | Dilution | NA | |
| Dry Weight Extracted | 10.6 g | Collected | 02/04/2011 | 11:15 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 21:52 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.24 | | 2,3,7,8-TCDF-13C | 2.00 | 56 |
| Total TCDF | 4.20 | ----- | 0.24 | | 2,3,7,8-TCDD-13C | 2.00 | 60 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 57 |
| 2,3,7,8-TCDD | ND | ----- | 0.36 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 57 |
| Total TCDD | 2.50 | ----- | 0.36 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 61 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 53 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.33 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 52 |
| 2,3,4,7,8-PeCDF | 0.63 | ----- | 0.31 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 51 |
| Total PeCDF | 3.80 | ----- | 0.32 | J | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 53 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 56 |
| 1,2,3,7,8-PeCDD | 0.42 | ----- | 0.28 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 54 |
| Total PeCDD | 3.40 | ----- | 0.28 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 45 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 47 |
| 1,2,3,4,7,8-HxCDF | 1.30 | ----- | 0.29 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 49 |
| 1,2,3,6,7,8-HxCDF | ----- | 0.40 | 0.21 | I | OCDD-13C | 4.00 | 47 |
| 2,3,4,6,7,8-HxCDF | 0.44 | ----- | 0.27 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.20 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 4.50 | ----- | 0.24 | J | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.41 | ----- | 0.35 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 0.72 | ----- | 0.33 | J | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.34 | | | | |
| Total HxCDD | 6.90 | ----- | 0.34 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 3.90 | ----- | 0.25 | J | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.38 | | Equivalence: 1.3 ng/Kg | | |
| Total HpCDF | 14.00 | ----- | 0.31 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 13.00 | ----- | 0.47 | | | | |
| Total HpCDD | 22.00 | ----- | 0.47 | | | | |
| OCDF | 11.00 | ----- | 0.41 | | | | |
| OCDD | 130.00 | ----- | 0.35 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27836 | Matrix | Solid |
| Filename | F110211B_06 | Dilution | NA |
| Total Amount Extracted | 10.2 g | Extracted | 02/09/2011 16:35 |
| ICAL ID | F101206 | Analyzed | 02/12/2011 07:03 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.170 | | 2,3,7,8-TCDF-13C | 2.00 | 60 |
| Total TCDF | ND | ----- | 0.170 | | 2,3,7,8-TCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | ND | ----- | 0.230 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | ND | ----- | 0.230 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.170 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.130 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| Total PeCDF | ND | ----- | 0.150 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | ND | ----- | 0.140 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.100 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.099 | | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.11 | 0.100 | I | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.140 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.110 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.150 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 69 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.140 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.140 | | | | |
| Total HxCDD | ND | ----- | 0.140 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.110 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.170 | | Equivalence: 0.26 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.140 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.170 | | | | |
| Total HpCDD | ND | ----- | 0.170 | | | | |
| OCDF | ND | ----- | 0.580 | | | | |
| OCDD | 0.81 | ----- | 0.230 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27842 | Matrix | Solid |
| Filename | F110212A_05 | Dilution | NA |
| Total Amount Extracted | 20.0 g | Extracted | 02/09/2011 17:15 |
| ICAL ID | F101206 | Analyzed | 02/12/2011 18:42 |
| CCal Filename(s) | F110211B_16 & F110212A_17 | Injected By | BAL |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.086 | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | ND | ----- | 0.086 | 2,3,7,8-TCDD-13C | 2.00 | 72 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 76 |
| 2,3,7,8-TCDD | ND | ----- | 0.086 | 2,3,4,7,8-PeCDF-13C | 2.00 | 80 |
| Total TCDD | ND | ----- | 0.086 | 1,2,3,7,8-PeCDD-13C | 2.00 | 86 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.084 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 85 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.048 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 81 |
| Total PeCDF | ND | ----- | 0.066 | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 76 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.053 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 86 |
| Total PeCDD | ND | ----- | 0.053 | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 63 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 54 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.082 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 61 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.083 | OCDD-13C | 4.00 | 43 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.088 | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.100 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.089 | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.110 | 2,3,7,8-TCDD-37Cl4 | 0.40 | 68 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.120 | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.110 | | | |
| Total HxCDD | ND | ----- | 0.110 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.110 | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.210 | Equivalence: 0.12 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.160 | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.240 | | | |
| Total HpCDD | ND | ----- | 0.240 | | | |
| OCDF | ND | ----- | 0.330 | | | |
| OCDD | ND | ----- | 0.510 | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27837 | | |
| Filename | F110211B_01 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 02/09/2011 16:35 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Analyzed | 02/12/2011 03:14 |
| Method Blank ID | BLANK-27836 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 113 | 2,3,7,8-TCDF-13C | 2.0 | 51 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 57 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 61 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 98 | 2,3,4,7,8-PeCDF-13C | 2.0 | 61 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 67 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 64 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 63 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 111 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 67 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 71 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 71 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 67 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 61 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 67 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 108 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 70 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 109 | OCDD-13C | 4.0 | 63 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 111 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 112 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 107 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 63 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.0 | 103 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 108 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 102 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.98 | 98 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.2 | 112 | | | |
| OCDD | 2.0 | 2.2 | 109 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27843 | | |
| Filename | F110212A_01 | Matrix | Solid |
| Total Amount Extracted | 20.4 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 02/09/2011 17:15 |
| CCal Filename(s) | F110211B_16 & F110212A_17 | Analyzed | 02/12/2011 15:39 |
| Method Blank ID | BLANK-27842 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.21 | 103 | 2,3,7,8-TCDF-13C | 2.0 | 58 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 65 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 70 |
| 2,3,7,8-TCDD | 0.20 | 0.17 | 87 | 2,3,4,7,8-PeCDF-13C | 2.0 | 72 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 80 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 71 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.0 | 102 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 73 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 101 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 77 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 75 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 78 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.92 | 92 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 76 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 65 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 67 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.00 | 100 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 73 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.0 | 103 | OCDD-13C | 4.0 | 62 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.0 | 104 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.94 | 94 | 2,3,7,8-TCDD-37Cl4 | 0.40 | 64 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.0 | 100 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 0.94 | 94 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.0 | 102 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 0.98 | 98 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.90 | 90 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.0 | 98 | | | |
| OCDD | 2.0 | 1.9 | 97 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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940 South Harney
Seattle, WA 98108
(206)767-5060

February 18, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256498

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 05, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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(206)767-5060

## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 256498 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256498001** | **SPL-29-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498002** | **SPL-29-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498003** | **SPL-29-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498004** | **SPL-29-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498005** | **SPL-29-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498006** | **SPL-29-6** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498007** | **SPL-29-7** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498008** | **SPL-29-8** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| **256498009** | **TB-020411** | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-1** **Lab ID: 256498001** Collected: 02/04/11 09:35 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **24.6** | mg/kg | 20.5 | 1 | 02/07/11 14:45 | 02/10/11 15:30 | | |
| Motor Oil Range SG | **119** | mg/kg | 82.2 | 1 | 02/07/11 14:45 | 02/10/11 15:30 | 64742-65-0 | |
| n-Octacosane (S) SG | 107 | % | 50-150 | 1 | 02/07/11 14:45 | 02/10/11 15:30 | 630-02-4 | |
| o-Terphenyl (S) SG | 110 | % | 50-150 | 1 | 02/07/11 14:45 | 02/10/11 15:30 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.8 | 1 | 02/09/11 17:00 | 02/10/11 00:12 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 00:12 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 88 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 00:12 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 50-32-8 | |
| Benzo(b)fluoranthene | **10.7** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 205-99-2 | |
| Benzo(g,h,i)perylene | **8.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 207-08-9 | |
| Chrysene | **10.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 53-70-3 | |
| Fluoranthene | **14.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 90-12-0 | |
| 2-Methylnaphthalene | **10.6** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 91-57-6 | |
| Naphthalene | **10.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 91-20-3 | |
| Phenanthrene | **12.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 85-01-8 | |
| Pyrene | **17.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 321-60-8 | |
| Terphenyl-d14 (S) | 82 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 23:27 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/07/11 16:10 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/07/11 16:10 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/07/11 16:10 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.7 | 1 | | 02/07/11 16:10 | 1330-20-7 | |
| Dibromofluoromethane (S) | 97 | % | 80-136 | 1 | | 02/07/11 16:10 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/07/11 16:10 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 103 | % | 72-122 | 1 | | 02/07/11 16:10 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 02/07/11 16:10 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.8** | % | 0.10 | 1 | | 02/13/11 21:05 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-2** **Lab ID: 256498002** Collected: 02/04/11 09:50 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **28.7** | mg/kg | 21.6 | 1 | 02/09/11 14:45 | 02/10/11 15:47 | | |
| Motor Oil Range SG | **131** | mg/kg | 86.3 | 1 | 02/09/11 14:45 | 02/10/11 15:47 | 64742-65-0 | |
| n-Octacosane (S) SG | 112 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 15:47 | 630-02-4 | |
| o-Terphenyl (S) SG | 112 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 15:47 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/09/11 17:00 | 02/10/11 01:00 | | |
| a,a,a-Trifluorotoluene (S) | 112 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 01:00 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 103 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 01:00 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **15.0** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 120-12-7 | |
| Benzo(a)anthracene | **14.4** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 56-55-3 | |
| Benzo(a)pyrene | **13.4** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 50-32-8 | |
| Benzo(b)fluoranthene | **17.1** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 205-99-2 | |
| Benzo(g,h,i)perylene | **10.4** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 207-08-9 | |
| Chrysene | **14.6** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 53-70-3 | |
| Fluoranthene | **28.0** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **7.3** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 193-39-5 | |
| 1-Methylnaphthalene | **11.9** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 90-12-0 | |
| 2-Methylnaphthalene | **16.5** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 91-57-6 | |
| Naphthalene | **8.8** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 91-20-3 | |
| Phenanthrene | **28.9** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 85-01-8 | |
| Pyrene | **33.6** | ug/kg | 7.3 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 72 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 321-60-8 | |
| Terphenyl-d14 (S) | 86 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 21:55 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/07/11 16:29 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/07/11 16:29 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/07/11 16:29 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/07/11 16:29 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/07/11 16:29 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 02/07/11 16:29 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 72-122 | 1 | | 02/07/11 16:29 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/07/11 16:29 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.7** | % | 0.10 | 1 | | 02/13/11 21:06 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-3** **Lab ID: 256498003** Collected: 02/04/11 10:10 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.5 | 1 | 02/09/11 14:45 | 02/09/11 14:03 | | |
| Motor Oil Range SG | ND | mg/kg | 85.9 | 1 | 02/09/11 14:45 | 02/09/11 14:03 | 64742-65-0 | |
| n-Octacosane (S) SG | 107 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:03 | 630-02-4 | |
| o-Terphenyl (S) SG | 112 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:03 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 02/09/11 17:00 | 02/10/11 01:24 | | |
| a,a,a-Trifluorotoluene (S) | 111 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 01:24 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 101 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 01:24 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 208-96-8 | |
| Anthracene | **11.0** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 120-12-7 | |
| Benzo(a)anthracene | **21.6** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 56-55-3 | |
| Benzo(a)pyrene | **22.5** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 50-32-8 | |
| Benzo(b)fluoranthene | **23.6** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 205-99-2 | |
| Benzo(g,h,i)perylene | **21.7** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 191-24-2 | |
| Benzo(k)fluoranthene | **12.0** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 207-08-9 | |
| Chrysene | **29.5** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 53-70-3 | |
| Fluoranthene | **41.4** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **14.8** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 91-57-6 | |
| Naphthalene | **9.7** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 91-20-3 | |
| Phenanthrene | **27.2** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 85-01-8 | |
| Pyrene | **53.7** | ug/kg | 7.4 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 321-60-8 | |
| Terphenyl-d14 (S) | 83 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 22:14 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/07/11 16:49 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/07/11 16:49 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/07/11 16:49 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.8 | 1 | | 02/07/11 16:49 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/07/11 16:49 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 02/07/11 16:49 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 72-122 | 1 | | 02/07/11 16:49 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 107 | % | 80-143 | 1 | | 02/07/11 16:49 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.3** | % | 0.10 | 1 | | 02/13/11 21:07 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-4** **Lab ID: 256498004** Collected: 02/04/11 10:35 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.7 | 1 | 02/09/11 14:45 | 02/09/11 14:20 | | |
| Motor Oil Range SG | ND | mg/kg | 82.8 | 1 | 02/09/11 14:45 | 02/09/11 14:20 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:20 | 630-02-4 | |
| o-Terphenyl (S) SG | 99 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:20 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.6 | 1 | 02/09/11 17:00 | 02/10/11 01:47 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 01:47 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 01:47 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 207-08-9 | |
| Chrysene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 85-01-8 | |
| Pyrene | **7.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 321-60-8 | |
| Terphenyl-d14 (S) | 83 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 22:32 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/08/11 10:46 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/08/11 10:46 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/08/11 10:46 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.8 | 1 | | 02/08/11 10:46 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/08/11 10:46 | 1868-53-7 | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 02/08/11 10:46 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/08/11 10:46 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 02/08/11 10:46 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **6.8** | % | 0.10 | 1 | | 02/13/11 21:08 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-5** **Lab ID: 256498005** Collected: 02/04/11 10:45 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.4 | 1 | 02/09/11 14:45 | 02/09/11 14:37 | | |
| Motor Oil Range SG | ND | mg/kg | 85.6 | 1 | 02/09/11 14:45 | 02/09/11 14:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 85 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 4.7 | 1 | 02/09/11 17:00 | 02/10/11 02:11 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 02:11 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 02:11 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 207-08-9 | |
| Chrysene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 53-70-3 | |
| Fluoranthene | **8.2** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 85-01-8 | |
| Pyrene | **10.1** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 67 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 321-60-8 | |
| Terphenyl-d14 (S) | 81 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 22:50 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.5 | 1 | | 02/07/11 17:28 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.5 | 1 | | 02/07/11 17:28 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.5 | 1 | | 02/07/11 17:28 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.6 | 1 | | 02/07/11 17:28 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/07/11 17:28 | 1868-53-7 | |
| Toluene-d8 (S) | 101 | % | 80-120 | 1 | | 02/07/11 17:28 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | % | 72-122 | 1 | | 02/07/11 17:28 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 02/07/11 17:28 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.0** | % | 0.10 | 1 | | 02/13/11 21:09 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-6** **Lab ID: 256498006** Collected: 02/04/11 10:55 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 24.4 | 1 | 02/09/11 14:45 | 02/09/11 14:53 | | |
| Motor Oil Range SG | ND | mg/kg | 97.4 | 1 | 02/09/11 14:45 | 02/09/11 14:53 | 64742-65-0 | |
| n-Octacosane (S) SG | 110 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:53 | 630-02-4 | |
| o-Terphenyl (S) SG | 100 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 14:53 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 7.2 | 1 | 02/09/11 17:00 | 02/10/11 02:35 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 02:35 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 86 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 02:35 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 208-96-8 | |
| Anthracene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 207-08-9 | |
| Chrysene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 206-44-0 | |
| Fluorene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 85-01-8 | |
| Pyrene | ND | ug/kg | 8.7 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 321-60-8 | |
| Terphenyl-d14 (S) | 80 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 20:42 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.1 | 1 | | 02/07/11 17:48 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.1 | 1 | | 02/07/11 17:48 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.1 | 1 | | 02/07/11 17:48 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.2 | 1 | | 02/07/11 17:48 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/07/11 17:48 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/07/11 17:48 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/07/11 17:48 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 102 | % | 80-143 | 1 | | 02/07/11 17:48 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **24.8** | % | 0.10 | 1 | | 02/13/11 21:10 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-7** **Lab ID: 256498007** Collected: 02/04/11 11:05 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 29.2 | 1 | 02/09/11 14:45 | 02/09/11 15:44 | | |
| Motor Oil Range SG | ND | mg/kg | 117 | 1 | 02/09/11 14:45 | 02/09/11 15:44 | 64742-65-0 | |
| n-Octacosane (S) SG | 110 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 15:44 | 630-02-4 | |
| o-Terphenyl (S) SG | 107 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 15:44 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 8.7 | 1 | 02/09/11 17:00 | 02/10/11 03:22 | | |
| a,a,a-Trifluorotoluene (S) | 113 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 03:22 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 99 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 03:22 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 208-96-8 | |
| Anthracene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 207-08-9 | |
| Chrysene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 53-70-3 | |
| Fluoranthene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 206-44-0 | |
| Fluorene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 91-20-3 | |
| Phenanthrene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 85-01-8 | |
| Pyrene | ND | ug/kg | 9.6 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 321-60-8 | |
| Terphenyl-d14 (S) | 78 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 21:00 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.8 | 1 | | 02/08/11 11:25 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.8 | 1 | | 02/08/11 11:25 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.8 | 1 | | 02/08/11 11:25 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 11.5 | 1 | | 02/08/11 11:25 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 02/08/11 11:25 | 1868-53-7 | |
| Toluene-d8 (S) | 106 | % | 80-120 | 1 | | 02/08/11 11:25 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/08/11 11:25 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/08/11 11:25 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **31.8** | % | 0.10 | 1 | | 02/13/11 21:10 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: SPL-29-8** **Lab ID: 256498008** Collected: 02/04/11 11:15 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 21.8 | 1 | 02/09/11 14:45 | 02/09/11 16:01 | | |
| Motor Oil Range SG | ND | mg/kg | 87.1 | 1 | 02/09/11 14:45 | 02/09/11 16:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 16:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 115 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 16:01 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 6.1 | 1 | 02/09/11 17:00 | 02/10/11 03:46 | | |
| a,a,a-Trifluorotoluene (S) | 100 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 03:46 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 88 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 03:46 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 120-12-7 | |
| Benzo(a)anthracene | **16.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 56-55-3 | |
| Benzo(a)pyrene | **18.4** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 50-32-8 | |
| Benzo(b)fluoranthene | **18.0** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 205-99-2 | |
| Benzo(g,h,i)perylene | **10.4** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 191-24-2 | |
| Benzo(k)fluoranthene | **7.7** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 207-08-9 | |
| Chrysene | **15.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 53-70-3 | |
| Fluoranthene | **28.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **8.6** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 91-20-3 | |
| Phenanthrene | **13.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 85-01-8 | |
| Pyrene | **34.7** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 321-60-8 | |
| Terphenyl-d14 (S) | 85 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 23:09 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/08/11 11:44 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/08/11 11:44 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/08/11 11:44 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.3 | 1 | | 02/08/11 11:44 | 1330-20-7 | |
| Dibromofluoromethane (S) | 94 | % | 80-136 | 1 | | 02/08/11 11:44 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/08/11 11:44 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 72-122 | 1 | | 02/08/11 11:44 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 103 | % | 80-143 | 1 | | 02/08/11 11:44 | 17060-07-0 | |
| | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **9.2** | % | 0.10 | 1 | | 02/13/11 21:12 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

**Sample: TB-020411** **Lab ID: 256498009** Collected: 02/04/11 00:00 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/09/11 17:00 | 02/09/11 23:01 | | |
| a,a,a-Trifluorotoluene (S) | 95 | % | 50-150 | 1 | 02/09/11 17:00 | 02/09/11 23:01 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 86 | % | 50-150 | 1 | 02/09/11 17:00 | 02/09/11 23:01 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/07/11 11:57 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/07/11 11:57 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/07/11 11:57 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/07/11 11:57 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 02/07/11 11:57 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/07/11 11:57 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 72-122 | 1 | | 02/07/11 11:57 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/07/11 11:57 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

QC Batch: OEXT/3272 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008

METHOD BLANK: 57286 Matrix: Solid
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 02/10/11 15:13 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 02/10/11 15:13 | |
| n-Octacosane (S) SG | % | 120 | 50-150 | 02/10/11 15:13 | |
| o-Terphenyl (S) SG | % | 115 | 50-150 | 02/10/11 15:13 | |

LABORATORY CONTROL SAMPLE: 57287

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 458 | 92 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 510 | 102 | 50-150 | |
| n-Octacosane (S) SG | % | | | 113 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 116 | 50-150 | |

SAMPLE DUPLICATE: 57288

| Parameter | Units | 256498002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 28.7 | 23.9 | 18 | |
| Motor Oil Range SG | mg/kg | 131 | 86.4 | 41 | |
| n-Octacosane (S) SG | % | 112 | 116 | .4 | |
| o-Terphenyl (S) SG | % | 112 | 112 | 3 | |

SAMPLE DUPLICATE: 57289

| Parameter | Units | 256499003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 51.1 | 33.0 | 43 | |
| Motor Oil Range SG | mg/kg | 213 | 172 | 21 | |
| n-Octacosane (S) SG | % | 143 | 108 | 24 | |
| o-Terphenyl (S) SG | % | 95 | 96 | 4 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

QC Batch: GCV/2150 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008, 256498009

METHOD BLANK: 57717 Matrix: Solid
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008, 256498009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/09/11 22:37 | |
| 4-Bromofluorobenzene (S) | % | 90 | 50-150 | 02/09/11 22:37 | |
| a,a,a-Trifluorotoluene (S) | % | 102 | 50-150 | 02/09/11 22:37 | |

LABORATORY CONTROL SAMPLE: 57718

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 11.0 | 88 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 85 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 90 | 50-150 | |

SAMPLE DUPLICATE: 58143

| Parameter | Units | 256498001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .95J | | |
| 4-Bromofluorobenzene (S) | % | 88 | 101 | 14 | |
| a,a,a-Trifluorotoluene (S) | % | 96 | 110 | 14 | |

SAMPLE DUPLICATE: 58144

| Parameter | Units | 256498006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .67J | | |
| 4-Bromofluorobenzene (S) | % | 86 | 86 | .7 | |
| a,a,a-Trifluorotoluene (S) | % | 98 | 97 | .8 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

QC Batch: OEXT/3270 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008

METHOD BLANK: 57279 Matrix: Solid
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Acenaphthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Anthracene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Chrysene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Fluoranthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Fluorene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Naphthalene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Phenanthrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Pyrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| 2-Fluorobiphenyl (S) | % | 67 | 31-131 | 02/10/11 20:05 | |
| Terphenyl-d14 (S) | % | 83 | 30-133 | 02/10/11 20:05 | |

LABORATORY CONTROL SAMPLE: 57280

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 97.3 | 73 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 98.6 | 74 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 92.3 | 69 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 92.6 | 69 | 31-134 | |
| Anthracene | ug/kg | 133 | 94.4 | 71 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 105 | 79 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 109 | 82 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 99.0 | 74 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 96.7 | 73 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 101 | 75 | 45-147 | |
| Chrysene | ug/kg | 133 | 95.6 | 72 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 97.5 | 73 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 101 | 75 | 44-143 | |
| Fluorene | ug/kg | 133 | 98.4 | 74 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 97.6 | 73 | 47-140 | |
| Naphthalene | ug/kg | 133 | 86.0 | 64 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 97.1 | 73 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

LABORATORY CONTROL SAMPLE: 57280

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 103 | 77 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 69 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 83 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 57281 57282

| Parameter | Units | 256498001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 144 | 141 | 111 | 110 | 74 | 74 | 31-123 | 1 | |
| 2-Methylnaphthalene | ug/kg | 10.6 | 144 | 141 | 118 | 119 | 75 | 76 | 15-146 | .3 | |
| Acenaphthene | ug/kg | ND | 144 | 141 | 100 | 99.5 | 69 | 69 | 19-141 | .5 | |
| Acenaphthylene | ug/kg | ND | 144 | 141 | 101 | 102 | 69 | 70 | 30-142 | .5 | |
| Anthracene | ug/kg | ND | 144 | 141 | 103 | 103 | 70 | 71 | 38-137 | .3 | |
| Benzo(a)anthracene | ug/kg | ND | 144 | 141 | 112 | 116 | 73 | 77 | 37-143 | 3 | |
| Benzo(a)pyrene | ug/kg | ND | 144 | 141 | 110 | 115 | 72 | 76 | 33-147 | 4 | |
| Benzo(b)fluoranthene | ug/kg | 10.7 | 144 | 141 | 111 | 105 | 70 | 66 | 25-156 | 6 | |
| Benzo(g,h,i)perylene | ug/kg | 8.3 | 144 | 141 | 96.1 | 97.3 | 61 | 63 | 26-142 | 1 | |
| Benzo(k)fluoranthene | ug/kg | ND | 144 | 141 | 93.6 | 111 | 61 | 75 | 35-142 | 17 | |
| Chrysene | ug/kg | 10.5 | 144 | 141 | 103 | 106 | 65 | 67 | 23-150 | 2 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 144 | 141 | 92.5 | 93.9 | 63 | 65 | 41-140 | 1 | |
| Fluoranthene | ug/kg | 14.9 | 144 | 141 | 111 | 118 | 67 | 73 | 25-155 | 6 | |
| Fluorene | ug/kg | ND | 144 | 141 | 107 | 107 | 73 | 74 | 33-152 | .5 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 144 | 141 | 94.2 | 96.4 | 62 | 65 | 36-139 | 2 | |
| Naphthalene | ug/kg | 10.1 | 144 | 141 | 104 | 105 | 65 | 67 | 25-121 | .9 | |
| Phenanthrene | ug/kg | 12.1 | 144 | 141 | 109 | 115 | 67 | 73 | 29-141 | 5 | |
| Pyrene | ug/kg | 17.3 | 144 | 141 | 124 | 131 | 74 | 80 | 36-145 | 5 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 69 | 69 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 80 | 81 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

QC Batch: MSV/3810 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256498001, 256498002, 256498003, 256498005, 256498006, 256498009

METHOD BLANK: 57244 Matrix: Solid
Associated Lab Samples: 256498001, 256498002, 256498003, 256498005, 256498006, 256498009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/07/11 11:37 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/07/11 11:37 | |
| Toluene | ug/kg | ND | 3.0 | 02/07/11 11:37 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/07/11 11:37 | |
| 1,2-Dichloroethane-d4 (S) | % | 105 | 80-143 | 02/07/11 11:37 | |
| 4-Bromofluorobenzene (S) | % | 96 | 72-122 | 02/07/11 11:37 | |
| Dibromofluoromethane (S) | % | 96 | 80-136 | 02/07/11 11:37 | |
| Toluene-d8 (S) | % | 105 | 80-120 | 02/07/11 11:37 | |

LABORATORY CONTROL SAMPLE & LCSD: 57245 57246

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 49.5 | 49.5 | 99 | 99 | 75-133 | .05 | 30 | |
| Ethylbenzene | ug/kg | 50 | 50.6 | 49.3 | 101 | 99 | 68-131 | 3 | 30 | |
| Toluene | ug/kg | 50 | 54.0 | 51.8 | 108 | 104 | 73-124 | 4 | 30 | |
| Xylene (Total) | ug/kg | 150 | 159 | 157 | 106 | 105 | 68-130 | 1 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 97 | 90 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 101 | 102 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 95 | 98 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 107 | 103 | 80-120 | | | |



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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

QC Batch: MSV/3818 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256498004, 256498007, 256498008

METHOD BLANK: 57451 Matrix: Solid
Associated Lab Samples: 256498004, 256498007, 256498008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/08/11 09:13 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/08/11 09:13 | |
| Toluene | ug/kg | ND | 3.0 | 02/08/11 09:13 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/08/11 09:13 | |
| 1,2-Dichloroethane-d4 (S) | % | 102 | 80-143 | 02/08/11 09:13 | |
| 4-Bromofluorobenzene (S) | % | 99 | 72-122 | 02/08/11 09:13 | |
| Dibromofluoromethane (S) | % | 94 | 80-136 | 02/08/11 09:13 | |
| Toluene-d8 (S) | % | 103 | 80-120 | 02/08/11 09:13 | |

LABORATORY CONTROL SAMPLE & LCSD: 57452 57453

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 48.8 | 51.4 | 98 | 103 | 75-133 | 5 | 30 | |
| Ethylbenzene | ug/kg | 50 | 48.7 | 50.1 | 97 | 100 | 68-131 | 3 | 30 | |
| Toluene | ug/kg | 50 | 52.7 | 54.4 | 105 | 109 | 73-124 | 3 | 30 | |
| Xylene (Total) | ug/kg | 150 | 153 | 158 | 102 | 105 | 68-130 | 3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 111 | 103 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 105 | 102 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 101 | 98 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 107 | 105 | 80-120 | | | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

QC Batch: PMST/1522 | Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256498001, 256498002, 256498003, 256498004, 256498005, 256498006, 256498007, 256498008

SAMPLE DUPLICATE: 58359

| Parameter | Units | 256498001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 8.8 | 8.9 | 2 | |

SAMPLE DUPLICATE: 58360

| Parameter | Units | 256550009 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 10.3 | 10.3 | .5 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

PASI-S Pace Analytical Services - Seattle

## BATCH QUALIFIERS

Batch: MSV/3810

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/3818

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256498

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256498001** | **SPL-29-1** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498002** | **SPL-29-2** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498003** | **SPL-29-3** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498004** | **SPL-29-4** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498005** | **SPL-29-5** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498006** | **SPL-29-6** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498007** | **SPL-29-7** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498008** | **SPL-29-8** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256498001** | **SPL-29-1** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498002** | **SPL-29-2** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498003** | **SPL-29-3** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498004** | **SPL-29-4** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498005** | **SPL-29-5** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498006** | **SPL-29-6** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498007** | **SPL-29-7** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498008** | **SPL-29-8** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498009** | **TB-020411** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256498001** | **SPL-29-1** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498002** | **SPL-29-2** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498003** | **SPL-29-3** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498004** | **SPL-29-4** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498005** | **SPL-29-5** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498006** | **SPL-29-6** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498007** | **SPL-29-7** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498008** | **SPL-29-8** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256498001** | **SPL-29-1** | EPA 8260 | MSV/3810 | | |
| **256498002** | **SPL-29-2** | EPA 8260 | MSV/3810 | | |
| **256498003** | **SPL-29-3** | EPA 8260 | MSV/3810 | | |
| **256498004** | **SPL-29-4** | EPA 8260 | MSV/3818 | | |
| **256498005** | **SPL-29-5** | EPA 8260 | MSV/3810 | | |
| **256498006** | **SPL-29-6** | EPA 8260 | MSV/3810 | | |
| **256498007** | **SPL-29-7** | EPA 8260 | MSV/3818 | | |
| **256498008** | **SPL-29-8** | EPA 8260 | MSV/3818 | | |
| **256498009** | **TB-020411** | EPA 8260 | MSV/3810 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1195894

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW Ste 400, Olympia WA 98501
Email To: jturk@brwncald.com
Phone: 3605341206 Fax: 3609437513
Requested Due Date/TAT: 10-day

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:

Attention: Jon Turk
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N): Y/N; Analysis Test: As, Pb, Ni, Cu, Cd (SG); TPHD, HO; Dioxins Furans; PAHs Naphthalenes (SG); TPH-G; BTEX

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | Composite Start TIME | Composite End/Grab DATE | Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other water | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. 256498 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-29-1 | SL | G | | | 2/4/11 | 0935 | | 7 | X | | | | | | X | X | | |
| 2 | SPL-29-2 | | | | | | 0950 | | | | | | | | | | | | |
| 3 | SPL-29-3 | | | | | | 1010 | | | | | | | | | | | | |
| 4 | SPL-29-4 | | | | | | 1035 | | | | | | | | | | | | |
| 5 | SPL-29-5 | | | | | | 1045 | | | | | | | | | | | | |
| 6 | SPL-29-6 | | | | | | 1055 | | | | | | | | | | | | |
| 7 | SPL-29-7 | | | | | | 1105 | | | | | | | | | | | | |
| 8 | SPL-29-8 | | | | | | 1115 | | | | | | | | | | | | |
| 9 | TB-020411 | WT | | | | | | | 3 | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS: Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Jon Turk | 2/4/11 | 1330 | Custody Seal | 2/4/11 | 1330 | | | | |
| | Fedex | 2/5/11 | 1138 | Jyothi Swag | 2/5/11 | 1138 | 0.4 | Y | Y | Y |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 2/4/11

ORIGINAL

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

# Sample Container Count

CLIENT: Brown + Caldwell

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COC PAGE 1 of 1
COC ID# 1195894

256498

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | | VG9W | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 1 | | 2 | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | 2 | | | | | |
| 9 | | | | | | | | | | | | 1 | | 2 | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown + Caldwell  Project # 256498

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace #139 Other _____

Tracking #: 8738 8211 4947

*Custody Seal on Cooler/Box Present:* ☑ Yes ☐ No  Seals intact: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____  Temp. Blank (Yes) ____ No ____

Thermometer Used 132013 or 101731962 or 226099  Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.4  Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NSS 2/5/11

Temp should be above freezing ≤ 6°C

| | | Comments: |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed ____ Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☑No ☐N/A | |
| Pace Trip Blank Lot # (if purchased): ____ | | |

**Client Notification/ Resolution:**  Field Data Required? Y / N

Person Contacted: _____  Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS  **Date:** 2/7/11

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 18, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256491

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 05, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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# CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256491001** | **SPL-30-1** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256491002** | **SPL-30-2** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256491003** | **SPL-30-3** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256491004** | **SPL-30-4** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256491005** | **SPL-30-5** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256491006** | **SPL-30-6** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256491007** | **SPL-30-7** | EPA 6020 | TL1 | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

**Sample: SPL-30-1** **Lab ID: 256491001** Collected: 02/03/11 13:10 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.2** | mg/kg | 0.47 | 20 | 02/08/11 17:26 | 02/17/11 21:29 | 7440-38-2 | |
| Cadmium | **0.086** | mg/kg | 0.075 | 20 | 02/08/11 17:26 | 02/17/11 21:29 | 7440-43-9 | |
| Copper | **21.0** | mg/kg | 0.47 | 20 | 02/08/11 17:26 | 02/17/11 21:29 | 7440-50-8 | M6 |
| Lead | **5.2** | mg/kg | 0.47 | 20 | 02/08/11 17:26 | 02/17/11 21:29 | 7439-92-1 | M6 |
| Nickel | **22.5** | mg/kg | 0.47 | 20 | 02/08/11 17:26 | 02/17/11 21:29 | 7440-02-0 | M6 |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **20.6** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-30-2** **Lab ID: 256491002** Collected: 02/03/11 13:20 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.2** | mg/kg | 0.51 | 20 | 02/08/11 17:26 | 02/17/11 21:51 | 7440-38-2 | |
| Cadmium | **0.10** | mg/kg | 0.082 | 20 | 02/08/11 17:26 | 02/17/11 21:51 | 7440-43-9 | |
| Copper | **24.6** | mg/kg | 0.51 | 20 | 02/08/11 17:26 | 02/17/11 21:51 | 7440-50-8 | |
| Lead | **8.0** | mg/kg | 0.51 | 20 | 02/08/11 17:26 | 02/17/11 21:51 | 7439-92-1 | |
| Nickel | **31.1** | mg/kg | 0.51 | 20 | 02/08/11 17:26 | 02/17/11 21:51 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.9** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-30-3** **Lab ID: 256491003** Collected: 02/03/11 13:40 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.3** | mg/kg | 0.40 | 20 | 02/08/11 17:26 | 02/17/11 21:56 | 7440-38-2 | |
| Cadmium | **0.12** | mg/kg | 0.064 | 20 | 02/08/11 17:26 | 02/17/11 21:56 | 7440-43-9 | |
| Copper | **26.1** | mg/kg | 0.40 | 20 | 02/08/11 17:26 | 02/17/11 21:56 | 7440-50-8 | |
| Lead | **9.3** | mg/kg | 0.40 | 20 | 02/08/11 17:26 | 02/17/11 21:56 | 7439-92-1 | |
| Nickel | **31.5** | mg/kg | 0.40 | 20 | 02/08/11 17:26 | 02/17/11 21:56 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **11.4** | % | 0.10 | 1 | | 02/08/11 00:00 | | |



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Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

**Sample: SPL-30-4** **Lab ID: 256491004** Collected: 02/03/11 13:55 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.1** | mg/kg | 0.49 | 20 | 02/08/11 17:26 | 02/17/11 22:00 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.078 | 20 | 02/08/11 17:26 | 02/17/11 22:00 | 7440-43-9 | |
| Copper | **27.6** | mg/kg | 0.49 | 20 | 02/08/11 17:26 | 02/17/11 22:00 | 7440-50-8 | |
| Lead | **9.5** | mg/kg | 0.49 | 20 | 02/08/11 17:26 | 02/17/11 22:00 | 7439-92-1 | |
| Nickel | **31.1** | mg/kg | 0.49 | 20 | 02/08/11 17:26 | 02/17/11 22:00 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **8.9** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-30-5** **Lab ID: 256491005** Collected: 02/03/11 14:10 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **9.0** | mg/kg | 0.57 | 20 | 02/08/11 17:26 | 02/17/11 22:05 | 7440-38-2 | |
| Cadmium | **0.12** | mg/kg | 0.091 | 20 | 02/08/11 17:26 | 02/17/11 22:05 | 7440-43-9 | |
| Copper | **33.5** | mg/kg | 0.57 | 20 | 02/08/11 17:26 | 02/17/11 22:05 | 7440-50-8 | |
| Lead | **6.1** | mg/kg | 0.57 | 20 | 02/08/11 17:26 | 02/17/11 22:05 | 7439-92-1 | |
| Nickel | **32.7** | mg/kg | 0.57 | 20 | 02/08/11 17:26 | 02/17/11 22:05 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **13.7** | % | 0.10 | 1 | | 02/08/11 00:00 | | |

**Sample: SPL-30-6** **Lab ID: 256491006** Collected: 02/03/11 14:30 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.3** | mg/kg | 0.42 | 20 | 02/08/11 17:26 | 02/17/11 22:09 | 7440-38-2 | |
| Cadmium | **0.12** | mg/kg | 0.068 | 20 | 02/08/11 17:26 | 02/17/11 22:09 | 7440-43-9 | |
| Copper | **31.2** | mg/kg | 0.42 | 20 | 02/08/11 17:26 | 02/17/11 22:09 | 7440-50-8 | |
| Lead | **44.9** | mg/kg | 0.42 | 20 | 02/08/11 17:26 | 02/17/11 22:09 | 7439-92-1 | |
| Nickel | **34.3** | mg/kg | 0.42 | 20 | 02/08/11 17:26 | 02/17/11 22:09 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.9** | % | 0.10 | 1 | | 02/08/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

**Sample: SPL-30-7** **Lab ID: 256491007** Collected: 02/03/11 14:45 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.1** | mg/kg | 0.41 | 20 | 02/08/11 17:26 | 02/17/11 22:14 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.065 | 20 | 02/08/11 17:26 | 02/17/11 22:14 | 7440-43-9 | |
| Copper | **22.7** | mg/kg | 0.41 | 20 | 02/08/11 17:26 | 02/17/11 22:14 | 7440-50-8 | |
| Lead | **6.4** | mg/kg | 0.41 | 20 | 02/08/11 17:26 | 02/17/11 22:14 | 7439-92-1 | |
| Nickel | **27.0** | mg/kg | 0.41 | 20 | 02/08/11 17:26 | 02/17/11 22:14 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **6.9** | % | 0.10 | 1 | | 02/08/11 00:00 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

QC Batch: ICPM/24628 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256491001, 256491002, 256491003, 256491004, 256491005, 256491006, 256491007

METHOD BLANK: 927810 Matrix: Solid
Associated Lab Samples: 256491001, 256491002, 256491003, 256491004, 256491005, 256491006, 256491007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 02/17/11 20:21 | |
| Cadmium | mg/kg | ND | 0.076 | 02/17/11 20:21 | |
| Copper | mg/kg | ND | 0.48 | 02/17/11 20:21 | |
| Lead | mg/kg | ND | 0.48 | 02/17/11 20:21 | |
| Nickel | mg/kg | ND | 0.48 | 02/17/11 20:21 | |

LABORATORY CONTROL SAMPLE: 927811

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 19 | 18.8 | 99 | 75-125 | |
| Cadmium | mg/kg | 19 | 19.5 | 102 | 75-125 | |
| Copper | mg/kg | 19 | 19.9 | 104 | 75-125 | |
| Lead | mg/kg | 19 | 19.7 | 103 | 75-125 | |
| Nickel | mg/kg | 19 | 20.4 | 107 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927812 927813

| Parameter | Units | 256490001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.0 | 18.9 | 17.4 | 22.1 | 22.2 | 95 | 104 | 75-125 | .7 | |
| Cadmium | mg/kg | 0.10 | 18.9 | 17.4 | 18.9 | 18.7 | 99 | 107 | 75-125 | .9 | |
| Copper | mg/kg | 23.3 | 18.9 | 17.4 | 40.3 | 43.2 | 90 | 114 | 75-125 | 7 | |
| Lead | mg/kg | 8.7 | 18.9 | 17.4 | 27.0 | 28.6 | 97 | 114 | 75-125 | 6 | |
| Nickel | mg/kg | 36.1 | 18.9 | 17.4 | 48.2 | 48.1 | 64 | 69 | 75-125 | .1 | M6 |

MATRIX SPIKE SAMPLE: 927814

| Parameter | Units | 256491001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 4.2 | 17.8 | 26.2 | 125 | 75-125 | |
| Cadmium | mg/kg | 0.086 | 17.8 | 20.4 | 114 | 75-125 | |
| Copper | mg/kg | 21.0 | 17.8 | 47.6 | 150 | 75-125 | M6 |
| Lead | mg/kg | 5.2 | 17.8 | 28.6 | 132 | 75-125 | M6 |
| Nickel | mg/kg | 22.5 | 17.8 | 51.3 | 162 | 75-125 | M6 |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

QC Batch: MPRP/24633 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256491001, 256491002, 256491003, 256491004, 256491005, 256491006, 256491007

SAMPLE DUPLICATE: 928009

| Parameter | Units | 256491001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 20.6 | 23.4 | 13 | |

SAMPLE DUPLICATE: 928010

| Parameter | Units | 10148885002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 5.0 | 5.5 | 10 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256491

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256491001** | **SPL-30-1** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491002** | **SPL-30-2** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491003** | **SPL-30-3** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491004** | **SPL-30-4** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491005** | **SPL-30-5** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491006** | **SPL-30-6** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491007** | **SPL-30-7** | EPA 6020 | ICPM/24628 | EPA 6020 | ICPM/10078 |
| **256491001** | **SPL-30-1** | % Moisture | MPRP/24633 | | |
| **256491002** | **SPL-30-2** | % Moisture | MPRP/24633 | | |
| **256491003** | **SPL-30-3** | % Moisture | MPRP/24633 | | |
| **256491004** | **SPL-30-4** | % Moisture | MPRP/24633 | | |
| **256491005** | **SPL-30-5** | % Moisture | MPRP/24633 | | |
| **256491006** | **SPL-30-6** | % Moisture | MPRP/24633 | | |
| **256491007** | **SPL-30-7** | % Moisture | MPRP/24633 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256491

Page: of

1438346

**Section A** (Required Client Information)
Company: Brown + Caldwell
Address: 524 Columbia St NW, Ste 420
Olympia WA 98501
Email To: jturk@brwncald.com
Phone: 360-534-8206 Fax: 360-943-7515
Requested Due Date/TAT: 10-days

**Section B** (Required Project Information)
Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** (Invoice Information)
Attention: Jon Turk
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST, RCRA, OTHER ECY

Site Location: STATE: WA

Requested Analysis Filtered (Y/N)

**Section D** (Required Client Information)

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

| SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Grab DATE | COLLECTED Composite Grab TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other water | Analysis Test (Y/N) | As, Pb, Ni, Cu, Cd | TPH-Dx, HO | Dioxins/Furans | cPAH, Naphthalenes | BTEX | TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPL-30-1 | SL | G | 2/3/11 | 1310 | | | | 7 | X | | | | | | X | X | | | | | | | | | |
| SPL-30-2 | ↓ | ↓ | ↓ | 1320 | | | | ↓ | ↓ | | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| SPL-30-3 | | | | 1340 | | | | | | | | | | | | | | | | | | | | | |
| SPL-30-4 | | | | 1355 | | | | | | | | | | | | | | | | | | | | | |
| SPL-30-5 | | | | 1410 | | | | | | | | | | | | | | | | | | | | | |
| SPL-30-6 | | | | 1430 | | | | | | | | | | | | | | | | | | | | | |
| SPL-30-7 | ↓ | ↓ | ↓ | 1445 | | | | ↓ | ↓ | | | | | | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | |
| TB-020311 | WT | | 2/3/11 | | | | | 3 | X | | | | | | X | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|---|
| Temp Blank Included | Jon Turk | 2/3/11 | 17:45 | Custody Seal | 2/3/11 | 1745 |
| | Fedex | 2/5/11 | 11:38 | Justin Sieg / PACE | 2/5/11 | 1138 |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| 1.4 | Y | Y | Y |

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Jon Turk
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 2/3/11

F-ALL-Q-020rev.07, 15-May-2007

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

# Sample Container Count

CLIENT: Brown & Caldwell

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COC PAGE 1 of 1
COC ID# 1438346

256491

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | | | | |
| 2 | | | | | | | | | | 2 | | | | | |
| 3 | | | | | | | | | | 2 | | | | | |
| 4 | | | | | | | | | | 2 | | | | | |
| 5 | | | | | | | | | | 2 | | | | | |
| 6 | | | | | | | | | | 2 | | | | | |
| 7 | | | | | | | | | | 2 | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown + Caldwell Project # 256491

Courier: [✓] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other _____

Tracking #: 8 7288 11 4936 #00043

Custody Seal on Cooler/Box Present: [✓] Yes [ ] No Seals intact: [✓] Yes [ ] No

Packing Material: [ ] Bubble Wrap [✓] Bubble Bags [ ] None [ ] Other _____ Temp. Blank (Yes) _____ No _____

Thermometer Used 132013 or 101731962 or 226099 Type of Ice: (Wet) Blue None [ ] Samples on ice, cooling process has begun

Cooler Temperature 1.4 Biological Tissue Is Frozen: Yes No

Date and Initials of person examining contents: NDS 2/5/11

Temp should be above freezing ≤ 6°C

Comments:

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | [✓] Yes | [ ] No | [ ] N/A | 1. |
| Chain of Custody Filled Out: | [✓] Yes | [ ] No | [ ] N/A | 2. |
| Chain of Custody Relinquished: | [✓] Yes | [ ] No | [ ] N/A | 3. |
| Sampler Name & Signature on COC: | [✓] Yes | [ ] No | [ ] N/A | 4. |
| Samples Arrived within Hold Time: | [✓] Yes | [ ] No | [ ] N/A | 5. |
| Short Hold Time Analysis (<72hr): | [ ] Yes | [✓] No | [ ] N/A | 6. |
| Rush Turn Around Time Requested: | [ ] Yes | [✓] No | [ ] N/A | 7. |
| Sufficient Volume: | [✓] Yes | [ ] No | [ ] N/A | 8. |
| Correct Containers Used: | [✓] Yes | [ ] No | [ ] N/A | 9. |
| -Pace Containers Used: | [✓] Yes | [ ] No | [ ] N/A | |
| Containers Intact: | [✓] Yes | [ ] No | [ ] N/A | 10. |
| Filtered volume received for Dissolved tests | [ ] Yes | [ ] No | [✓] N/A | 11. |
| Sample Labels match COC: | [✓] Yes | [ ] No | [ ] N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: Soil | | | | |
| All containers needing preservation have been checked. | [ ] Yes | [ ] No | [✓] N/A | 13. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | [ ] Yes | [ ] No | [✓] N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | [ ] Yes | [ ] No | [✓] N/A | 14. |
| Headspace in VOA Vials ( >6mm): | [ ] Yes | [ ] No | [✓] N/A | 15. |
| Trip Blanks Present: | [ ] Yes | [ ] No | [ ] N/A | 16. |
| Trip Blank Custody Seals Present | [ ] Yes | [ ] No | [ ] N/A | |
| Pace Trip Blank Lot # (if purchased): | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jenni Gross Date: 2/7/11

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

## Report Information:

**Pace Project #: 10148906**
**Sample Receipt Date: 02/07/2011**
**Client Project #: 256491**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

February 15, 2011

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

**Report Prepared Date:**
February 15, 2011

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

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1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on seven samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 27-93%. With the exceptions of four low values, which were flagged "R" on the results tables, the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners. The affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain a trace level of OCDD. This was below the calibration range of the method. The OCDD levels reported for the field samples were higher than the OCDD level in the blank by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

A laboratory spike sample was also prepared with the sample batch using clean sand that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 98-113%, indicating a high degree of accuracy for these determinations. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.



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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

10148906

# Chain of Custody

Rush Dioxins Due 2/21/11

Pace Analytical®
www.pacelabs.com

2/21/11 Rush 10 day TAT

**Workorder:** 256491 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 2/5/2011 **Results Requested By:** ~~2/18/2011~~

| Report To | Subcontract To |
|---|---|
| Jennifer Gross<br>Pace Analytical Services, Inc.<br>940 South Harney<br>Seattle WA 98108<br>Phone (206)767-5060<br>Fax (206)767-5063 | Pace Analytical Minnesota<br>1700 Elm Street<br>Suite 200<br>Minneapolis, MN 55414<br>Phone (612)607-1700 |

Requested Analysis

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxins, Furans | Cu, Cd, Pb, Ni, As by 6020 | Dry Weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-30-1 | PS | 2/3/2011 13:10 | 256491001 | Solid | 2 | X | X | X | |
| 2 | SPL-30-2 | PS | 2/3/2011 13:20 | 256491002 | Solid | 2 | X | X | X | |
| 3 | SPL-30-3 | PS | 2/3/2011 13:40 | 256491003 | Solid | 2 | X | X | X | |
| 4 | SPL-30-4 | PS | 2/3/2011 13:55 | 256491004 | Solid | 2 | X | X | X | |
| 5 | SPL-30-5 | PS | 2/3/2011 14:10 | 256491005 | Solid | 2 | X | X | X | |
| 6 | SPL-30-6 | PS | 2/3/2011 14:30 | 256491006 | Solid | 2 | X | X | X | |
| 7 | SPL-30-7 | PS | 2/3/2011 14:45 | 256491007 | Solid | 2 | X | X | X | |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Shyothi Sway | 2/5/11 1300 | SHIPPER | 2/7/11 1037 |
| 2 | | | | |
| 3 | | | | |

Comments: 10 - RUSH Dioxins

Cooler Temperature on Receipt 1.4 °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** Pace-WA **Project #** 10148906

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

**Tracking #:** 7943 9510 9505

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes _____ No ✓

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1-4 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 2/4/11 sh

Temp should be above freezing to 6°C

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes | ☑No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes | ☐No | ☐N/A | 7. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes | ☐No | ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes | ☑No | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 15. |
| Trip Blank Present: | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: Jenni Gross Date/Time: 2/7/11 @ 11:07

Comments/ Resolution:

confirmed due 2/18, despite note on invoi.

**Project Manager Review:** [signature] **Date:** 2/7/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-1 | | | |
| Lab Sample ID | 256491001 | | | |
| Filename | F110211A_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.0 g | Matrix | Solid | |
| % Moisture | 20.6 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/03/2011 | 13:10 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 22:38 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.23 | ----- | 0.12 | J | 2,3,7,8-TCDF-13C | 2.00 | 81 |
| Total TCDF | 4.60 | ----- | 0.12 | | 2,3,7,8-TCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 87 |
| 2,3,7,8-TCDD | ND | ----- | 0.16 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 88 |
| Total TCDD | 4.00 | ----- | 0.16 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 93 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.24 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 82 |
| 2,3,4,7,8-PeCDF | 0.75 | ----- | 0.17 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 79 |
| Total PeCDF | 6.50 | ----- | 0.20 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 81 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | ----- | 0.32 | 0.19 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 4.30 | ----- | 0.19 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 73 |
| 1,2,3,4,7,8-HxCDF | ----- | 1.90 | 0.16 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 77 |
| 1,2,3,6,7,8-HxCDF | 0.62 | ----- | 0.18 | J | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | 0.72 | ----- | 0.16 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.29 | ----- | 0.20 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 6.20 | ----- | 0.18 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 0.27 | 0.17 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 87 |
| 1,2,3,6,7,8-HxCDD | 1.50 | ----- | 0.29 | J | | | |
| 1,2,3,7,8,9-HxCDD | 0.46 | ----- | 0.26 | J | | | |
| Total HxCDD | 10.00 | ----- | 0.24 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 9.00 | ----- | 0.19 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 0.69 | 0.26 | I | Equivalence: 1.4 ng/Kg | | |
| Total HpCDF | 9.00 | ----- | 0.22 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 36.00 | ----- | 0.34 | | | | |
| Total HpCDD | 72.00 | ----- | 0.34 | | | | |
| OCDF | 34.00 | ----- | 0.42 | | | | |
| OCDD | 420.00 | ----- | 0.24 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-2 | | | |
| Lab Sample ID | 256491002 | | | |
| Filename | F110211A_12 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.8 g | Matrix | Solid | |
| % Moisture | 10.9 | Dilution | NA | |
| Dry Weight Extracted | 10.5 g | Collected | 02/03/2011 | 13:20 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/11/2011 | 23:24 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.2 | ----- | 0.51 | | 2,3,7,8-TCDF-13C | 2.00 | 70 |
| Total TCDF | 14.0 | ----- | 0.51 | | 2,3,7,8-TCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | ND | ----- | 0.43 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 23.0 | ----- | 0.43 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 83 |
| 1,2,3,7,8-PeCDF | ----- | 1.3 | 0.64 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 81 |
| 2,3,4,7,8-PeCDF | 3.0 | ----- | 0.79 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 68 |
| Total PeCDF | 36.0 | ----- | 0.71 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDD | 2.0 | ----- | 0.59 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 35.0 | ----- | 0.59 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 41 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 35 R |
| 1,2,3,4,7,8-HxCDF | 6.3 | ----- | 0.48 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 42 |
| 1,2,3,6,7,8-HxCDF | 1.9 | ----- | 0.63 | J | OCDD-13C | 4.00 | 27 R |
| 2,3,4,6,7,8-HxCDF | 3.1 | ----- | 0.47 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.8 | ----- | 0.66 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 80.0 | ----- | 0.56 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 2.1 | 0.37 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 6.2 | ----- | 0.86 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.4 | ----- | 0.44 | J | | | |
| Total HxCDD | 65.0 | ----- | 0.56 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 34.0 | ----- | 0.76 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 3.7 | ----- | 0.94 | J | Equivalence: 7.8 ng/Kg | | |
| Total HpCDF | 130.0 | ----- | 0.85 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 140.0 | ----- | 1.20 | | | | |
| Total HpCDD | 270.0 | ----- | 1.20 | | | | |
| OCDF | 100.0 | ----- | 1.60 | | | | |
| OCDD | 1500.0 | ----- | 2.30 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-3 | | | |
| Lab Sample ID | 256491003 | | | |
| Filename | F110211A_13 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.5 g | Matrix | Solid | |
| % Moisture | 11.4 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/03/2011 | 13:40 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/12/2011 | 00:10 |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.46 | | 2,3,7,8-TCDF-13C | 2.00 | 62 |
| Total TCDF | 4.10 | ----- | 0.46 | | 2,3,7,8-TCDD-13C | 2.00 | 70 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 |
| 2,3,7,8-TCDD | ND | ----- | 0.58 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | 3.20 | ----- | 0.58 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.53 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 62 |
| 2,3,4,7,8-PeCDF | 0.79 | ----- | 0.49 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 58 |
| Total PeCDF | 5.80 | ----- | 0.51 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 60 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 64 |
| 1,2,3,7,8-PeCDD | ----- | 0.53 | 0.41 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 64 |
| Total PeCDD | 2.20 | ----- | 0.41 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 48 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 48 |
| 1,2,3,4,7,8-HxCDF | 0.94 | ----- | 0.37 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 53 |
| 1,2,3,6,7,8-HxCDF | 0.47 | ----- | 0.29 | J | OCDD-13C | 4.00 | 42 |
| 2,3,4,6,7,8-HxCDF | 0.83 | ----- | 0.37 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.29 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 8.70 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.32 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 90 |
| 1,2,3,6,7,8-HxCDD | ----- | 1.40 | 0.36 | I | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.65 | 0.41 | I | | | |
| Total HxCDD | 4.50 | ----- | 0.36 | J | | | |
| 1,2,3,4,6,7,8-HpCDF | 8.20 | ----- | 0.45 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.53 | | Equivalence: 1.7 ng/Kg | | |
| Total HpCDF | 8.20 | ----- | 0.49 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 38.00 | ----- | 0.49 | | | | |
| Total HpCDD | 74.00 | ----- | 0.49 | | | | |
| OCDF | 28.00 | ----- | 0.91 | | | | |
| OCDD | 420.00 | ----- | 0.67 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-4 | | | |
| Lab Sample ID | 256491004 | | | |
| Filename | F110211A_14 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.2 g | Matrix | Solid | |
| % Moisture | 8.9 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/03/2011 | 13:55 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110210B_16 & F110211A_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/12/2011 | 00:56 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.32 | ----- | 0.28 | J | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 3.30 | ----- | 0.28 | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | ND | ----- | 0.47 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 82 |
| Total TCDD | 2.70 | ----- | 0.47 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 88 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.45 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 76 |
| 2,3,4,7,8-PeCDF | 1.10 | ----- | 0.16 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 9.20 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 0.54 | ----- | 0.28 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 75 |
| Total PeCDD | 4.20 | ----- | 0.28 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 58 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 51 |
| 1,2,3,4,7,8-HxCDF | 2.50 | ----- | 0.39 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 59 |
| 1,2,3,6,7,8-HxCDF | 0.78 | ----- | 0.30 | J | OCDD-13C | 4.00 | 42 |
| 2,3,4,6,7,8-HxCDF | 1.20 | ----- | 0.30 | J | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.30 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 26.00 | ----- | 0.32 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 0.60 | ----- | 0.48 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 86 |
| 1,2,3,6,7,8-HxCDD | ----- | 2.00 | 0.46 | I | | | |
| 1,2,3,7,8,9-HxCDD | ----- | 0.94 | 0.44 | I | | | |
| Total HxCDD | 20.00 | ----- | 0.46 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 14.00 | ----- | 0.45 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.70 | | Equivalence: 3.1 ng/Kg | | |
| Total HpCDF | 62.00 | ----- | 0.58 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 91.00 | ----- | 0.76 | | | | |
| Total HpCDD | 190.00 | ----- | 0.76 | | | | |
| OCDF | 52.00 | ----- | 0.95 | | | | |
| OCDD | 1100.00 | ----- | 0.81 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-5 | | | |
| Lab Sample ID | 256491005 | | | |
| Filename | F110211B_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 12.0 g | Matrix | Solid | |
| % Moisture | 13.7 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/03/2011 | 14:10 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/12/2011 | 09:21 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.95 | ----- | 0.36 | J | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 15.00 | ----- | 0.36 | | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 74 |
| 2,3,7,8-TCDD | ND | ----- | 0.20 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 74 |
| Total TCDD | 15.00 | ----- | 0.20 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 85 |
| 1,2,3,7,8-PeCDF | ----- | 0.98 | 0.29 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 68 |
| 2,3,4,7,8-PeCDF | 2.70 | ----- | 0.29 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 23.00 | ----- | 0.29 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | 1.50 | ----- | 0.32 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 63 |
| Total PeCDD | 25.00 | ----- | 0.32 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 47 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 36 R |
| 1,2,3,4,7,8-HxCDF | 4.00 | ----- | 0.23 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 45 |
| 1,2,3,6,7,8-HxCDF | ----- | 1.60 | 0.28 | I | OCDD-13C | 4.00 | 30 R |
| 2,3,4,6,7,8-HxCDF | 2.30 | ----- | 0.22 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.75 | 0.36 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 52.00 | ----- | 0.27 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.20 | ----- | 0.39 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 85 |
| 1,2,3,6,7,8-HxCDD | 5.30 | ----- | 0.57 | | | | |
| 1,2,3,7,8,9-HxCDD | 2.70 | ----- | 0.31 | J | | | |
| Total HxCDD | 49.00 | ----- | 0.42 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 30.00 | ----- | 0.45 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 2.10 | 0.86 | I | Equivalence: 6.0 ng/Kg | | |
| Total HpCDF | 110.00 | ----- | 0.65 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 120.00 | ----- | 1.10 | | | | |
| Total HpCDD | 230.00 | ----- | 1.10 | | | | |
| OCDF | 110.00 | ----- | 0.96 | | | | |
| OCDD | 1200.00 | ----- | 1.70 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
R = Recovery outside target range
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-6 | | | |
| Lab Sample ID | 256491006 | | | |
| Filename | F110211B_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.1 g | Matrix | Solid | |
| % Moisture | 6.9 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/03/2011 | 14:30 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/12/2011 | 10:07 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.34 | | 2,3,7,8-TCDF-13C | 2.00 | 75 |
| Total TCDF | 2.50 | ----- | 0.34 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 79 |
| 2,3,7,8-TCDD | ND | ----- | 0.38 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 79 |
| Total TCDD | 2.50 | ----- | 0.38 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 85 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 79 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.43 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 1.10 | ----- | 0.33 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 9.50 | ----- | 0.38 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDD | ----- | 0.35 | 0.28 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 72 |
| Total PeCDD | 1.70 | ----- | 0.28 | J | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 55 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 52 |
| 1,2,3,4,7,8-HxCDF | 1.70 | ----- | 0.21 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 56 |
| 1,2,3,6,7,8-HxCDF | 0.57 | ----- | 0.24 | J | OCDD-13C | 4.00 | 41 |
| 2,3,4,6,7,8-HxCDF | 1.00 | ----- | 0.23 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.52 | ----- | 0.29 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 14.00 | ----- | 0.24 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.42 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 87 |
| 1,2,3,6,7,8-HxCDD | 2.00 | ----- | 0.38 | J | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | ----- | 0.42 | J | | | |
| Total HxCDD | 14.00 | ----- | 0.41 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 12.00 | ----- | 0.19 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 0.88 | ----- | 0.36 | J | Equivalence: 2.1 ng/Kg | | |
| Total HpCDF | 13.00 | ----- | 0.27 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 47.00 | ----- | 0.61 | | | | |
| Total HpCDD | 94.00 | ----- | 0.61 | | | | |
| OCDF | 44.00 | ----- | 0.80 | | | | |
| OCDD | 470.00 | ----- | 0.90 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-30-7 | | | |
| Lab Sample ID | 256491007 | | | |
| Filename | F110211B_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.1 g | Matrix | Solid | |
| % Moisture | 6.9 | Dilution | NA | |
| Dry Weight Extracted | 10.3 g | Collected | 02/03/2011 | 14:45 |
| ICAL ID | F101206 | Received | 02/07/2011 | 10:30 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Extracted | 02/09/2011 | 16:35 |
| Method Blank ID | BLANK-27836 | Analyzed | 02/12/2011 | 10:53 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.60 | ----- | 0.26 | | 2,3,7,8-TCDF-13C | 2.00 | 73 |
| Total TCDF | 21.00 | ----- | 0.26 | | 2,3,7,8-TCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 81 |
| 2,3,7,8-TCDD | ND | ----- | 0.27 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 82 |
| Total TCDD | 28.00 | ----- | 0.27 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 89 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | ----- | 0.69 | 0.37 | I | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | 1.90 | ----- | 0.33 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 17.00 | ----- | 0.35 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | ----- | 1.70 | 0.32 | I | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 78 |
| Total PeCDD | 28.00 | ----- | 0.32 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 62 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 60 |
| 1,2,3,4,7,8-HxCDF | 2.90 | ----- | 0.24 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 63 |
| 1,2,3,6,7,8-HxCDF | 1.30 | ----- | 0.26 | J | OCDD-13C | 4.00 | 50 |
| 2,3,4,6,7,8-HxCDF | 1.60 | ----- | 0.21 | J | | | |
| 1,2,3,7,8,9-HxCDF | 0.49 | ----- | 0.25 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 16.00 | ----- | 0.24 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.40 | ----- | 0.18 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 83 |
| 1,2,3,6,7,8-HxCDD | ----- | 2.30 | 0.25 | I | | | |
| 1,2,3,7,8,9-HxCDD | 1.80 | ----- | 0.36 | J | | | |
| Total HxCDD | 41.00 | ----- | 0.26 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 14.00 | ----- | 0.33 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 1.10 | ----- | 0.50 | J | Equivalence: 2.9 ng/Kg | | |
| Total HpCDF | 15.00 | ----- | 0.42 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 53.00 | ----- | 0.57 | | | | |
| Total HpCDD | 99.00 | ----- | 0.57 | | | | |
| OCDF | 56.00 | ----- | 0.60 | | | | |
| OCDD | 600.00 | ----- | 0.51 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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Minneapolis, MN 55414

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# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-27836 | Matrix | Solid |
| Filename | F110211B_06 | Dilution | NA |
| Total Amount Extracted | 10.2 g | Extracted | 02/09/2011 16:35 |
| ICAL ID | F101206 | Analyzed | 02/12/2011 07:03 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Injected By | BAL |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.170 | | 2,3,7,8-TCDF-13C | 2.00 | 60 |
| Total TCDF | ND | ----- | 0.170 | | 2,3,7,8-TCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 69 |
| 2,3,7,8-TCDD | ND | ----- | 0.230 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 71 |
| Total TCDD | ND | ----- | 0.230 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.170 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.130 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| Total PeCDF | ND | ----- | 0.150 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.140 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | ND | ----- | 0.140 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 65 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 61 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.100 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 68 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.099 | | OCDD-13C | 4.00 | 56 |
| 2,3,4,6,7,8-HxCDF | ----- | 0.11 | 0.100 | I | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.140 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.110 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.150 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 69 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.140 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.140 | | | | |
| Total HxCDD | ND | ----- | 0.140 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | ----- | 0.110 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.170 | | Equivalence: 0.26 ng/Kg | | |
| Total HpCDF | ND | ----- | 0.140 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ND | ----- | 0.170 | | | | |
| Total HpCDD | ND | ----- | 0.170 | | | | |
| OCDF | ND | ----- | 0.580 | | | | |
| OCDD | 0.81 | ----- | 0.230 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-27837 | | |
| Filename | F110211B_01 | Matrix | Solid |
| Total Amount Extracted | 10.3 g | Dilution | NA |
| ICAL ID | F101206 | Extracted | 02/09/2011 16:35 |
| CCal Filename(s) | F110211A_16 & F110211B_16 | Analyzed | 02/12/2011 03:14 |
| Method Blank ID | BLANK-27836 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.23 | 113 | 2,3,7,8-TCDF-13C | 2.0 | 51 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 57 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 61 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 98 | 2,3,4,7,8-PeCDF-13C | 2.0 | 61 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 67 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 64 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 63 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.1 | 111 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 67 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 71 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 71 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 67 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 61 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 67 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.1 | 108 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 70 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 109 | OCDD-13C | 4.0 | 63 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.1 | 111 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 112 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 1.1 | 107 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 63 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.0 | 103 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.1 | 108 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 102 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.98 | 98 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.2 | 112 | | | |
| OCDD | 2.0 | 2.2 | 109 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

## REPORT OF LABORATORY ANALYSIS

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**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

February 18, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256499

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 05, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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Seattle, WA 98108
(206)767-5060

## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 256499 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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Seattle, WA 98108
(206)767-5060

# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256499001** | **SPL-30-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499002** | **SPL-30-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499003** | **SPL-30-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499004** | **SPL-30-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499005** | **SPL-30-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499006** | **SPL-30-6** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499007** | **SPL-30-7** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8270 by SIM | DMT | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256499008** | **TB-020311** | NWTPH-Gx | CC | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-1** **Lab ID: 256499001** Collected: 02/03/11 13:10 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **25.6** | mg/kg | 21.4 | 1 | 02/09/11 14:45 | 02/10/11 16:20 | | |
| Motor Oil Range SG | **92.0** | mg/kg | 85.8 | 1 | 02/09/11 14:45 | 02/10/11 16:20 | 64742-65-0 | |
| n-Octacosane (S) SG | 113 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 16:20 | 630-02-4 | |
| o-Terphenyl (S) SG | 119 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 16:20 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 4.9 | 1 | 02/09/11 17:00 | 02/10/11 04:34 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 04:34 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 91 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 04:34 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 83-32-9 | |
| Acenaphthylene | **8.1** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 208-96-8 | |
| Anthracene | **12.9** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 120-12-7 | |
| Benzo(a)anthracene | **32.9** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 56-55-3 | |
| Benzo(a)pyrene | **31.4** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 50-32-8 | |
| Benzo(b)fluoranthene | **29.6** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 205-99-2 | |
| Benzo(g,h,i)perylene | **15.1** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 191-24-2 | |
| Benzo(k)fluoranthene | **12.5** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 207-08-9 | |
| Chrysene | **38.4** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 53-70-3 | |
| Fluoranthene | **52.9** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 206-44-0 | |
| Fluorene | **10.7** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **10.6** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 193-39-5 | |
| 1-Methylnaphthalene | **10.6** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 90-12-0 | |
| 2-Methylnaphthalene | **18.0** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 91-57-6 | |
| Naphthalene | **16.4** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 91-20-3 | |
| Phenanthrene | **48.9** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 85-01-8 | |
| Pyrene | **81.3** | ug/kg | 7.5 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 64 | % | 31-131 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 321-60-8 | |
| Terphenyl-d14 (S) | 70 | % | 30-133 | 1 | 02/07/11 17:40 | 02/12/11 03:14 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.5 | 1 | | 02/08/11 12:04 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.5 | 1 | | 02/08/11 12:04 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.5 | 1 | | 02/08/11 12:04 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.5 | 1 | | 02/08/11 12:04 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/08/11 12:04 | 1868-53-7 | |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/08/11 12:04 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/08/11 12:04 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/08/11 12:04 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **11.4** | % | 0.10 | 1 | | 02/12/11 15:01 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-2** **Lab ID: 256499002** Collected: 02/03/11 13:20 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **51.2** | mg/kg | 21.1 | 1 | 02/09/11 14:45 | 02/10/11 16:37 | | |
| Motor Oil Range SG | **415** | mg/kg | 84.5 | 1 | 02/09/11 14:45 | 02/10/11 16:37 | 64742-65-0 | |
| n-Octacosane (S) SG | 118 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 16:37 | 630-02-4 | |
| o-Terphenyl (S) SG | 114 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 16:37 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/09/11 17:00 | 02/10/11 04:57 | | |
| a,a,a-Trifluorotoluene (S) | 100 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 04:57 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 88 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 04:57 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 208-96-8 | |
| Anthracene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 120-12-7 | |
| Benzo(a)anthracene | **12.3** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 56-55-3 | |
| Benzo(a)pyrene | **14.6** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 50-32-8 | |
| Benzo(b)fluoranthene | **16.5** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 205-99-2 | |
| Benzo(g,h,i)perylene | **15.7** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 207-08-9 | |
| Chrysene | **23.1** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 53-70-3 | |
| Fluoranthene | **19.4** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 90-12-0 | |
| 2-Methylnaphthalene | **14.1** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 91-20-3 | |
| Phenanthrene | **22.3** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 85-01-8 | |
| Pyrene | **31.9** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 63 | % | 31-131 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 321-60-8 | |
| Terphenyl-d14 (S) | 69 | % | 30-133 | 1 | 02/07/11 17:40 | 02/12/11 03:32 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.6 | 1 | | 02/08/11 12:23 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.6 | 1 | | 02/08/11 12:23 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.6 | 1 | | 02/08/11 12:23 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.9 | 1 | | 02/08/11 12:23 | 1330-20-7 | |
| Dibromofluoromethane (S) | 91 | % | 80-136 | 1 | | 02/08/11 12:23 | 1868-53-7 | |
| Toluene-d8 (S) | 105 | % | 80-120 | 1 | | 02/08/11 12:23 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 72-122 | 1 | | 02/08/11 12:23 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 02/08/11 12:23 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.6** | % | 0.10 | 1 | | 02/12/11 15:04 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-3** **Lab ID: 256499003** Collected: 02/03/11 13:40 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **51.1** | mg/kg | 20.7 | 1 | 02/09/11 14:45 | 02/11/11 21:11 | | |
| Motor Oil Range SG | **213** | mg/kg | 82.8 | 1 | 02/09/11 14:45 | 02/11/11 21:11 | 64742-65-0 | |
| n-Octacosane (S) SG | 143 | % | 50-150 | 1 | 02/09/11 14:45 | 02/11/11 21:11 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 14:45 | 02/11/11 21:11 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/09/11 17:00 | 02/10/11 05:21 | | |
| a,a,a-Trifluorotoluene (S) | 109 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 05:21 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 97 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 05:21 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 208-96-8 | |
| Anthracene | **9.2** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 120-12-7 | |
| Benzo(a)anthracene | **19.0** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 56-55-3 | |
| Benzo(a)pyrene | **19.2** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 50-32-8 | |
| Benzo(b)fluoranthene | **20.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 205-99-2 | |
| Benzo(g,h,i)perylene | **14.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 191-24-2 | |
| Benzo(k)fluoranthene | **8.2** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 207-08-9 | |
| Chrysene | **24.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 53-70-3 | |
| Fluoranthene | **36.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **8.2** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 90-12-0 | |
| 2-Methylnaphthalene | **10.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 91-20-3 | |
| Phenanthrene | **37.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 85-01-8 | |
| Pyrene | **45.8** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 64 | % | 31-131 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 321-60-8 | |
| Terphenyl-d14 (S) | 71 | % | 30-133 | 1 | 02/07/11 17:40 | 02/12/11 03:51 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/08/11 12:43 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/08/11 12:43 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/08/11 12:43 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.4 | 1 | | 02/08/11 12:43 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/08/11 12:43 | 1868-53-7 | |
| Toluene-d8 (S) | 108 | % | 80-120 | 1 | | 02/08/11 12:43 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 101 | % | 72-122 | 1 | | 02/08/11 12:43 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 02/08/11 12:43 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.8** | % | 0.10 | 1 | | 02/12/11 15:05 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-4** **Lab ID: 256499004** Collected: 02/03/11 13:55 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **35.9** | mg/kg | 20.9 | 1 | 02/09/11 14:45 | 02/10/11 18:01 | | |
| Motor Oil Range SG | **293** | mg/kg | 83.7 | 1 | 02/09/11 14:45 | 02/10/11 18:01 | 64742-65-0 | |
| n-Octacosane (S) SG | 95 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 18:01 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 18:01 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.1 | 1 | 02/09/11 17:00 | 02/10/11 05:45 | | |
| a,a,a-Trifluorotoluene (S) | 98 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 05:45 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 86 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 05:45 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 83-32-9 | |
| Acenaphthylene | **13.0** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 208-96-8 | |
| Anthracene | **15.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 120-12-7 | |
| Benzo(a)anthracene | **37.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 56-55-3 | |
| Benzo(a)pyrene | **45.0** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 50-32-8 | |
| Benzo(b)fluoranthene | **38.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 205-99-2 | |
| Benzo(g,h,i)perylene | **27.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 191-24-2 | |
| Benzo(k)fluoranthene | **25.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 207-08-9 | |
| Chrysene | **53.6** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 53-70-3 | |
| Fluoranthene | **56.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **18.4** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 90-12-0 | |
| 2-Methylnaphthalene | **11.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 91-57-6 | |
| Naphthalene | **8.2** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 91-20-3 | |
| Phenanthrene | **27.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 85-01-8 | |
| Pyrene | **82.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 321-60-8 | |
| Terphenyl-d14 (S) | 65 | % | 30-133 | 1 | 02/07/11 17:40 | 02/12/11 04:09 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.7 | 1 | | 02/08/11 13:02 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.7 | 1 | | 02/08/11 13:02 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.7 | 1 | | 02/08/11 13:02 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.1 | 1 | | 02/08/11 13:02 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 02/08/11 13:02 | 1868-53-7 | |
| Toluene-d8 (S) | 107 | % | 80-120 | 1 | | 02/08/11 13:02 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 106 | % | 72-122 | 1 | | 02/08/11 13:02 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 02/08/11 13:02 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.8** | % | 0.10 | 1 | | 02/12/11 15:06 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-5** **Lab ID: 256499005** Collected: 02/03/11 14:10 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **47.5** | mg/kg | 20.2 | 1 | 02/09/11 14:45 | 02/10/11 18:17 | | |
| Motor Oil Range SG | **470** | mg/kg | 81.0 | 1 | 02/09/11 14:45 | 02/10/11 18:17 | 64742-65-0 | |
| n-Octacosane (S) SG | 117 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 18:17 | 630-02-4 | |
| o-Terphenyl (S) SG | 114 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 18:17 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/09/11 17:00 | 02/10/11 06:09 | | |
| a,a,a-Trifluorotoluene (S) | 99 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 06:09 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 87 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 06:09 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 208-96-8 | |
| Anthracene | **8.4** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 120-12-7 | |
| Benzo(a)anthracene | **18.8** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 56-55-3 | |
| Benzo(a)pyrene | **20.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 50-32-8 | |
| Benzo(b)fluoranthene | **20.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 205-99-2 | |
| Benzo(g,h,i)perylene | **19.7** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 191-24-2 | |
| Benzo(k)fluoranthene | **12.7** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 207-08-9 | |
| Chrysene | **28.4** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 53-70-3 | |
| Fluoranthene | **31.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **8.6** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 90-12-0 | |
| 2-Methylnaphthalene | **11.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 91-57-6 | |
| Naphthalene | **10** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 91-20-3 | |
| Phenanthrene | **28.1** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 85-01-8 | |
| Pyrene | **41.3** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 58 | % | 31-131 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 321-60-8 | |
| Terphenyl-d14 (S) | 62 | % | 30-133 | 1 | 02/07/11 17:40 | 02/12/11 04:27 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.8 | 1 | | 02/08/11 13:22 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.8 | 1 | | 02/08/11 13:22 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.8 | 1 | | 02/08/11 13:22 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.5 | 1 | | 02/08/11 13:22 | 1330-20-7 | |
| Dibromofluoromethane (S) | 92 | % | 80-136 | 1 | | 02/08/11 13:22 | 1868-53-7 | |
| Toluene-d8 (S) | 109 | % | 80-120 | 1 | | 02/08/11 13:22 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 72-122 | 1 | | 02/08/11 13:22 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/08/11 13:22 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **8.0** | % | 0.10 | 1 | | 02/12/11 15:07 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-6** **Lab ID: 256499006** Collected: 02/03/11 14:30 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **21.6** | mg/kg | 20.7 | 1 | 02/09/11 14:45 | 02/10/11 18:34 | | |
| Motor Oil Range SG | **174** | mg/kg | 83.0 | 1 | 02/09/11 14:45 | 02/10/11 18:34 | 64742-65-0 | |
| n-Octacosane (S) SG | 113 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 18:34 | 630-02-4 | |
| o-Terphenyl (S) SG | 111 | % | 50-150 | 1 | 02/09/11 14:45 | 02/10/11 18:34 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.2 | 1 | 02/09/11 17:00 | 02/10/11 06:32 | | |
| a,a,a-Trifluorotoluene (S) | 102 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 06:32 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 90 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 06:32 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 208-96-8 | |
| Anthracene | **9.6** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 120-12-7 | |
| Benzo(a)anthracene | **22.6** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 56-55-3 | |
| Benzo(a)pyrene | **23.2** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 50-32-8 | |
| Benzo(b)fluoranthene | **24.0** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 205-99-2 | |
| Benzo(g,h,i)perylene | **12.5** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 191-24-2 | |
| Benzo(k)fluoranthene | **11.7** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 207-08-9 | |
| Chrysene | **27.7** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 53-70-3 | |
| Fluoranthene | **48.0** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 206-44-0 | |
| Fluorene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **8.1** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 91-20-3 | |
| Phenanthrene | **34.4** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 85-01-8 | |
| Pyrene | **55.4** | ug/kg | 7.1 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 59 | % | 31-131 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 321-60-8 | |
| Terphenyl-d14 (S) | 67 | % | 30-133 | 1 | 02/07/11 17:40 | 02/12/11 04:46 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.0 | 1 | | 02/08/11 13:41 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.0 | 1 | | 02/08/11 13:41 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.0 | 1 | | 02/08/11 13:41 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 5.9 | 1 | | 02/08/11 13:41 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 02/08/11 13:41 | 1868-53-7 | 1n |
| Toluene-d8 (S) | 104 | % | 80-120 | 1 | | 02/08/11 13:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 100 | % | 72-122 | 1 | | 02/08/11 13:41 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/08/11 13:41 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.0** | % | 0.10 | 1 | | 02/12/11 15:08 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: SPL-30-7** **Lab ID: 256499007** Collected: 02/03/11 14:45 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 20.6 | 1 | 02/09/11 14:45 | 02/09/11 18:48 | | |
| Motor Oil Range SG | ND | mg/kg | 82.2 | 1 | 02/09/11 14:45 | 02/09/11 18:48 | 64742-65-0 | |
| n-Octacosane (S) SG | 108 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 18:48 | 630-02-4 | |
| o-Terphenyl (S) SG | 110 | % | 50-150 | 1 | 02/09/11 14:45 | 02/09/11 18:48 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.1 | 1 | 02/09/11 17:00 | 02/10/11 06:56 | | |
| a,a,a-Trifluorotoluene (S) | 97 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 06:56 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 87 | % | 50-150 | 1 | 02/09/11 17:00 | 02/10/11 06:56 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 83-32-9 | |
| Acenaphthylene | **20.0** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 208-96-8 | |
| Anthracene | **34.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 120-12-7 | |
| Benzo(a)anthracene | **99.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 56-55-3 | |
| Benzo(a)pyrene | **107** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 50-32-8 | |
| Benzo(b)fluoranthene | **93.8** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 205-99-2 | |
| Benzo(g,h,i)perylene | **56.2** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 191-24-2 | |
| Benzo(k)fluoranthene | **45.7** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 207-08-9 | |
| Chrysene | **96.0** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 218-01-9 | |
| Dibenz(a,h)anthracene | **14.5** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 53-70-3 | |
| Fluoranthene | **195** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 206-44-0 | |
| Fluorene | **13.9** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **45.6** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 90-12-0 | |
| 2-Methylnaphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 91-57-6 | |
| Naphthalene | ND | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 91-20-3 | |
| Phenanthrene | **137** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 85-01-8 | |
| Pyrene | **244** | ug/kg | 7.2 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 70 | % | 31-131 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 321-60-8 | |
| Terphenyl-d14 (S) | 83 | % | 30-133 | 1 | 02/07/11 17:40 | 02/10/11 21:37 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.5 | 1 | | 02/08/11 14:00 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.5 | 1 | | 02/08/11 14:00 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.5 | 1 | | 02/08/11 14:00 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 7.5 | 1 | | 02/08/11 14:00 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/08/11 14:00 | 1868-53-7 | |
| Toluene-d8 (S) | 103 | % | 80-120 | 1 | | 02/08/11 14:00 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/08/11 14:00 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 80-143 | 1 | | 02/08/11 14:00 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **7.6** | % | 0.10 | 1 | | 02/12/11 15:09 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

**Sample: TB-020311** **Lab ID: 256499008** Collected: 02/03/11 00:00 Received: 02/05/11 11:38 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/09/11 17:00 | 02/09/11 23:25 | | |
| a,a,a-Trifluorotoluene (S) | 96 | % | 50-150 | 1 | 02/09/11 17:00 | 02/09/11 23:25 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 87 | % | 50-150 | 1 | 02/09/11 17:00 | 02/09/11 23:25 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/08/11 10:26 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/08/11 10:26 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/08/11 10:26 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/08/11 10:26 | 1330-20-7 | |
| Dibromofluoromethane (S) | 99 | % | 80-136 | 1 | | 02/08/11 10:26 | 1868-53-7 | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 02/08/11 10:26 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/08/11 10:26 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 105 | % | 80-143 | 1 | | 02/08/11 10:26 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

QC Batch: OEXT/3272 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007

METHOD BLANK: 57286 Matrix: Solid
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 02/10/11 15:13 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 02/10/11 15:13 | |
| n-Octacosane (S) SG | % | 120 | 50-150 | 02/10/11 15:13 | |
| o-Terphenyl (S) SG | % | 115 | 50-150 | 02/10/11 15:13 | |

LABORATORY CONTROL SAMPLE: 57287

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 458 | 92 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 510 | 102 | 50-150 | |
| n-Octacosane (S) SG | % | | | 113 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 116 | 50-150 | |

SAMPLE DUPLICATE: 57288

| Parameter | Units | 256498002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 28.7 | 23.9 | 18 | |
| Motor Oil Range SG | mg/kg | 131 | 86.4 | 41 | |
| n-Octacosane (S) SG | % | 112 | 116 | .4 | |
| o-Terphenyl (S) SG | % | 112 | 112 | 3 | |

SAMPLE DUPLICATE: 57289

| Parameter | Units | 256499003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 51.1 | 33.0 | 43 | |
| Motor Oil Range SG | mg/kg | 213 | 172 | 21 | |
| n-Octacosane (S) SG | % | 143 | 108 | 24 | |
| o-Terphenyl (S) SG | % | 95 | 96 | 4 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

QC Batch: GCV/2150 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007, 256499008

METHOD BLANK: 57717 Matrix: Solid
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007, 256499008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/09/11 22:37 | |
| 4-Bromofluorobenzene (S) | % | 90 | 50-150 | 02/09/11 22:37 | |
| a,a,a-Trifluorotoluene (S) | % | 102 | 50-150 | 02/09/11 22:37 | |

LABORATORY CONTROL SAMPLE: 57718

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 11.0 | 88 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 85 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 90 | 50-150 | |

SAMPLE DUPLICATE: 58143

| Parameter | Units | 256498001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .95J | | |
| 4-Bromofluorobenzene (S) | % | 88 | 101 | 14 | |
| a,a,a-Trifluorotoluene (S) | % | 96 | 110 | 14 | |

SAMPLE DUPLICATE: 58144

| Parameter | Units | 256498006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .67J | | |
| 4-Bromofluorobenzene (S) | % | 86 | 86 | .7 | |
| a,a,a-Trifluorotoluene (S) | % | 98 | 97 | .8 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

QC Batch: OEXT/3270 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007

METHOD BLANK: 57279 Matrix: Solid
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Acenaphthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Anthracene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Chrysene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Fluoranthene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Fluorene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Naphthalene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Phenanthrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| Pyrene | ug/kg | ND | 6.7 | 02/10/11 20:05 | |
| 2-Fluorobiphenyl (S) | % | 67 | 31-131 | 02/10/11 20:05 | |
| Terphenyl-d14 (S) | % | 83 | 30-133 | 02/10/11 20:05 | |

LABORATORY CONTROL SAMPLE: 57280

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 97.3 | 73 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 98.6 | 74 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 92.3 | 69 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 92.6 | 69 | 31-134 | |
| Anthracene | ug/kg | 133 | 94.4 | 71 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 105 | 79 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 109 | 82 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 99.0 | 74 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 96.7 | 73 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 101 | 75 | 45-147 | |
| Chrysene | ug/kg | 133 | 95.6 | 72 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 97.5 | 73 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 101 | 75 | 44-143 | |
| Fluorene | ug/kg | 133 | 98.4 | 74 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 97.6 | 73 | 47-140 | |
| Naphthalene | ug/kg | 133 | 86.0 | 64 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 97.1 | 73 | 42-131 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

LABORATORY CONTROL SAMPLE: 57280

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 103 | 77 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 69 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 83 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 57281 57282

| Parameter | Units | 256498001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 144 | 141 | 111 | 110 | 74 | 74 | 31-123 | 1 | |
| 2-Methylnaphthalene | ug/kg | 10.6 | 144 | 141 | 118 | 119 | 75 | 76 | 15-146 | .3 | |
| Acenaphthene | ug/kg | ND | 144 | 141 | 100 | 99.5 | 69 | 69 | 19-141 | .5 | |
| Acenaphthylene | ug/kg | ND | 144 | 141 | 101 | 102 | 69 | 70 | 30-142 | .5 | |
| Anthracene | ug/kg | ND | 144 | 141 | 103 | 103 | 70 | 71 | 38-137 | .3 | |
| Benzo(a)anthracene | ug/kg | ND | 144 | 141 | 112 | 116 | 73 | 77 | 37-143 | 3 | |
| Benzo(a)pyrene | ug/kg | ND | 144 | 141 | 110 | 115 | 72 | 76 | 33-147 | 4 | |
| Benzo(b)fluoranthene | ug/kg | 10.7 | 144 | 141 | 111 | 105 | 70 | 66 | 25-156 | 6 | |
| Benzo(g,h,i)perylene | ug/kg | 8.3 | 144 | 141 | 96.1 | 97.3 | 61 | 63 | 26-142 | 1 | |
| Benzo(k)fluoranthene | ug/kg | ND | 144 | 141 | 93.6 | 111 | 61 | 75 | 35-142 | 17 | |
| Chrysene | ug/kg | 10.5 | 144 | 141 | 103 | 106 | 65 | 67 | 23-150 | 2 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 144 | 141 | 92.5 | 93.9 | 63 | 65 | 41-140 | 1 | |
| Fluoranthene | ug/kg | 14.9 | 144 | 141 | 111 | 118 | 67 | 73 | 25-155 | 6 | |
| Fluorene | ug/kg | ND | 144 | 141 | 107 | 107 | 73 | 74 | 33-152 | .5 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 144 | 141 | 94.2 | 96.4 | 62 | 65 | 36-139 | 2 | |
| Naphthalene | ug/kg | 10.1 | 144 | 141 | 104 | 105 | 65 | 67 | 25-121 | .9 | |
| Phenanthrene | ug/kg | 12.1 | 144 | 141 | 109 | 115 | 67 | 73 | 29-141 | 5 | |
| Pyrene | ug/kg | 17.3 | 144 | 141 | 124 | 131 | 74 | 80 | 36-145 | 5 | |
| 2-Fluorobiphenyl (S) | % | | | | | | 69 | 69 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 80 | 81 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

QC Batch: MSV/3818 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007, 256499008

METHOD BLANK: 57451 Matrix: Solid
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007, 256499008

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/08/11 09:13 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/08/11 09:13 | |
| Toluene | ug/kg | ND | 3.0 | 02/08/11 09:13 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/08/11 09:13 | |
| 1,2-Dichloroethane-d4 (S) | % | 102 | 80-143 | 02/08/11 09:13 | |
| 4-Bromofluorobenzene (S) | % | 99 | 72-122 | 02/08/11 09:13 | |
| Dibromofluoromethane (S) | % | 94 | 80-136 | 02/08/11 09:13 | |
| Toluene-d8 (S) | % | 103 | 80-120 | 02/08/11 09:13 | |

LABORATORY CONTROL SAMPLE & LCSD: 57452 57453

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 48.8 | 51.4 | 98 | 103 | 75-133 | 5 | 30 | |
| Ethylbenzene | ug/kg | 50 | 48.7 | 50.1 | 97 | 100 | 68-131 | 3 | 30 | |
| Toluene | ug/kg | 50 | 52.7 | 54.4 | 105 | 109 | 73-124 | 3 | 30 | |
| Xylene (Total) | ug/kg | 150 | 153 | 158 | 102 | 105 | 68-130 | 3 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 111 | 103 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 105 | 102 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 101 | 98 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 107 | 105 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

QC Batch: PMST/1517 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256499001, 256499002, 256499003, 256499004, 256499005, 256499006, 256499007

SAMPLE DUPLICATE: 58349

| Parameter | Units | 256499001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 11.4 | 12.2 | 6 | |

SAMPLE DUPLICATE: 58350

| Parameter | Units | 256520010 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 12.7 | 11.8 | 7 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

PASI-S Pace Analytical Services - Seattle

## BATCH QUALIFIERS

Batch: MSV/3818

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## ANALYTE QUALIFIERS

1n Sample weight exceeded method recommendations.



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256499

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256499001** | **SPL-30-1** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499002** | **SPL-30-2** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499003** | **SPL-30-3** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499004** | **SPL-30-4** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499005** | **SPL-30-5** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499006** | **SPL-30-6** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499007** | **SPL-30-7** | EPA 3546 | OEXT/3272 | NWTPH-Dx | GCSV/2247 |
| **256499001** | **SPL-30-1** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499002** | **SPL-30-2** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499003** | **SPL-30-3** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499004** | **SPL-30-4** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499005** | **SPL-30-5** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499006** | **SPL-30-6** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499007** | **SPL-30-7** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499008** | **TB-020311** | NWTPH-Gx | GCV/2150 | NWTPH-Gx | GCV/2168 |
| **256499001** | **SPL-30-1** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499002** | **SPL-30-2** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499003** | **SPL-30-3** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499004** | **SPL-30-4** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499005** | **SPL-30-5** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499006** | **SPL-30-6** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499007** | **SPL-30-7** | EPA 3546 | OEXT/3270 | EPA 8270 by SIM | MSSV/1518 |
| **256499001** | **SPL-30-1** | EPA 8260 | MSV/3818 | | |
| **256499002** | **SPL-30-2** | EPA 8260 | MSV/3818 | | |
| **256499003** | **SPL-30-3** | EPA 8260 | MSV/3818 | | |
| **256499004** | **SPL-30-4** | EPA 8260 | MSV/3818 | | |
| **256499005** | **SPL-30-5** | EPA 8260 | MSV/3818 | | |
| **256499006** | **SPL-30-6** | EPA 8260 | MSV/3818 | | |
| **256499007** | **SPL-30-7** | EPA 8260 | MSV/3818 | | |
| **256499008** | **TB-020311** | EPA 8260 | MSV/3818 | | |
| **256499001** | **SPL-30-1** | ASTM D2974-87 | PMST/1517 | | |
| **256499002** | **SPL-30-2** | ASTM D2974-87 | PMST/1517 | | |
| **256499003** | **SPL-30-3** | ASTM D2974-87 | PMST/1517 | | |
| **256499004** | **SPL-30-4** | ASTM D2974-87 | PMST/1517 | | |
| **256499005** | **SPL-30-5** | ASTM D2974-87 | PMST/1517 | | |
| **256499006** | **SPL-30-6** | ASTM D2974-87 | PMST/1517 | | |
| **256499007** | **SPL-30-7** | ASTM D2974-87 | PMST/1517 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

1438346

**Section A** Required Client Information:

Company: Brown + Caldwell
Address: 724 Columbia St NW Ste 420, Olympia WA 98501
Email To: jturk@broncald.com
Phone: 360-534-1206 Fax: 360-943-7513
Requested Due Date/TAT: 10-day

**Section B** Required Project Information:

Report To: Jon Turk
Copy To: Josh Johnson
Purchase Order No.:
Project Name: East Bay Redevelopment
Project Number: 138130

**Section C** Invoice Information:

Attention: Jon Turk
Company Name: See A
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

Requested Analysis Filtered (Y/N)

256499

**Section D** Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

| ITEM # | SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED COMPOSITE START DATE | COLLECTED COMPOSITE START TIME | COLLECTED COMPOSITE END/GRAB DATE | COLLECTED COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other water | Analysis Test (Y/N) | As, Pb, Ni, Cu, Cd | TPH-D, HO | Dioxins/Furans | cPAH, Naphthalenes | BTEX | TPH-G | | | | | | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Grab | | | | | | | | | | | | | | | SG | | | | | SG | | | | | | | |
| 1 | SPL-30-1 | SL | G | 2/3/11 | 1310 | | | | 7 | X | | | | | | X | X | | | | | | | | | | | | | | |
| 2 | SPL-30-2 | | | | 1320 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | SPL-30-3 | | | | 1340 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | SPL-30-4 | | | | 1355 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | SPL-30-5 | | | | 1410 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | SPL-30-6 | | | | 1430 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | SPL-30-7 | | | | 1445 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | TB-020311 | WT | | 2/3/11 | | | | | 3 | X | | | | | | X | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank Included | Jon Turk | 2/3/11 | 17:45 | Custody Seal | 2/3/11 | 1745 | | | | |
| | Fedex | 2/5/11 | 11:38 | Jyothi Sivey / PACE | 2/5/11 | 1138 | 1.4 | Y | Y | Y |
| | | | | | | | Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jon Turk

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/3/11

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

# Sample Container Count

CLIENT: Brown + Caldwell

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COC PAGE 1 of 1
COC ID# 1438346

256499

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2. | | 1 | 2 | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | 1 | 2 | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown + Caldwell Project # 256499

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

**Tracking #:** 8738821 1 4936 #00043

**Custody Seal on Cooler/Box Present:** ☑ Yes ☐ No Seals intact: ☑ Yes ☐ No

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank (Yes) ____ No ____

**Thermometer Used** 132013 or (101731962 or 226099) **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 1.4 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: NJS 2/5/11

Temp should be above freezing ≤ 6°C

| | | Comments: | |
|---|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. | |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. | |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. | |
| Sampler Name & Signature on COC: | ☑Yes ☐No ☐N/A | 4. | |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. | |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☑No ☐N/A | 6. | |
| **Rush Turn Around Time Requested:** | ☐Yes ☑No ☐N/A | 7. | |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. | |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. | |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. | |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. | |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. | |
| -Includes date/time/ID/Analysis Matrix: Soil | | | |
| All containers needing preservation have been checked. | ☐Yes ☐No ☑N/A | 13. | |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | | |
| Exceptions: VOA, coliform, TOC, O&G | | Initial when completed ____ | Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. | |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. | |
| Trip Blanks Present: | ☑Yes ☐No ☐N/A | 16. | |
| Trip Blank Custody Seals Present | ☐Yes ☑No ☐N/A | | |
| Pace Trip Blank Lot # (if purchased): ____ | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** JENNI GROSS **Date:** 2/7/11

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

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

March 07, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256690

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 18, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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## CERTIFICATIONS

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

**Minnesota Certification IDs**
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Idaho Certification #: MN00064
Illinois Certification #: 200011
Iowa Certification #: 368
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Mexico Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: D9921
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Washington Certification #: C754
Wisconsin Certification #: 999407970
A2LA cert#



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256690001** | **SPL-31-1** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690002** | **SPL-31-2** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690003** | **SPL-31-3** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690004** | **SPL-31-4** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690005** | **SPL-31-5** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690006** | **SPL-31-6** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690007** | **SPL-32-1** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690008** | **SPL-32-2** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |
| **256690009** | **SPL-32-3** | EPA 6020 | RJS | 5 | PASI-M |
| | | % Moisture | JDL | 1 | PASI-M |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

**Sample: SPL-31-1** **Lab ID: 256690001** Collected: 02/18/11 10:45 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **10.4** | mg/kg | 1.6 | 20 | 02/23/11 09:20 | 02/24/11 06:04 | 7440-38-2 | M6 |
| Cadmium | ND | mg/kg | 0.26 | 20 | 02/23/11 09:20 | 02/24/11 06:04 | 7440-43-9 | |
| Copper | **29.1** | mg/kg | 1.6 | 20 | 02/23/11 09:20 | 02/24/11 06:04 | 7440-50-8 | M6 |
| Lead | **9.2** | mg/kg | 1.6 | 20 | 02/23/11 09:20 | 02/24/11 06:04 | 7439-92-1 | |
| Nickel | **29.5** | mg/kg | 1.6 | 20 | 02/23/11 09:20 | 02/24/11 06:04 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **70.0** | % | 0.10 | 1 | | 02/24/11 00:00 | | |

**Sample: SPL-31-2** **Lab ID: 256690002** Collected: 02/18/11 11:00 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.1** | mg/kg | 0.53 | 20 | 02/23/11 09:20 | 02/24/11 06:40 | 7440-38-2 | |
| Cadmium | **0.11** | mg/kg | 0.085 | 20 | 02/23/11 09:20 | 02/24/11 06:40 | 7440-43-9 | |
| Copper | **23.8** | mg/kg | 0.53 | 20 | 02/23/11 09:20 | 02/24/11 06:40 | 7440-50-8 | |
| Lead | **3.9** | mg/kg | 0.53 | 20 | 02/23/11 09:20 | 02/24/11 06:40 | 7439-92-1 | |
| Nickel | **26.5** | mg/kg | 0.53 | 20 | 02/23/11 09:20 | 02/24/11 06:40 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **21.2** | % | 0.10 | 1 | | 02/24/11 00:00 | | |

**Sample: SPL-31-3** **Lab ID: 256690003** Collected: 02/18/11 11:10 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **2.4** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 06:45 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.081 | 20 | 02/23/11 09:20 | 02/24/11 06:45 | 7440-43-9 | |
| Copper | **10.6** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 06:45 | 7440-50-8 | |
| Lead | **4.8** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 06:45 | 7439-92-1 | |
| Nickel | **16.3** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 06:45 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **11.2** | % | 0.10 | 1 | | 02/24/11 00:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

**Sample: SPL-31-4** **Lab ID: 256690004** Collected: 02/18/11 11:20 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **5.7** | mg/kg | 0.43 | 20 | 02/23/11 09:20 | 02/24/11 06:49 | 7440-38-2 | |
| Cadmium | **0.16** | mg/kg | 0.068 | 20 | 02/23/11 09:20 | 02/24/11 06:49 | 7440-43-9 | |
| Copper | **23.3** | mg/kg | 0.43 | 20 | 02/23/11 09:20 | 02/24/11 06:49 | 7440-50-8 | |
| Lead | **9.4** | mg/kg | 0.43 | 20 | 02/23/11 09:20 | 02/24/11 06:49 | 7439-92-1 | |
| Nickel | **36.4** | mg/kg | 0.43 | 20 | 02/23/11 09:20 | 02/24/11 06:49 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **10.5** | % | 0.10 | 1 | | 02/24/11 00:00 | | |

**Sample: SPL-31-5** **Lab ID: 256690005** Collected: 02/18/11 11:40 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **1.6** | mg/kg | 0.72 | 20 | 02/23/11 09:20 | 02/24/11 06:54 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.11 | 20 | 02/23/11 09:20 | 02/24/11 06:54 | 7440-43-9 | |
| Copper | **5.5** | mg/kg | 0.72 | 20 | 02/23/11 09:20 | 02/24/11 06:54 | 7440-50-8 | |
| Lead | **2.1** | mg/kg | 1.4 | 40 | 02/23/11 09:20 | 02/24/11 13:37 | 7439-92-1 | |
| Nickel | **3.6** | mg/kg | 0.72 | 20 | 02/23/11 09:20 | 02/24/11 06:54 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **40.4** | % | 0.10 | 1 | | 02/24/11 00:00 | | |

**Sample: SPL-31-6** **Lab ID: 256690006** Collected: 02/18/11 11:50 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.5** | mg/kg | 1.7 | 20 | 02/23/11 09:20 | 02/24/11 06:58 | 7440-38-2 | |
| Cadmium | ND | mg/kg | 0.28 | 20 | 02/23/11 09:20 | 02/24/11 06:58 | 7440-43-9 | |
| Copper | **12.6** | mg/kg | 1.7 | 20 | 02/23/11 09:20 | 02/24/11 06:58 | 7440-50-8 | |
| Lead | **4.9** | mg/kg | 3.5 | 40 | 02/23/11 09:20 | 02/24/11 13:42 | 7439-92-1 | |
| Nickel | **9.1** | mg/kg | 1.7 | 20 | 02/23/11 09:20 | 02/24/11 06:58 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **78.0** | % | 0.10 | 1 | | 02/24/11 00:00 | | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

**Sample: SPL-32-1** **Lab ID: 256690007** Collected: 02/18/11 12:00 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.9** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:03 | 7440-38-2 | |
| Cadmium | **0.48** | mg/kg | 0.10 | 20 | 02/23/11 09:20 | 02/24/11 07:03 | 7440-43-9 | |
| Copper | **59.9** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:03 | 7440-50-8 | |
| Lead | **165** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:03 | 7439-92-1 | |
| Nickel | **23.9** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:03 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **27.8** | % | 0.10 | 1 | | 02/24/11 00:00 | | |

**Sample: SPL-32-2** **Lab ID: 256690008** Collected: 02/18/11 12:15 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **4.8** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:07 | 7440-38-2 | |
| Cadmium | **0.17** | mg/kg | 0.10 | 20 | 02/23/11 09:20 | 02/24/11 07:07 | 7440-43-9 | |
| Copper | **35.8** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:07 | 7440-50-8 | |
| Lead | **63.2** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:07 | 7439-92-1 | |
| Nickel | **34.3** | mg/kg | 0.64 | 20 | 02/23/11 09:20 | 02/24/11 07:07 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **30.8** | % | 0.10 | 1 | | 02/24/11 00:00 | | |

**Sample: SPL-32-3** **Lab ID: 256690009** Collected: 02/18/11 12:30 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **6020 MET ICPMS** | Analytical Method: EPA 6020 | | | | | | | |
| Arsenic | **3.3** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 07:12 | 7440-38-2 | |
| Cadmium | **0.22** | mg/kg | 0.081 | 20 | 02/23/11 09:20 | 02/24/11 07:12 | 7440-43-9 | |
| Copper | **36.1** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 07:12 | 7440-50-8 | |
| Lead | **66.1** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 07:12 | 7439-92-1 | |
| Nickel | **19.5** | mg/kg | 0.51 | 20 | 02/23/11 09:20 | 02/24/11 07:12 | 7440-02-0 | |
| **Dry Weight** | Analytical Method: % Moisture | | | | | | | |
| Percent Moisture | **25.9** | % | 0.10 | 1 | | 02/24/11 00:00 | | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

QC Batch: ICPM/24797 Analysis Method: EPA 6020
QC Batch Method: EPA 6020 Analysis Description: 6020 MET
Associated Lab Samples: 256690001, 256690002, 256690003, 256690004, 256690005, 256690006, 256690007, 256690008, 256690009

METHOD BLANK: 933707 Matrix: Solid
Associated Lab Samples: 256690001, 256690002, 256690003, 256690004, 256690005, 256690006, 256690007, 256690008, 256690009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Arsenic | mg/kg | ND | 0.48 | 02/24/11 06:31 | |
| Cadmium | mg/kg | ND | 0.077 | 02/24/11 06:31 | |
| Copper | mg/kg | ND | 0.48 | 02/24/11 06:31 | |
| Lead | mg/kg | ND | 0.48 | 02/24/11 06:31 | |
| Nickel | mg/kg | ND | 0.48 | 02/24/11 06:31 | |

LABORATORY CONTROL SAMPLE: 933708

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 20 | 20.3 | 102 | 75-125 | |
| Cadmium | mg/kg | 20 | 19.9 | 99 | 75-125 | |
| Copper | mg/kg | 20 | 21.2 | 106 | 75-125 | |
| Lead | mg/kg | 20 | 20.2 | 101 | 75-125 | |
| Nickel | mg/kg | 20 | 20.9 | 105 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 933709 933710

| Parameter | Units | 256690001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | mg/kg | 10.4 | 57 | 57 | 84.0 | 67.2 | 129 | 100 | 75-125 | 22 | D6,M6 |
| Cadmium | mg/kg | ND | 57 | 57 | 57.7 | 57.0 | 101 | 100 | 75-125 | 1 | |
| Copper | mg/kg | 29.1 | 57 | 57 | 102 | 87.9 | 127 | 103 | 75-125 | 15 | M6 |
| Lead | mg/kg | 9.2 | 57 | 57 | 67.6 | 65.0 | 103 | 98 | 75-125 | 4 | |
| Nickel | mg/kg | 29.5 | 57 | 57 | 101 | 91.5 | 125 | 109 | 75-125 | 9 | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

QC Batch: MPRP/24857 | Analysis Method: % Moisture
QC Batch Method: % Moisture | Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256690001, 256690002, 256690003, 256690004, 256690005, 256690006, 256690007, 256690008, 256690009

SAMPLE DUPLICATE: 935359

| Parameter | Units | 10150247003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 18.2 | 17.5 | 4 | |

SAMPLE DUPLICATE: 935426

| Parameter | Units | 10150342002 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 9.9 | 8.9 | 11 | |



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940 South Harney
Seattle, WA 98108
(206)767-5060

# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

## ANALYTE QUALIFIERS

| | |
|---|---|
| D6 | The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256690

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256690001** | **SPL-31-1** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690002** | **SPL-31-2** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690003** | **SPL-31-3** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690004** | **SPL-31-4** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690005** | **SPL-31-5** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690006** | **SPL-31-6** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690007** | **SPL-32-1** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690008** | **SPL-32-2** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690009** | **SPL-32-3** | EPA 6020 | ICPM/24797 | EPA 6020 | ICPM/10108 |
| **256690001** | **SPL-31-1** | % Moisture | MPRP/24857 | | |
| **256690002** | **SPL-31-2** | % Moisture | MPRP/24857 | | |
| **256690003** | **SPL-31-3** | % Moisture | MPRP/24857 | | |
| **256690004** | **SPL-31-4** | % Moisture | MPRP/24857 | | |
| **256690005** | **SPL-31-5** | % Moisture | MPRP/24857 | | |
| **256690006** | **SPL-31-6** | % Moisture | MPRP/24857 | | |
| **256690007** | **SPL-32-1** | % Moisture | MPRP/24857 | | |
| **256690008** | **SPL-32-2** | % Moisture | MPRP/24857 | | |
| **256690009** | **SPL-32-3** | % Moisture | MPRP/24857 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256690

Page: 1 of 1

1446268

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBIA NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360 943 7525 Fax: 360 943 7513
Requested Due Date/TAT: 10 Day

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 138130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

**Section D** Required Client Information

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Cu, Cd, Pb, As, Ni (Y); Dioxin, Furan (Y); TPH-HO, TPH-D (SG); CPAH, Naphthalene (Y); BTEX, TPH-G (SG)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Cu, Cd, Pb, As, Ni | Dioxin, Furan | TPH-HO, TPH-D | CPAH, Naphthalene | BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-31-1 | SL | G | | | 02-18-11 | 10:45 | | 7 | X | | | | | | X | X | | | | | | | |
| 2 | SPL-31-2 | | | | | | 11:00 | | | | | | | | | | | | | | | | | |
| 3 | SPL-31-3 | | | | | | 11:10 | | | | | | | | | | | | | | | | | |
| 4 | SPL-31-4 | | | | | | 11:20 | | | | | | | | | | | | | | | | | |
| 5 | SPL-31-5 | | | | | | 11:40 | | | | | | | | | | | | | | | | | |
| 6 | SPL-31-6 | | | | | | 11:50 | | | | | | | | | | | | | | | | | |
| 7 | SPL-32-1 | | | | | | 12:00 | | | | | | | | | | | | | | | | | |
| 8 | SPL-32-2 | | | | | | 12:15 | | | | | | | | | | | | | | | | | |
| 9 | SPL-32-3 | | | | | | 12:30 | | | | | | | | | | | | | | | | | |
| 10 | TB021811 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Ada Hamilton / BC | 2/18/11 | 15:50 | Jyothi Swaroop | 2/18/11 | 1550 | 9.9 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: ADA HAMILTON
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 02-18-11

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

F-ALL-Q-020rev.07, 15-May-2007

# Sample Container Count

CLIENT: Brown + Caldwell

COC PAGE 1 of 1

COC ID#

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256690

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | | | | |
| 2 | | | | | | | | | | 2 | | | | | |
| 3 | | | | | | | | | | 2 | | | | | |
| 4 | | | | | | | | | | 2 | | | | | |
| 5 | | | | | | | | | | 2 | | | | | |
| 6 | | | | | | | | | | 2 | | | | | |
| 7 | | | | | | | | | | 2 | | | | | |
| 8 | | | | | | | | | | 2 | | | | | |
| 9 | | | | | | | | | | 2 | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 256690

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes ____ No ____

Thermometer Used 132013 or 101731952 or 225099 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 9.9°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: NJS 2/18/11

Temp should be above freezing ≤ 6°C

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. |
| **Follow Up / Hold Analysis Requested:** | ☐Yes | ☑No | ☐N/A | 8. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 9. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 10. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 11. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 12. |
| Sample Labels match COC: | ☑Yes | ☐No | ☐N/A | 13. |
| -Includes date/time/ID/Analysis Matrix: Soil | | | | |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 14. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed ____ Lot # of added preservative ____ |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 15. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blanks Present: | ☐Yes | ☑No | ☐N/A | 17. |
| Trip Blank Custody Seals Present | ☐Yes | ☐No | ☑N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: JENNI GROSS Date: 2/18/11

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

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

www.pacelabs.com

## Report Prepared for:

Jennifer Gross
PASI Seattle
940 S. Harney Street
Seattle WA 98108

# REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

**Report Prepared Date:**
March 4, 2011

## Report Information:

**Pace Project #: 10150056**
**Sample Receipt Date: 02/19/2011**
**Client Project #: 256690**
**Client Sub PO #: N/A**
**State Cert #: C755**

### Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

### This report has been reviewed by:

March 04, 2011

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

## Report of Laboratory Analysis

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The results relate only to the samples included in this report.

**Pace Analytical Services, Inc.**
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

## DISCUSSION

This report presents the results from the analyses performed on nine samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. Reporting limits were based on signal-to-noise measurements.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 58-97%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained or "P" where polychlorinated diphenyl ethers were present. Values above the calibration range were flagged "E" and should be regarded as estimates.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to contain trace levels of selected congeners. These were below the calibration range of the method. The levels reported for the affected congeners in the field samples were higher than the corresponding blank levels by one or more orders of magnitude. These results indicate that the sample processing steps did not contribute significantly to the levels reported for the field samples.

Laboratory and matrix spike samples were also prepared with the sample batch using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 90-127%, with relative percent differences (RPDs) generally from 0.4-12.4%. The background-subtracted recovery values obtained for most of the hepta and octa-chlorinated congeners in the matrix spike samples were outside the 70-130% target range. Also, the RPD values for 1,2,3,4,6,7,8-HpCDF, HpCDD, OCDF, and OCDD in the matrix spike samples were above the 20% target upper limit; these results may indicate elevated degrees of variability for these congeners in these determinations.



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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Minnesota Laboratory Certifications

| Authority | Certificate # | Authority | Certificate # |
|---|---|---|---|
| Alabama | 40770 | Montana | 92 |
| Alaska | MN00064 | Nebraska | |
| Arizona | AZ0014 | Nevada | MN000642010A |
| Arkansas | 88-0680 | New Jersey (NE | MN002 |
| California | 01155CA | New Mexico | MN00064 |
| Colorado | MN00064 | New York (NEL | 11647 |
| Connecticut | PH-0256 | North Carolina | 27700 |
| EPA Region 5 | WD-15J | North Dakota | R-036 |
| EPA Region 8 | 8TMS-Q | Ohio | 4150 |
| Florida (NELAP | E87605 | Ohio VAP | CL101 |
| Georgia (DNR) | 959 | Oklahoma | D9922 |
| Guam | 09-019r | Oregon (ELAP) | MN200001-005 |
| Hawaii | SLD | Oregon (OREL | MN200001-005 |
| Idaho | MN00064 | Pennsylvania | 68-00563 |
| Illinois | 200012 | Saipan | MP0003 |
| Indiana | C-MN-01 | South Carolina | 74003001 |
| Indiana | C-MN-01 | Tennesee | 2818 |
| Iowa | 368 | Tennessee | 02818 |
| Kansas | E-10167 | Texas | T104704192-08 |
| Kentucky | 90062 | Utah (NELAP) | PAM |
| Louisiana | LA0900016 | Virginia | 00251 |
| Maine | 2007029 | Washington | C755 |
| Maryland | 322 | West Virginia | 9952C |
| Michigan | 9909 | Wisconsin | 999407970 |
| Minnesota | 027-053-137 | Wyoming | 8TMS-Q |
| Mississippi | MN00064 | | |

## REPORT OF LABORATORY ANALYSIS

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# Appendix A

Sample Management

RUSH 10-Day Rush Dioxins

10150054 - 6020 & Dry weight
10150056 - Dioxin

# Chain of Custody

Pace Analytical®
www.pacelabs.com

3/7/11

**Workorder:** 256690 **Workorder Name:** East Bay Redevelopment 138130 **Owner Received Date:** 2/18/2011 **Results Requested By:** ~~3/4/2011~~

**Report To**

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney
Seattle WA 98108
Phone (206)767-5060
Fax (206)767-5063

**Subcontract To**

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

**Requested Analysis**

| Item | Sample ID | Sample Type | Collect Date/Time | Lab ID | Matrix | Preserved Containers: Unpreserved | Dioxin, furans | Cu, Cd, Pb, Ni, As by 6020 | Dry weight | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-31-1 | PS | 2/18/2011 10:45 | 256690001 | Solid | 2 | X | X | X | 001 |
| 2 | SPL-31-2 | PS | 2/18/2011 11:00 | 256690002 | Solid | 2 | X | X | X | 002 |
| 3 | SPL-31-3 | PS | 2/18/2011 11:10 | 256690003 | Solid | 2 | X | X | X | 003 |
| 4 | SPL-31-4 | PS | 2/18/2011 11:20 | 256690004 | Solid | 2 | X | X | X | 004 |
| 5 | SPL-31-5 | PS | 2/18/2011 11:20 | 256690005 | Solid | 2 | X | X | X | 005 |
| 6 | SPL-31-6 | PS | 2/18/2011 11:50 | 256690006 | Solid | 2 | X | X | X | 006 |
| 7 | SPL-32-1 | PS | 2/18/2011 12:00 | 256690007 | Solid | 2 | X | X | X | 007 |
| 8 | SPL-32-2 | PS | 2/18/2011 12:15 | 256690008 | Solid | 2 | X | X | X | 008 |
| 9 | SPL-32-3 | PS | 2/18/2011 12:30 | 256690009 | Solid | 2 | X | X | X | 009 |

| Transfers | Released By | Date/Time | Received By | Date/Time |
|---|---|---|---|---|
| 1 | Jyothi Sung | 2/18/11 1700 | [illegible] | 2/18/11 1025 |
| 2 | | | | |
| 3 | | | | |

**Comments**

Due 3/7/11
10 Day Rush - Dioxins

**Cooler Temperature on Receipt** 2.0 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

# Sample Condition Upon Receipt

Pace Analytical

**Client Name:** PACE WA **Project #** 10150056

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

**Tracking #:** 7944 4504 2006

Optional
Proj. Due Date:
Proj. Name:

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

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ____ No ✓

**Thermometer Used** 80344042 or 179425 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 2.0 **Biological Tissue is Frozen:** Yes No

Date and initials of person examining contents: 2/14/11 N3

Temp should be above freezing to 6°C

**Comments:**

| | | |
|---|---|---|
| Chain of Custody Present: | ☑Yes ☐No ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes ☐No ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes ☐No ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☐Yes ☑No ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes ☐No ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes ☐No ☑N/A | 6. |
| **Rush Turn Around Time Requested:** | ☑Yes ☐No ☐N/A | 7. 10 Day Dioxin |
| Sufficient Volume: | ☑Yes ☐No ☐N/A | 8. |
| Correct Containers Used: | ☑Yes ☐No ☐N/A | 9. |
| -Pace Containers Used: | ☑Yes ☐No ☐N/A | |
| Containers Intact: | ☑Yes ☐No ☐N/A | 10. |
| Filtered volume received for Dissolved tests | ☐Yes ☐No ☑N/A | 11. |
| Sample Labels match COC: | ☑Yes ☐No ☐N/A | 12. |
| -Includes date/time/ID/Analysis Matrix: SL | | |
| All containers needing acid/base preservation have been checked. Noncompliance are noted in 13. | ☐Yes ☐No ☑N/A | 13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes ☐No ☑N/A | Samp # |
| Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water) | ☐Yes ☑No | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes ☐No ☑N/A | 14. |
| Headspace in VOA Vials ( >6mm): | ☐Yes ☐No ☑N/A | 15. |
| Trip Blank Present: | ☐Yes ☑No ☐N/A | 16. |
| Trip Blank Custody Seals Present | ☐Yes ☐No ☑N/A | |
| Pace Trip Blank Lot # (if purchased): — | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** _____ **Date:** 02/22/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR.

F-L213Rev.00, 05Aug2009

Pace Analytical Services, Inc.
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# Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion



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# Appendix B

Sample Analysis  Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-31-1 | | | |
| Lab Sample ID | 256690001 | | | |
| Filename | U110302C_08 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 33.7 g | Matrix | Solid | |
| % Moisture | 70.0 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/18/2011 | 10:45 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 00:39 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.30 | ----- | 0.38 | | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 37.00 | ----- | 0.38 | | 2,3,7,8-TCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 63 |
| 2,3,7,8-TCDD | 0.61 | ----- | 0.27 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 19.00 | ----- | 0.27 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDF | 1.40 | ----- | 0.37 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 3.20 | ----- | 0.28 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 74 |
| Total PeCDF | 43.00 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDD | 2.50 | ----- | 0.23 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 83 |
| Total PeCDD | 26.00 | ----- | 0.23 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 75 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 71 |
| 1,2,3,4,7,8-HxCDF | ----- | 13.0 | 0.47 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 88 |
| 1,2,3,6,7,8-HxCDF | 3.50 | ----- | 0.36 | J | OCDD-13C | 4.00 | 73 |
| 2,3,4,6,7,8-HxCDF | 3.80 | ----- | 0.41 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.20 | ----- | 0.46 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 86.00 | ----- | 0.43 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ----- | 2.1 | 0.36 | I | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 8.80 | ----- | 0.56 | | | | |
| 1,2,3,7,8,9-HxCDD | 5.50 | ----- | 0.36 | | | | |
| Total HxCDD | 69.00 | ----- | 0.43 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 76.00 | ----- | 0.88 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 4.10 | ----- | 0.74 | J | Equivalence: 12 ng/Kg | | |
| Total HpCDF | 200.00 | ----- | 0.81 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 260.00 | ----- | 1.50 | | | | |
| Total HpCDD | 530.00 | ----- | 1.50 | | | | |
| OCDF | 270.00 | ----- | 1.70 | | | | |
| OCDD | 4400.00 | ----- | 0.32 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-31-2 | | | |
| Lab Sample ID | 256690002 | | | |
| Filename | U110302C_09 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.0 g | Matrix | Solid | |
| % Moisture | 21.2 | Dilution | NA | |
| Dry Weight Extracted | 10.2 g | Collected | 02/18/2011 | 11:00 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 01:27 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 1.40 | ----- | 0.31 | | 2,3,7,8-TCDF-13C | 2.00 | 63 |
| Total TCDF | 24.00 | ----- | 0.31 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 61 |
| 2,3,7,8-TCDD | 0.52 | ----- | 0.31 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 64 |
| Total TCDD | 15.00 | ----- | 0.31 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 67 |
| 1,2,3,7,8-PeCDF | 1.20 | ----- | 0.24 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 3.00 | ----- | 0.24 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 70 |
| Total PeCDF | 30.00 | ----- | 0.24 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 63 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDD | 1.30 | ----- | 0.23 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | 20.00 | ----- | 0.23 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | ----- | 12 | 0.36 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 81 |
| 1,2,3,6,7,8-HxCDF | 2.60 | ----- | 0.26 | J | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | 2.90 | ----- | 0.27 | J | | | |
| 1,2,3,7,8,9-HxCDF | 1.20 | ----- | 0.39 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 65.00 | ----- | 0.32 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.60 | ----- | 0.41 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 73 |
| 1,2,3,6,7,8-HxCDD | 5.90 | ----- | 0.42 | | | | |
| 1,2,3,7,8,9-HxCDD | 3.00 | ----- | 0.33 | J | | | |
| Total HxCDD | 51.00 | ----- | 0.39 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 49.00 | ----- | 0.48 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 3.50 | ----- | 0.70 | J | Equivalence: 8.0 ng/Kg | | |
| Total HpCDF | 160.00 | ----- | 0.59 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 190.00 | ----- | 0.46 | | | | |
| Total HpCDD | 360.00 | ----- | 0.46 | | | | |
| OCDF | 210.00 | ----- | 0.45 | | | | |
| OCDD | 3000.00 | ----- | 0.53 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-31-3 | | | |
| Lab Sample ID | 256690003 | | | |
| Filename | U110302C_10 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.4 g | Matrix | Solid | |
| % Moisture | 11.2 | Dilution | NA | |
| Dry Weight Extracted | 10.1 g | Collected | 02/18/2011 | 11:10 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 02:14 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.96 | ----- | 0.28 | J | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 21.00 | ----- | 0.28 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | 13.00 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDF | 0.81 | ----- | 0.22 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 3.00 | ----- | 0.43 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 34.00 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 87 |
| 1,2,3,7,8-PeCDD | 1.20 | ----- | 0.49 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 75 |
| Total PeCDD | 17.00 | ----- | 0.49 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 69 |
| 1,2,3,4,7,8-HxCDF | 2.70 | ----- | 0.27 | J | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 85 |
| 1,2,3,6,7,8-HxCDF | 1.80 | ----- | 0.21 | J | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | 2.50 | ----- | 0.32 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.56 | 0.41 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 31.00 | ----- | 0.30 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.50 | ----- | 0.39 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 77 |
| 1,2,3,6,7,8-HxCDD | 5.50 | ----- | 0.42 | | | | |
| 1,2,3,7,8,9-HxCDD | 2.70 | ----- | 0.38 | J | | | |
| Total HxCDD | 56.00 | ----- | 0.40 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 46.00 | ----- | 0.57 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ----- | 2.00 | 0.71 | I | Equivalence: 7.3 ng/Kg | | |
| Total HpCDF | 46.00 | ----- | 0.64 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 200.00 | ----- | 1.50 | | | | |
| Total HpCDD | 500.00 | ----- | 1.50 | | | | |
| OCDF | 150.00 | ----- | 0.26 | | | | |
| OCDD | 2500.00 | ----- | 0.35 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-31-4 | | | |
| Lab Sample ID | 256690004 | | | |
| Filename | U110302C_11 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 11.8 g | Matrix | Solid | |
| % Moisture | 10.5 | Dilution | NA | |
| Dry Weight Extracted | 10.6 g | Collected | 02/18/2011 | 11:20 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 03:02 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.77 | ----- | 0.23 | J | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 16.00 | ----- | 0.23 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 60 |
| 2,3,7,8-TCDD | 0.42 | ----- | 0.25 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 60 |
| Total TCDD | 11.00 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDF | 1.10 | ----- | 0.37 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 70 |
| 2,3,4,7,8-PeCDF | 4.10 | ----- | 0.28 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 69 |
| Total PeCDF | 48.00 | ----- | 0.33 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 64 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 80 |
| 1,2,3,7,8-PeCDD | 2.70 | ----- | 0.37 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | 20.00 | ----- | 0.37 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 67 |
| 1,2,3,4,7,8-HxCDF | 8.90 | ----- | 0.46 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 79 |
| 1,2,3,6,7,8-HxCDF | 4.50 | ----- | 0.43 | J | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | 3.00 | ----- | 0.57 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.40 | ----- | 0.42 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 100.00 | ----- | 0.47 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 4.90 | ----- | 0.35 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 18.00 | ----- | 0.41 | | | | |
| 1,2,3,7,8,9-HxCDD | 11.00 | ----- | 0.33 | | | | |
| Total HxCDD | 110.00 | ----- | 0.36 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 140.00 | ----- | 0.65 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 11.00 | ----- | 0.82 | | Equivalence: 21 ng/Kg | | |
| Total HpCDF | 150.00 | ----- | 0.74 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 630.00 | ----- | 2.10 | | | | |
| Total HpCDD | 1300.00 | ----- | 2.10 | | | | |
| OCDF | 680.00 | ----- | 1.10 | | | | |
| OCDD | 11000.00 | ----- | 0.41 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-31-5 | | | |
| Lab Sample ID | 256690005 | | | |
| Filename | U110302C_12 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 16.8 g | Matrix | Solid | |
| % Moisture | 40.4 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 02/18/2011 | 11:20 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 03:50 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ----- | 0.48 | 0.25 | I | 2,3,7,8-TCDF-13C | 2.00 | 64 |
| Total TCDF | 11.00 | ----- | 0.25 | | 2,3,7,8-TCDD-13C | 2.00 | 80 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 62 |
| 2,3,7,8-TCDD | ND | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 64 |
| Total TCDD | 7.50 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 78 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 71 |
| 1,2,3,7,8-PeCDF | 0.53 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 1.50 | ----- | 0.21 | J | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 20.00 | ----- | 0.25 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 76 |
| 1,2,3,7,8-PeCDD | 0.74 | ----- | 0.29 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 8.00 | ----- | 0.29 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 74 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | ----- | 3.50 | 0.16 | P | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 84 |
| 1,2,3,6,7,8-HxCDF | 1.10 | ----- | 0.13 | J | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | 1.70 | ----- | 0.15 | J | | | |
| 1,2,3,7,8,9-HxCDF | ----- | 0.38 | 0.22 | I | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 32.00 | ----- | 0.16 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | ----- | 0.40 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 74 |
| 1,2,3,6,7,8-HxCDD | 3.30 | ----- | 0.39 | J | | | |
| 1,2,3,7,8,9-HxCDD | 2.10 | ----- | 0.35 | J | | | |
| Total HxCDD | 25.00 | ----- | 0.38 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 29.00 | ----- | 0.27 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 2.10 | ----- | 0.60 | J | Equivalence: 4.1 ng/Kg | | |
| Total HpCDF | 87.00 | ----- | 0.43 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 98.00 | ----- | 0.35 | | | | |
| Total HpCDD | 190.00 | ----- | 0.35 | | | | |
| OCDF | 110.00 | ----- | 0.37 | | | | |
| OCDD | 1600.00 | ----- | 0.65 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
I = Interference present

## REPORT OF LABORATORY ANALYSIS

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-31-6 | | | |
| Lab Sample ID | 256690006 | | | |
| Filename | U110302C_13 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 45.5 g | Matrix | Solid | |
| % Moisture | 78.0 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 02/18/2011 | 11:50 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 04:37 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 2.70 | ----- | 0.15 | | 2,3,7,8-TCDF-13C | 2.00 | 72 |
| Total TCDF | 40.00 | ----- | 0.15 | | 2,3,7,8-TCDD-13C | 2.00 | 90 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 68 |
| 2,3,7,8-TCDD | 0.75 | ----- | 0.32 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 69 |
| Total TCDD | 27.00 | ----- | 0.32 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 73 |
| 1,2,3,7,8-PeCDF | 1.80 | ----- | 0.41 | J | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 5.40 | ----- | 0.27 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 71 |
| Total PeCDF | 62.00 | ----- | 0.34 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 81 |
| 1,2,3,7,8-PeCDD | 3.40 | ----- | 0.44 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 79 |
| Total PeCDD | 40.00 | ----- | 0.44 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 72 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 70 |
| 1,2,3,4,7,8-HxCDF | 10.00 | ----- | 0.35 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | 5.70 | ----- | 0.37 | | OCDD-13C | 4.00 | 72 |
| 2,3,4,6,7,8-HxCDF | 3.60 | ----- | 0.51 | J | | | |
| 1,2,3,7,8,9-HxCDF | 2.20 | ----- | 0.45 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 110.00 | ----- | 0.42 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 5.50 | ----- | 0.46 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 18.00 | ----- | 0.44 | | | | |
| 1,2,3,7,8,9-HxCDD | 12.00 | ----- | 0.41 | | | | |
| Total HxCDD | 140.00 | ----- | 0.43 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 160.00 | ----- | 0.60 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 9.80 | ----- | 1.20 | | Equivalence: 23 ng/Kg | | |
| Total HpCDF | 170.00 | ----- | 0.88 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 640.00 | ----- | 2.40 | | | | |
| Total HpCDD | 1300.00 | ----- | 2.40 | | | | |
| OCDF | 670.00 | ----- | 0.63 | | | | |
| OCDD | 9500.00 | ----- | 0.65 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-32-1 | | | |
| Lab Sample ID | 256690007 | | | |
| Filename | U110302C_14 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 13.9 g | Matrix | Solid | |
| % Moisture | 27.8 | Dilution | NA | |
| Dry Weight Extracted | 10.0 g | Collected | 02/18/2011 | 12:00 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 05:25 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 6.1 | ----- | 0.39 | | 2,3,7,8-TCDF-13C | 2.00 | 66 |
| Total TCDF | 76.0 | ----- | 0.39 | | 2,3,7,8-TCDD-13C | 2.00 | 81 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | 1.5 | ----- | 0.26 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | 94.0 | ----- | 0.26 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 76 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 77 |
| 1,2,3,7,8-PeCDF | ----- | 3.8 | 0.25 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 73 |
| 2,3,4,7,8-PeCDF | 8.1 | ----- | 0.55 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| Total PeCDF | 67.0 | ----- | 0.40 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDD | 4.5 | ----- | 0.51 | J | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | 69.0 | ----- | 0.51 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 71 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 68 |
| 1,2,3,4,7,8-HxCDF | 10.0 | ----- | 0.56 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 79 |
| 1,2,3,6,7,8-HxCDF | 5.4 | ----- | 0.62 | | OCDD-13C | 4.00 | 68 |
| 2,3,4,6,7,8-HxCDF | 8.4 | ----- | 0.55 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.8 | ----- | 0.55 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 90.0 | ----- | 0.57 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 2.6 | ----- | 0.51 | J | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 14.0 | ----- | 0.42 | | | | |
| 1,2,3,7,8,9-HxCDD | 4.5 | ----- | 0.50 | J | | | |
| Total HxCDD | 110.0 | ----- | 0.48 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 120.0 | ----- | 1.40 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 8.7 | ----- | 0.78 | | Equivalence: 20 ng/Kg | | |
| Total HpCDF | 130.0 | ----- | 1.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 320.0 | ----- | 1.30 | | | | |
| Total HpCDD | 550.0 | ----- | 1.30 | | | | |
| OCDF | 630.0 | ----- | 1.20 | | | | |
| OCDD | 3600.0 | ----- | 0.63 | | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference

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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-32-2 | | | |
| Lab Sample ID | 256690008 | | | |
| Filename | U110302C_15 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 15.0 g | Matrix | Solid | |
| % Moisture | 30.8 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/18/2011 | 12:15 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 06:12 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 5.6 | ----- | 0.38 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 74.0 | ----- | 0.38 | | 2,3,7,8-TCDD-13C | 2.00 | 83 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 64 |
| 2,3,7,8-TCDD | 1.5 | ----- | 0.25 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 66 |
| Total TCDD | 73.0 | ----- | 0.25 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 75 |
| 1,2,3,7,8-PeCDF | 5.9 | ----- | 0.13 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 74 |
| 2,3,4,7,8-PeCDF | 14.0 | ----- | 0.26 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 72 |
| Total PeCDF | 130.0 | ----- | 0.19 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 84 |
| 1,2,3,7,8-PeCDD | 5.9 | ----- | 0.52 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 77 |
| Total PeCDD | 73.0 | ----- | 0.52 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 70 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 70 |
| 1,2,3,4,7,8-HxCDF | 28.0 | ----- | 0.56 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 83 |
| 1,2,3,6,7,8-HxCDF | ----- | 13 | 0.91 | P | OCDD-13C | 4.00 | 70 |
| 2,3,4,6,7,8-HxCDF | 15.0 | ----- | 0.65 | | | | |
| 1,2,3,7,8,9-HxCDF | 8.5 | ----- | 0.79 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 190.0 | ----- | 0.73 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 5.3 | ----- | 0.78 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 82 |
| 1,2,3,6,7,8-HxCDD | 31.0 | ----- | 0.62 | | | | |
| 1,2,3,7,8,9-HxCDD | 14.0 | ----- | 0.58 | | | | |
| Total HxCDD | 210.0 | ----- | 0.66 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 250.0 | ----- | 1.10 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 17.0 | ----- | 1.20 | | Equivalence: 37 ng/Kg | | |
| Total HpCDF | 260.0 | ----- | 1.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 850.0 | ----- | 1.30 | | | | |
| Total HpCDD | 1500.0 | ----- | 1.30 | | | | |
| OCDF | 1100.0 | ----- | 0.51 | | | | |
| OCDD | 9400.0 | ----- | 0.38 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
P = PCDE Interference
E = Exceeds calibration range

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Sample Analysis Results

Client - PASI Seattle

| | | | | |
|---|---|---|---|---|
| Client's Sample ID | SPL-32-3 | | | |
| Lab Sample ID | 256690009 | | | |
| Filename | U110302C_16 | | | |
| Injected By | BAL | | | |
| Total Amount Extracted | 14.1 g | Matrix | Solid | |
| % Moisture | 25.9 | Dilution | NA | |
| Dry Weight Extracted | 10.4 g | Collected | 02/18/2011 | 12:30 |
| ICAL ID | U101204A | Received | 02/19/2011 | 10:25 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Extracted | 02/28/2011 | 14:40 |
| Method Blank ID | BLANK-28010 | Analyzed | 03/03/2011 | 07:00 |

| Native Isomers | Conc ng/Kg | EMPC ng/Kg | RL ng/Kg | | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 3.40 | ----- | 0.40 | | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| Total TCDF | 52.00 | ----- | 0.40 | | 2,3,7,8-TCDD-13C | 2.00 | 82 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 60 |
| 2,3,7,8-TCDD | 0.68 | ----- | 0.32 | J | 2,3,4,7,8-PeCDF-13C | 2.00 | 58 |
| Total TCDD | 45.00 | ----- | 0.32 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 68 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 86 |
| 1,2,3,7,8-PeCDF | ----- | 7.2 | 0.53 | P | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 77 |
| 2,3,4,7,8-PeCDF | 8.50 | ----- | 0.49 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 77 |
| Total PeCDF | 71.00 | ----- | 0.51 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 66 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 97 |
| 1,2,3,7,8-PeCDD | 4.80 | ----- | 0.68 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| Total PeCDD | 54.00 | ----- | 0.68 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 63 |
| 1,2,3,4,7,8-HxCDF | 18.00 | ----- | 0.84 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 86 |
| 1,2,3,6,7,8-HxCDF | 7.20 | ----- | 0.88 | | OCDD-13C | 4.00 | 75 |
| 2,3,4,6,7,8-HxCDF | 16.00 | ----- | 0.97 | | | | |
| 1,2,3,7,8,9-HxCDF | 3.30 | ----- | 1.00 | J | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | 290.00 | ----- | 0.92 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 6.60 | ----- | 1.10 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 80 |
| 1,2,3,6,7,8-HxCDD | 22.00 | ----- | 1.30 | | | | |
| 1,2,3,7,8,9-HxCDD | 12.00 | ----- | 1.00 | | | | |
| Total HxCDD | 170.00 | ----- | 1.10 | | | | |
| 1,2,3,4,6,7,8-HpCDF | 150.00 | ----- | 2.40 | | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | 10.00 | ----- | 1.80 | | Equivalence: 26 ng/Kg | | |
| Total HpCDF | 620.00 | ----- | 2.10 | | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | 540.00 | ----- | 1.80 | | | | |
| Total HpCDD | 970.00 | ----- | 1.80 | | | | |
| OCDF | 550.00 | ----- | 0.59 | | | | |
| OCDD | 5600.00 | ----- | 0.74 | E | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
P = PCDE Interference
E = Exceeds calibration range

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Blank Analysis Results

| | | | |
|---|---|---|---|
| Lab Sample ID | BLANK-28010 | Matrix | Solid |
| Filename | U110302C_07 | Dilution | NA |
| Total Amount Extracted | 20.2 g | Extracted | 02/28/2011 14:40 |
| ICAL ID | U101204A | Analyzed | 03/02/2011 23:52 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Injected By | BAL |

| **Native Isomers** | **Conc** ng/Kg | **EMPC** ng/Kg | **RL** ng/Kg | | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | ND | ----- | 0.046 | | 2,3,7,8-TCDF-13C | 2.00 | 61 |
| Total TCDF | 0.091 | ----- | 0.046 | J | 2,3,7,8-TCDD-13C | 2.00 | 79 |
| | | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 63 |
| 2,3,7,8-TCDD | ND | ----- | 0.071 | | 2,3,4,7,8-PeCDF-13C | 2.00 | 65 |
| Total TCDD | ND | ----- | 0.071 | | 1,2,3,7,8-PeCDD-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 69 |
| 1,2,3,7,8-PeCDF | ND | ----- | 0.051 | | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 75 |
| 2,3,4,7,8-PeCDF | ND | ----- | 0.046 | | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 74 |
| Total PeCDF | ND | ----- | 0.048 | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 72 |
| 1,2,3,7,8-PeCDD | ND | ----- | 0.062 | | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 87 |
| Total PeCDD | ND | ----- | 0.062 | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 72 |
| 1,2,3,4,7,8-HxCDF | ND | ----- | 0.044 | | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 91 |
| 1,2,3,6,7,8-HxCDF | ND | ----- | 0.045 | | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | ND | ----- | 0.040 | | | | |
| 1,2,3,7,8,9-HxCDF | ND | ----- | 0.063 | | 1,2,3,4-TCDD-13C | 2.00 | NA |
| Total HxCDF | ND | ----- | 0.048 | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | ND | ----- | 0.069 | | 2,3,7,8-TCDD-37Cl4 | 0.20 | 69 |
| 1,2,3,6,7,8-HxCDD | ND | ----- | 0.066 | | | | |
| 1,2,3,7,8,9-HxCDD | ND | ----- | 0.070 | | | | |
| Total HxCDD | ND | ----- | 0.068 | | | | |
| 1,2,3,4,6,7,8-HpCDF | ----- | 0.10 | 0.051 | I | Total 2,3,7,8-TCDD | | |
| 1,2,3,4,7,8,9-HpCDF | ND | ----- | 0.081 | | Equivalence: 0.098 ng/Kg | | |
| Total HpCDF | 0.076 | ----- | 0.066 | J | (Using 2005 WHO Factors - Using PRL/2 where ND) | | |
| 1,2,3,4,6,7,8-HpCDD | ----- | 0.12 | 0.087 | I | | | |
| Total HpCDD | 0.220 | ----- | 0.087 | J | | | |
| OCDF | 0.200 | ----- | 0.087 | J | | | |
| OCDD | 0.700 | ----- | 0.180 | J | | | |

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
J = Estimated value
I = Interference present

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Tel: 612-607-1700
Fax: 612- 607-6444

# Method 8290 Laboratory Control Spike Results

| | | | |
|---|---|---|---|
| Lab Sample ID | LCS-28011 | | |
| Filename | U110302C_03 | Matrix | Solid |
| Total Amount Extracted | 20.2 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/28/2011 14:40 |
| CCal Filename(s) | U110302C_02 & U110302C_18 | Analyzed | 03/02/2011 20:43 |
| Method Blank ID | BLANK-28010 | Injected By | BAL |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.21 | 106 | 2,3,7,8-TCDF-13C | 2.0 | 64 |
| Total TCDF | | | | 2,3,7,8-TCDD-13C | 2.0 | 82 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.0 | 62 |
| 2,3,7,8-TCDD | 0.20 | 0.18 | 90 | 2,3,4,7,8-PeCDF-13C | 2.0 | 64 |
| Total TCDD | | | | 1,2,3,7,8-PeCDD-13C | 2.0 | 76 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.0 | 73 |
| 1,2,3,7,8-PeCDF | 1.0 | 1.1 | 107 | 1,2,3,6,7,8-HxCDF-13C | 2.0 | 76 |
| 2,3,4,7,8-PeCDF | 1.0 | 1.0 | 103 | 2,3,4,6,7,8-HxCDF-13C | 2.0 | 77 |
| Total PeCDF | | | | 1,2,3,7,8,9-HxCDF-13C | 2.0 | 68 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.0 | 79 |
| 1,2,3,7,8-PeCDD | 1.0 | 0.92 | 92 | 1,2,3,6,7,8-HxCDD-13C | 2.0 | 92 |
| Total PeCDD | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.0 | 78 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.0 | 71 |
| 1,2,3,4,7,8-HxCDF | 1.0 | 1.0 | 104 | 1,2,3,4,6,7,8-HpCDD-13C | 2.0 | 83 |
| 1,2,3,6,7,8-HxCDF | 1.0 | 1.1 | 108 | OCDD-13C | 4.0 | 64 |
| 2,3,4,6,7,8-HxCDF | 1.0 | 1.0 | 104 | | | |
| 1,2,3,7,8,9-HxCDF | 1.0 | 1.1 | 107 | 1,2,3,4-TCDD-13C | 2.0 | NA |
| Total HxCDF | | | | 1,2,3,7,8,9-HxCDD-13C | 2.0 | NA |
| 1,2,3,4,7,8-HxCDD | 1.0 | 0.97 | 97 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 75 |
| 1,2,3,6,7,8-HxCDD | 1.0 | 1.00 | 100 | | | |
| 1,2,3,7,8,9-HxCDD | 1.0 | 1.0 | 102 | | | |
| Total HxCDD | | | | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.0 | 1.0 | 105 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.0 | 1.0 | 101 | | | |
| Total HpCDF | | | | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.0 | 0.96 | 96 | | | |
| Total HpCDD | | | | | | |
| OCDF | 2.0 | 2.0 | 100 | | | |
| OCDD | 2.0 | 2.2 | 109 | | | |

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-31-4-MS | | |
| Lab Sample ID | 256690004-MS | | |
| Filename | U110303A_01 | Matrix | Solid |
| Total Amount Extracted | 11.4 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/28/2011 14:40 |
| CCal Filename(s) | U110302C_18 & U110302C_18 | Analyzed | 03/03/2011 09:36 |
| Method Blank ID | BLANK-28010 | Injected By | CVS |

| Native Isomers | Qs (ng) | Qm (ng) | % Rec. | Internal Standards | ng's Added | Percent Recovery |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.25 | 126 | 2,3,7,8-TCDF-13C | 2.00 | 68 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 85 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 |
| 2,3,7,8-TCDD | 0.20 | 0.20 | 99 | 2,3,4,7,8-PeCDF-13C | 2.00 | 68 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 78 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.11 | 111 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 72 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.20 | 120 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 75 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 72 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 83 |
| 1,2,3,7,8-PeCDD | 1.00 | 1.02 | 102 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 82 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 77 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 73 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.36 | 136 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 89 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.25 | 125 | OCDD-13C | 4.00 | 78 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.29 | 129 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.22 | 122 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.13 | 113 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.40 | 140 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.28 | 128 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 3.53 | 353 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.40 | 140 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 11.18 | 1118 | | | |
| OCDF | 2.00 | 14.36 | 718 | | | |
| OCDD | 2.00 | 190.29 | 9514 E | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = Exceeds calibration range

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Tel: 612-607-1700
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# Method 8290 Spiked Sample Report

Client - PASI Seattle

| | | | |
|---|---|---|---|
| Client's Sample ID | SPL-31-4-MSD | | |
| Lab Sample ID | 256690004-MSD | | |
| Filename | U110303A_02 | Matrix | Solid |
| Total Amount Extracted | 11.5 g | Dilution | NA |
| ICAL ID | U101204A | Extracted | 02/28/2011 14:40 |
| CCal Filename(s) | U110302C_18 & U110302C_18 | Analyzed | 03/03/2011 10:22 |
| Method Blank ID | BLANK-28010 | Injected By | CVS |

| **Native Isomers** | **Qs** (ng) | **Qm** (ng) | % Rec. | **Internal Standards** | **ng's Added** | **Percent Recovery** |
|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.20 | 0.24 | 120 | 2,3,7,8-TCDF-13C | 2.00 | 67 |
| | | | | 2,3,7,8-TCDD-13C | 2.00 | 84 |
| | | | | 1,2,3,7,8-PeCDF-13C | 2.00 | 66 |
| 2,3,7,8-TCDD | 0.20 | 0.19 | 97 | 2,3,4,7,8-PeCDF-13C | 2.00 | 68 |
| | | | | 1,2,3,7,8-PeCDD-13C | 2.00 | 81 |
| | | | | 1,2,3,4,7,8-HxCDF-13C | 2.00 | 74 |
| 1,2,3,7,8-PeCDF | 1.00 | 1.10 | 110 | 1,2,3,6,7,8-HxCDF-13C | 2.00 | 71 |
| 2,3,4,7,8-PeCDF | 1.00 | 1.14 | 114 | 2,3,4,6,7,8-HxCDF-13C | 2.00 | 73 |
| | | | | 1,2,3,7,8,9-HxCDF-13C | 2.00 | 67 |
| | | | | 1,2,3,4,7,8-HxCDD-13C | 2.00 | 82 |
| 1,2,3,7,8-PeCDD | 1.00 | 0.98 | 98 | 1,2,3,6,7,8-HxCDD-13C | 2.00 | 80 |
| | | | | 1,2,3,4,6,7,8-HpCDF-13C | 2.00 | 73 |
| | | | | 1,2,3,4,7,8,9-HpCDF-13C | 2.00 | 71 |
| 1,2,3,4,7,8-HxCDF | 1.00 | 1.29 | 129 | 1,2,3,4,6,7,8-HpCDD-13C | 2.00 | 84 |
| 1,2,3,6,7,8-HxCDF | 1.00 | 1.20 | 120 | OCDD-13C | 4.00 | 69 |
| 2,3,4,6,7,8-HxCDF | 1.00 | 1.21 | 121 | | | |
| 1,2,3,7,8,9-HxCDF | 1.00 | 1.16 | 116 | 1,2,3,4-TCDD-13C | 2.00 | NA |
| | | | | 1,2,3,7,8,9-HxCDD-13C | 2.00 | NA |
| 1,2,3,4,7,8-HxCDD | 1.00 | 1.07 | 107 | 2,3,7,8-TCDD-37Cl4 | 0.20 | 76 |
| 1,2,3,6,7,8-HxCDD | 1.00 | 1.27 | 127 | | | |
| 1,2,3,7,8,9-HxCDD | 1.00 | 1.15 | 115 | | | |
| 1,2,3,4,6,7,8-HpCDF | 1.00 | 2.66 | 266 | | | |
| 1,2,3,4,7,8,9-HpCDF | 1.00 | 1.24 | 124 | | | |
| 1,2,3,4,6,7,8-HpCDD | 1.00 | 6.91 | 691 | | | |
| OCDF | 2.00 | 9.52 | 476 | | | |
| OCDD | 2.00 | 112.07 | 5603 E | | | |

Qs = Quantity Spiked  Qm = Quantity Measured  Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
E = Exceeds calibration range

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# Method 8290 Spike Sample Results

Client - PASI Seattle

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID | SPL-31-4 | | | Dry Weights | |
| Lab Sample ID | 256690004 | Sample Filename | U110302C_11 | Sample Amount | 10.6 g |
| MS ID | 256690004-MS | MS Filename | U110303A_01 | MS Amount | 10.2 g |
| MSD ID | 256690004-MSD | MSD Filename | U110303A_02 | MSD Amount | 10.3 g |

| Analyte | Sample Conc. ng/Kg | MS/MSD Qs (ng) | MS Qm (ng) | MSD Qm (ng) | RPD | Background Subtracted MS % Rec. | MSD % Rec. | RPD |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-TCDF | 0.768 | 0.20 | 0.25 | 0.24 | 5.3 | 123 | 116 | 5.5 |
| 2,3,7,8-TCDD | 0.416 | 0.20 | 0.20 | 0.19 | 2.1 | 97 | 94 | 2.1 |
| 1,2,3,7,8-PeCDF | 1.119 | 1.00 | 1.11 | 1.10 | 0.4 | 109 | 109 | 0.4 |
| 2,3,4,7,8-PeCDF | 4.128 | 1.00 | 1.20 | 1.14 | 5.5 | 116 | 110 | 5.7 |
| 1,2,3,7,8-PeCDD | 2.676 | 1.00 | 1.02 | 0.98 | 3.7 | 99 | 95 | 3.9 |
| 1,2,3,4,7,8-HxCDF | 8.867 | 1.00 | 1.36 | 1.29 | 5.0 | 127 | 120 | 5.5 |
| 1,2,3,6,7,8-HxCDF | 4.545 | 1.00 | 1.25 | 1.20 | 3.6 | 120 | 116 | 3.8 |
| 2,3,4,6,7,8-HxCDF | 2.980 | 1.00 | 1.29 | 1.21 | 6.4 | 126 | 118 | 6.6 |
| 1,2,3,7,8,9-HxCDF | 2.370 | 1.00 | 1.22 | 1.16 | 4.5 | 119 | 114 | 4.6 |
| 1,2,3,4,7,8-HxCDD | 4.887 | 1.00 | 1.13 | 1.07 | 5.3 | 108 | 102 | 5.6 |
| 1,2,3,6,7,8-HxCDD | 17.631 | 1.00 | 1.40 | 1.27 | 10.1 | 122 | 109 | 11.9 |
| 1,2,3,7,8,9-HxCDD | 10.771 | 1.00 | 1.28 | 1.15 | 10.6 | 117 | 104 | 11.7 |
| 1,2,3,4,6,7,8-HpCDF | 139.319 | 1.00 | 3.53 | 2.66 | 28.1 | 211 | 123 | 53.0 |
| 1,2,3,4,7,8,9-HpCDF | 11.241 | 1.00 | 1.40 | 1.24 | 12.4 | 128 | 112 | 13.7 |
| 1,2,3,4,6,7,8-HpCDD | 625.129 | 1.00 | 11.18 | 6.91 | 47.2 | 480 | 47 | 164.1 |
| OCDF | 679.589 | 2.00 | 14.36 | 9.52 | 40.5 | 371 | 126 | 98.4 |
| OCDD | 11316.631 | 2.00 | 190.29 | 112.07 | 51.7 | 3741 | 0 | 200.0 |

**Definitions**

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

**Pace Analytical Services, Inc.**
940 South Harney
Seattle, WA 98108
(206)767-5060

March 07, 2011

Joshua Johnson
Brown & Caldwell
724 Columbia St. NW#420
Olympia, WA 98501

RE: Project: East Bay Redevelopment 138130
Pace Project No.: 256691

Dear Joshua Johnson:
Enclosed are the analytical results for sample(s) received by the laboratory on February 18, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Jennifer Gross

jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Jon Turk, Brown & Caldwell



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## CERTIFICATIONS

| | |
|---|---|
| Project: | East Bay Redevelopment 138130 |
| Pace Project No.: | 256691 |

**Washington Certification IDs**

940 South Harney Street, Seattle, WA 98108
Alaska CS Certification #: UST-025
Alaska Drinking Water VOC Certification #: WA01230
Alaska Drinking Water Micro Certification #: WA01230
California Certification #: 01153CA
Florida/NELAP Certification #: E87617
Oregon Certification #: WA200007
Washington Certification #: C1229



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# SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **256691001** | **SPL-31-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691002** | **SPL-31-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691003** | **SPL-31-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691004** | **SPL-31-4** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691005** | **SPL-31-5** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691006** | **SPL-31-6** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691007** | **SPL-32-1** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691008** | **SPL-32-2** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |



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## SAMPLE ANALYTE COUNT

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691009** | **SPL-32-3** | NWTPH-Dx | AY1 | 4 | PASI-S |
| | | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8270 by SIM | ERB | 20 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |
| | | ASTM D2974-87 | DMT | 1 | PASI-S |
| **256691010** | **TB 021811** | NWTPH-Gx | ATH | 3 | PASI-S |
| | | EPA 8260 | LPM | 8 | PASI-S |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-31-1** **Lab ID: 256691001** Collected: 02/18/11 10:45 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 55.2 | 1 | 02/22/11 11:40 | 02/23/11 14:21 | | |
| Motor Oil Range SG | ND | mg/kg | 221 | 1 | 02/22/11 11:40 | 02/23/11 14:21 | 64742-65-0 | |
| n-Octacosane (S) SG | 89 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 14:21 | 630-02-4 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 14:21 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 28.1 | 1 | 02/28/11 08:00 | 02/28/11 10:42 | | |
| a,a,a-Trifluorotoluene (S) | 139 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 10:42 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 110 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 10:42 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 83-32-9 | |
| Acenaphthylene | **26.1** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 208-96-8 | |
| Anthracene | **22.4** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 120-12-7 | |
| Benzo(a)anthracene | **39.5** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 56-55-3 | |
| Benzo(a)pyrene | **48.4** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 50-32-8 | |
| Benzo(b)fluoranthene | **31.5** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 205-99-2 | |
| Benzo(g,h,i)perylene | **25.3** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 191-24-2 | |
| Benzo(k)fluoranthene | **29.5** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 207-08-9 | |
| Chrysene | **44.0** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 53-70-3 | |
| Fluoranthene | **88.0** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 206-44-0 | |
| Fluorene | **18.7** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **21.3** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 193-39-5 | |
| 1-Methylnaphthalene | **54.6** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 90-12-0 | |
| 2-Methylnaphthalene | **104** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 91-57-6 | |
| Naphthalene | **169** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 91-20-3 | |
| Phenanthrene | **97.3** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 85-01-8 | |
| Pyrene | **116** | ug/kg | 18.5 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 85 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 321-60-8 | |
| Terphenyl-d14 (S) | 80 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 17:28 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 10.9 | 1 | | 02/23/11 16:07 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 10.9 | 1 | | 02/23/11 16:07 | 100-41-4 | |
| Toluene | ND | ug/kg | 10.9 | 1 | | 02/23/11 16:07 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 32.7 | 1 | | 02/23/11 16:07 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 02/23/11 16:07 | 1868-53-7 | |
| Toluene-d8 (S) | 102 | % | 80-120 | 1 | | 02/23/11 16:07 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 102 | % | 72-122 | 1 | | 02/23/11 16:07 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 02/23/11 16:07 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **64.0** | % | 0.10 | 1 | | 02/21/11 17:53 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-31-2** **Lab ID: 256691002** Collected: 02/18/11 11:00 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 25.8 | 1 | 02/22/11 11:40 | 02/23/11 14:38 | | |
| Motor Oil Range SG | ND | mg/kg | 103 | 1 | 02/22/11 11:40 | 02/23/11 14:38 | 64742-65-0 | |
| n-Octacosane (S) SG | 99 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 14:38 | 630-02-4 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 14:38 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 8.1 | 1 | 02/28/11 08:00 | 02/28/11 12:42 | | |
| a,a,a-Trifluorotoluene (S) | 133 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 12:42 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 110 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 12:42 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **8.6** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 83-32-9 | |
| Acenaphthylene | **25.7** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 208-96-8 | |
| Anthracene | **13.3** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 120-12-7 | |
| Benzo(a)anthracene | **22.2** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 56-55-3 | |
| Benzo(a)pyrene | **23.9** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 50-32-8 | |
| Benzo(b)fluoranthene | **15.0** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 205-99-2 | |
| Benzo(g,h,i)perylene | **14.5** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 191-24-2 | |
| Benzo(k)fluoranthene | **15.0** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 207-08-9 | |
| Chrysene | **25.9** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 53-70-3 | |
| Fluoranthene | **63.8** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 206-44-0 | |
| Fluorene | **9.6** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **10.6** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 193-39-5 | |
| 1-Methylnaphthalene | **15.6** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 90-12-0 | |
| 2-Methylnaphthalene | **24.0** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 91-57-6 | |
| Naphthalene | **128** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 91-20-3 | |
| Phenanthrene | **73.2** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 85-01-8 | |
| Pyrene | **71.8** | ug/kg | 8.6 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 92 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 321-60-8 | |
| Terphenyl-d14 (S) | 83 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 18:18 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.7 | 1 | | 02/23/11 16:27 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.7 | 1 | | 02/23/11 16:27 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.7 | 1 | | 02/23/11 16:27 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 11.0 | 1 | | 02/23/11 16:27 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/23/11 16:27 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 02/23/11 16:27 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 93 | % | 72-122 | 1 | | 02/23/11 16:27 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 91 | % | 80-143 | 1 | | 02/23/11 16:27 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **22.7** | % | 0.10 | 1 | | 02/21/11 17:54 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-31-3** **Lab ID: 256691003** Collected: 02/18/11 11:10 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **61.7** | mg/kg | 20.4 | 1 | 02/22/11 11:40 | 02/23/11 14:55 | | |
| Motor Oil Range SG | **270** | mg/kg | 81.6 | 1 | 02/22/11 11:40 | 02/23/11 14:55 | 64742-65-0 | |
| n-Octacosane (S) SG | 103 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 14:55 | 630-02-4 | |
| o-Terphenyl (S) SG | 103 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 14:55 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.3 | 1 | 02/28/11 08:00 | 02/28/11 13:06 | | |
| a,a,a-Trifluorotoluene (S) | 122 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 13:06 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 100 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 13:06 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **185** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 83-32-9 | |
| Acenaphthylene | **44.5** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 208-96-8 | |
| Anthracene | **322** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 120-12-7 | |
| Benzo(a)anthracene | **514** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 56-55-3 | |
| Benzo(a)pyrene | **580** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 50-32-8 | |
| Benzo(b)fluoranthene | **341** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 205-99-2 | |
| Benzo(g,h,i)perylene | **310** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 191-24-2 | |
| Benzo(k)fluoranthene | **337** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 207-08-9 | |
| Chrysene | **518** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 218-01-9 | |
| Dibenz(a,h)anthracene | **79.0** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 53-70-3 | |
| Fluoranthene | **911** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 206-44-0 | |
| Fluorene | **162** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **257** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 193-39-5 | |
| 1-Methylnaphthalene | **70.9** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 90-12-0 | |
| 2-Methylnaphthalene | **119** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 91-57-6 | |
| Naphthalene | **132** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 91-20-3 | |
| Phenanthrene | **1100** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 85-01-8 | |
| Pyrene | **1190** | ug/kg | 7.3 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 84 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 321-60-8 | |
| Terphenyl-d14 (S) | 84 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 18:35 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 2.9 | 1 | | 02/23/11 16:47 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 2.9 | 1 | | 02/23/11 16:47 | 100-41-4 | |
| Toluene | ND | ug/kg | 2.9 | 1 | | 02/23/11 16:47 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.8 | 1 | | 02/23/11 16:47 | 1330-20-7 | |
| Dibromofluoromethane (S) | 98 | % | 80-136 | 1 | | 02/23/11 16:47 | 1868-53-7 | |
| Toluene-d8 (S) | 93 | % | 80-120 | 1 | | 02/23/11 16:47 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | % | 72-122 | 1 | | 02/23/11 16:47 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 02/23/11 16:47 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **10.8** | % | 0.10 | 1 | | 02/21/11 17:55 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-31-4** **Lab ID: 256691004** Collected: 02/18/11 11:20 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **89.9** | mg/kg | 22.9 | 1 | 02/22/11 11:40 | 02/23/11 15:11 | | |
| Motor Oil Range SG | **122** | mg/kg | 91.5 | 1 | 02/22/11 11:40 | 02/23/11 15:11 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 15:11 | 630-02-4 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 15:11 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.5 | 1 | 02/28/11 08:00 | 02/28/11 13:30 | | |
| a,a,a-Trifluorotoluene (S) | 128 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 13:30 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 107 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 13:30 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 83-32-9 | |
| Acenaphthylene | **9.2** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 208-96-8 | |
| Anthracene | **16.1** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 120-12-7 | |
| Benzo(a)anthracene | **29.4** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 56-55-3 | |
| Benzo(a)pyrene | **40.4** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 50-32-8 | |
| Benzo(b)fluoranthene | **23.2** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 205-99-2 | |
| Benzo(g,h,i)perylene | **31.5** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 191-24-2 | |
| Benzo(k)fluoranthene | **26.5** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 207-08-9 | |
| Chrysene | **37.3** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 218-01-9 | |
| Dibenz(a,h)anthracene | **8.0** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 53-70-3 | |
| Fluoranthene | **58.6** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 206-44-0 | |
| Fluorene | **10.5** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **22.6** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 193-39-5 | |
| 1-Methylnaphthalene | **12.4** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 90-12-0 | |
| 2-Methylnaphthalene | **24.6** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 91-57-6 | |
| Naphthalene | **37.9** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 91-20-3 | |
| Phenanthrene | **56.5** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 85-01-8 | |
| Pyrene | **94.9** | ug/kg | 7.6 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 92 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 321-60-8 | |
| Terphenyl-d14 (S) | 93 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 18:51 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/23/11 17:06 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/23/11 17:06 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/23/11 17:06 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 8.9 | 1 | | 02/23/11 17:06 | 1330-20-7 | |
| Dibromofluoromethane (S) | 93 | % | 80-136 | 1 | | 02/23/11 17:06 | 1868-53-7 | |
| Toluene-d8 (S) | 93 | % | 80-120 | 1 | | 02/23/11 17:06 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 91 | % | 72-122 | 1 | | 02/23/11 17:06 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 80-143 | 1 | | 02/23/11 17:06 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **13.6** | % | 0.10 | 1 | | 02/21/11 17:56 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-31-5** **Lab ID: 256691005** Collected: 02/18/11 11:40 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 92.8 | 1 | 02/22/11 11:40 | 02/23/11 15:28 | | |
| Motor Oil Range SG | ND | mg/kg | 371 | 1 | 02/22/11 11:40 | 02/23/11 15:28 | 64742-65-0 | |
| n-Octacosane (S) SG | 102 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 15:28 | 630-02-4 | |
| o-Terphenyl (S) SG | 92 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 15:28 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 55.5 | 1 | 02/28/11 08:00 | 02/28/11 13:54 | | |
| a,a,a-Trifluorotoluene (S) | 143 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 13:54 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 117 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 13:54 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 83-32-9 | |
| Acenaphthylene | **52.8** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 208-96-8 | |
| Anthracene | **38.9** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 120-12-7 | |
| Benzo(a)anthracene | **48.3** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 56-55-3 | |
| Benzo(a)pyrene | **45.5** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 207-08-9 | |
| Chrysene | **51.2** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 53-70-3 | |
| Fluoranthene | **117** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 206-44-0 | |
| Fluorene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 90-12-0 | |
| 2-Methylnaphthalene | **39.9** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 91-57-6 | |
| Naphthalene | **305** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 91-20-3 | |
| Phenanthrene | **144** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 85-01-8 | |
| Pyrene | **144** | ug/kg | 33.3 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 73 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 321-60-8 | |
| Terphenyl-d14 (S) | 73 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 19:08 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 19.0 | 1 | | 02/24/11 10:34 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 19.0 | 1 | | 02/24/11 10:34 | 100-41-4 | |
| Toluene | ND | ug/kg | 19.0 | 1 | | 02/24/11 10:34 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 57.1 | 1 | | 02/24/11 10:34 | 1330-20-7 | |
| Dibromofluoromethane (S) | 96 | % | 80-136 | 1 | | 02/24/11 10:34 | 1868-53-7 | |
| Toluene-d8 (S) | 99 | % | 80-120 | 1 | | 02/24/11 10:34 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | % | 72-122 | 1 | | 02/24/11 10:34 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 95 | % | 80-143 | 1 | | 02/24/11 10:34 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **80.0** | % | 0.10 | 1 | | 02/21/11 17:57 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-31-6** **Lab ID: 256691006** Collected: 02/18/11 11:50 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | ND | mg/kg | 98.6 | 1 | 02/22/11 11:40 | 02/23/11 15:45 | | |
| Motor Oil Range SG | **418** | mg/kg | 395 | 1 | 02/22/11 11:40 | 02/23/11 15:45 | 64742-65-0 | |
| n-Octacosane (S) SG | 105 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 15:45 | 630-02-4 | |
| o-Terphenyl (S) SG | 88 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 15:45 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 59.9 | 1 | 02/28/11 08:00 | 02/28/11 14:18 | | |
| a,a,a-Trifluorotoluene (S) | 128 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 14:18 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 105 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 14:18 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 83-32-9 | |
| Acenaphthylene | **54.0** | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 208-96-8 | |
| Anthracene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 207-08-9 | |
| Chrysene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 53-70-3 | |
| Fluoranthene | **76.9** | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 206-44-0 | |
| Fluorene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 193-39-5 | |
| 1-Methylnaphthalene | ND | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 90-12-0 | |
| 2-Methylnaphthalene | **37.4** | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 91-57-6 | |
| Naphthalene | **342** | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 91-20-3 | |
| Phenanthrene | **124** | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 85-01-8 | |
| Pyrene | **87.2** | ug/kg | 33.6 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 85 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 321-60-8 | |
| Terphenyl-d14 (S) | 83 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 19:25 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 22.7 | 1 | | 02/24/11 11:15 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 22.7 | 1 | | 02/24/11 11:15 | 100-41-4 | |
| Toluene | ND | ug/kg | 22.7 | 1 | | 02/24/11 11:15 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 68.1 | 1 | | 02/24/11 11:15 | 1330-20-7 | |
| Dibromofluoromethane (S) | 101 | % | 80-136 | 1 | | 02/24/11 11:15 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 02/24/11 11:15 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | % | 72-122 | 1 | | 02/24/11 11:15 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 100 | % | 80-143 | 1 | | 02/24/11 11:15 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **80.1** | % | 0.10 | 1 | | 02/21/11 17:58 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-32-1** **Lab ID: 256691007** Collected: 02/18/11 12:00 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **30.0** | mg/kg | 27.2 | 1 | 02/22/11 11:40 | 02/23/11 16:02 | | |
| Motor Oil Range SG | **196** | mg/kg | 109 | 1 | 02/22/11 11:40 | 02/23/11 16:02 | 64742-65-0 | |
| n-Octacosane (S) SG | 106 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 16:02 | 630-02-4 | |
| o-Terphenyl (S) SG | 98 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 16:02 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 8.0 | 1 | 02/28/11 08:00 | 02/28/11 15:06 | | |
| a,a,a-Trifluorotoluene (S) | 144 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 15:06 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 119 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 15:06 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **11.4** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 83-32-9 | |
| Acenaphthylene | **15.4** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 208-96-8 | |
| Anthracene | **16.9** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 120-12-7 | |
| Benzo(a)anthracene | **70.6** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 56-55-3 | |
| Benzo(a)pyrene | **83.1** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 50-32-8 | |
| Benzo(b)fluoranthene | **107** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 205-99-2 | |
| Benzo(g,h,i)perylene | **59.5** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 191-24-2 | |
| Benzo(k)fluoranthene | **94.1** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 207-08-9 | |
| Chrysene | **124** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 218-01-9 | |
| Dibenz(a,h)anthracene | **12.3** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 53-70-3 | |
| Fluoranthene | **93.8** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 206-44-0 | |
| Fluorene | **12.7** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **50.6** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 193-39-5 | |
| 1-Methylnaphthalene | **13.3** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 90-12-0 | |
| 2-Methylnaphthalene | **19.6** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 91-57-6 | |
| Naphthalene | **56.2** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 91-20-3 | |
| Phenanthrene | **57.5** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 85-01-8 | |
| Pyrene | **97.0** | ug/kg | 9.0 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 80 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 321-60-8 | |
| Terphenyl-d14 (S) | 72 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 19:41 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.3 | 1 | | 02/24/11 11:50 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.3 | 1 | | 02/24/11 11:50 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.3 | 1 | | 02/24/11 11:50 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.9 | 1 | | 02/24/11 11:50 | 1330-20-7 | |
| Dibromofluoromethane (S) | 102 | % | 80-136 | 1 | | 02/24/11 11:50 | 1868-53-7 | |
| Toluene-d8 (S) | 96 | % | 80-120 | 1 | | 02/24/11 11:50 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | % | 72-122 | 1 | | 02/24/11 11:50 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 02/24/11 11:50 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **27.4** | % | 0.10 | 1 | | 02/21/11 17:59 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-32-2** **Lab ID: 256691008** Collected: 02/18/11 12:15 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **526** | mg/kg | 29.0 | 1 | 02/22/11 11:40 | 02/23/11 16:52 | | |
| Motor Oil Range SG | **2910** | mg/kg | 116 | 1 | 02/22/11 11:40 | 02/23/11 16:52 | 64742-65-0 | |
| n-Octacosane (S) SG | 141 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 16:52 | 630-02-4 | |
| o-Terphenyl (S) SG | 91 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 16:52 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 8.6 | 1 | 02/28/11 08:00 | 02/28/11 15:31 | | |
| a,a,a-Trifluorotoluene (S) | 121 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 15:31 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 101 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 15:31 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | **17.2** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 83-32-9 | |
| Acenaphthylene | **22.5** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 208-96-8 | |
| Anthracene | **18.0** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 120-12-7 | |
| Benzo(a)anthracene | **59.1** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 56-55-3 | |
| Benzo(a)pyrene | **68.9** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 50-32-8 | |
| Benzo(b)fluoranthene | **42.7** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 205-99-2 | |
| Benzo(g,h,i)perylene | **52.0** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 191-24-2 | |
| Benzo(k)fluoranthene | **55.6** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 207-08-9 | |
| Chrysene | **67.6** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 218-01-9 | |
| Dibenz(a,h)anthracene | **15.2** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 53-70-3 | |
| Fluoranthene | **120** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 206-44-0 | |
| Fluorene | **19.6** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | **35.1** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 193-39-5 | |
| 1-Methylnaphthalene | **18.0** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 90-12-0 | |
| 2-Methylnaphthalene | **29.5** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 91-57-6 | |
| Naphthalene | **72.0** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 91-20-3 | |
| Phenanthrene | **76.9** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 85-01-8 | |
| Pyrene | **135** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 82 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 321-60-8 | |
| Terphenyl-d14 (S) | 74 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 19:58 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 4.8 | 1 | | 02/24/11 12:56 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 4.8 | 1 | | 02/24/11 12:56 | 100-41-4 | |
| Toluene | ND | ug/kg | 4.8 | 1 | | 02/24/11 12:56 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 14.3 | 1 | | 02/24/11 12:56 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/24/11 12:56 | 1868-53-7 | |
| Toluene-d8 (S) | 101 | % | 80-120 | 1 | | 02/24/11 12:56 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 105 | % | 72-122 | 1 | | 02/24/11 12:56 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 80-143 | 1 | | 02/24/11 12:56 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **31.7** | % | 0.10 | 1 | | 02/21/11 18:00 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: SPL-32-3** **Lab ID: 256691009** Collected: 02/18/11 12:30 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "dry-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Dx GCS SG** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 | | | | | | | |
| Diesel Range SG | **35.6** | mg/kg | 28.3 | 1 | 02/22/11 11:40 | 02/23/11 17:26 | | |
| Motor Oil Range SG | **250** | mg/kg | 113 | 1 | 02/22/11 11:40 | 02/23/11 17:26 | 64742-65-0 | |
| n-Octacosane (S) SG | 93 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 17:26 | 630-02-4 | |
| o-Terphenyl (S) SG | 95 | % | 50-150 | 1 | 02/22/11 11:40 | 02/23/11 17:26 | 84-15-1 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx | | | | | | | |
| Gasoline Range Organics | ND | mg/kg | 8.8 | 1 | 02/28/11 08:00 | 03/01/11 11:52 | | |
| a,a,a-Trifluorotoluene (S) | 125 | % | 50-150 | 1 | 02/28/11 08:00 | 03/01/11 11:52 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 102 | % | 50-150 | 1 | 02/28/11 08:00 | 03/01/11 11:52 | 460-00-4 | |
| **8270 MSSV PAH by SIM** | Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546 | | | | | | | |
| Acenaphthene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 83-32-9 | |
| Acenaphthylene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 208-96-8 | |
| Anthracene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 56-55-3 | |
| Benzo(a)pyrene | **10.6** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 207-08-9 | |
| Chrysene | **11.0** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 53-70-3 | |
| Fluoranthene | **21.2** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 206-44-0 | |
| Fluorene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 86-73-7 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 193-39-5 | |
| 1-Methylnaphthalene | **10.2** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 90-12-0 | |
| 2-Methylnaphthalene | **14.2** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 91-57-6 | |
| Naphthalene | **39.4** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 91-20-3 | |
| Phenanthrene | **24.9** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 85-01-8 | |
| Pyrene | **20.8** | ug/kg | 9.8 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 129-00-0 | |
| 2-Fluorobiphenyl (S) | 78 | % | 31-131 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 321-60-8 | |
| Terphenyl-d14 (S) | 66 | % | 30-133 | 1 | 02/22/11 11:40 | 02/24/11 20:14 | 1718-51-0 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.4 | 1 | | 02/24/11 12:29 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.4 | 1 | | 02/24/11 12:29 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.4 | 1 | | 02/24/11 12:29 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 10.2 | 1 | | 02/24/11 12:29 | 1330-20-7 | |
| Dibromofluoromethane (S) | 104 | % | 80-136 | 1 | | 02/24/11 12:29 | 1868-53-7 | |
| Toluene-d8 (S) | 95 | % | 80-120 | 1 | | 02/24/11 12:29 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | % | 72-122 | 1 | | 02/24/11 12:29 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 98 | % | 80-143 | 1 | | 02/24/11 12:29 | 17060-07-0 | |
| **Percent Moisture** | Analytical Method: ASTM D2974-87 | | | | | | | |
| Percent Moisture | **33.6** | % | 0.10 | 1 | | 02/21/11 18:01 | | |



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# ANALYTICAL RESULTS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

**Sample: TB 021811** **Lab ID: 256691010** Collected: 02/18/11 00:00 Received: 02/18/11 15:50 Matrix: Solid

***Results reported on a "wet-weight" basis***

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx | | Preparation Method: NWTPH-Gx | | | | | |
| Gasoline Range Organics | ND | mg/kg | 5.0 | 1 | 02/28/11 08:00 | 02/28/11 12:18 | | |
| a,a,a-Trifluorotoluene (S) | 125 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 12:18 | 98-08-8 | |
| 4-Bromofluorobenzene (S) | 102 | % | 50-150 | 1 | 02/28/11 08:00 | 02/28/11 12:18 | 460-00-4 | |
| **8260/5035A Volatile Organics** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/kg | 3.0 | 1 | | 02/23/11 11:33 | 71-43-2 | |
| Ethylbenzene | ND | ug/kg | 3.0 | 1 | | 02/23/11 11:33 | 100-41-4 | |
| Toluene | ND | ug/kg | 3.0 | 1 | | 02/23/11 11:33 | 108-88-3 | |
| Xylene (Total) | ND | ug/kg | 9.0 | 1 | | 02/23/11 11:33 | 1330-20-7 | |
| Dibromofluoromethane (S) | 95 | % | 80-136 | 1 | | 02/23/11 11:33 | 1868-53-7 | |
| Toluene-d8 (S) | 95 | % | 80-120 | 1 | | 02/23/11 11:33 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 94 | % | 72-122 | 1 | | 02/23/11 11:33 | 460-00-4 | |
| 1,2-Dichloroethane-d4 (S) | 99 | % | 80-143 | 1 | | 02/23/11 11:33 | 17060-07-0 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: OEXT/3337 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3546 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691009

METHOD BLANK: 59441 Matrix: Solid
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | ND | 20.0 | 02/23/11 13:47 | |
| Motor Oil Range SG | mg/kg | ND | 80.0 | 02/23/11 13:47 | |
| n-Octacosane (S) SG | % | 100 | 50-150 | 02/23/11 13:47 | |
| o-Terphenyl (S) SG | % | 92 | 50-150 | 02/23/11 13:47 | |

LABORATORY CONTROL SAMPLE: 59442

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 500 | 421 | 84 | 56-124 | |
| Motor Oil Range SG | mg/kg | 500 | 457 | 91 | 50-150 | |
| n-Octacosane (S) SG | % | | | 102 | 50-150 | |
| o-Terphenyl (S) SG | % | | | 113 | 50-150 | |

SAMPLE DUPLICATE: 59444

| Parameter | Units | 256691008 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Diesel Range SG | mg/kg | 526 | 166 | 104 | R1 |
| Motor Oil Range SG | mg/kg | 2910 | 1000 | 97 | R1 |
| n-Octacosane (S) SG | % | 141 | 98 | 41 | |
| o-Terphenyl (S) SG | % | 91 | 87 | 9 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: GCV/2194 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691010

METHOD BLANK: 60203 Matrix: Solid
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 02/28/11 09:55 | |
| 4-Bromofluorobenzene (S) | % | 90 | 50-150 | 02/28/11 09:55 | |
| a,a,a-Trifluorotoluene (S) | % | 113 | 50-150 | 02/28/11 09:55 | |

LABORATORY CONTROL SAMPLE: 60204

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 13.3 | 107 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 95 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 117 | 50-150 | |

SAMPLE DUPLICATE: 60240

| Parameter | Units | 256691001 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.9J | | |
| 4-Bromofluorobenzene (S) | % | 110 | 99 | 11 | |
| a,a,a-Trifluorotoluene (S) | % | 139 | 122 | 13 | |

SAMPLE DUPLICATE: 60241

| Parameter | Units | 256691006 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 7.1J | | |
| 4-Bromofluorobenzene (S) | % | 105 | 105 | .4 | |
| a,a,a-Trifluorotoluene (S) | % | 128 | 127 | .4 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: GCV/2197 | Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx | Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 256691009

METHOD BLANK: 60406 | Matrix: Solid
Associated Lab Samples: 256691009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | 5.0 | 03/01/11 10:40 | |
| 4-Bromofluorobenzene (S) | % | 111 | 50-150 | 03/01/11 10:40 | |
| a,a,a-Trifluorotoluene (S) | % | 132 | 50-150 | 03/01/11 10:40 | |

LABORATORY CONTROL SAMPLE: 60407

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | 12.5 | 14.0 | 112 | 54-156 | |
| 4-Bromofluorobenzene (S) | % | | | 108 | 50-150 | |
| a,a,a-Trifluorotoluene (S) | % | | | 131 | 50-150 | |

SAMPLE DUPLICATE: 60408

| Parameter | Units | 256698003 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Gasoline Range Organics | mg/kg | ND | .41J | | |
| 4-Bromofluorobenzene (S) | % | 96 | 95 | .4 | |
| a,a,a-Trifluorotoluene (S) | % | 121 | 117 | 3 | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: OEXT/3338 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270/3546 MSSV PAH by SIM
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691009

METHOD BLANK: 59445 Matrix: Solid
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| 2-Methylnaphthalene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Acenaphthene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Acenaphthylene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Anthracene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Benzo(a)anthracene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Benzo(a)pyrene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Benzo(b)fluoranthene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Benzo(g,h,i)perylene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Benzo(k)fluoranthene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Chrysene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Fluoranthene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Fluorene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Naphthalene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Phenanthrene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| Pyrene | ug/kg | ND | 6.7 | 02/24/11 16:38 | |
| 2-Fluorobiphenyl (S) | % | 85 | 31-131 | 02/24/11 16:38 | |
| Terphenyl-d14 (S) | % | 93 | 30-133 | 02/24/11 16:38 | |

LABORATORY CONTROL SAMPLE: 59446

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 133 | 117 | 88 | 37-121 | |
| 2-Methylnaphthalene | ug/kg | 133 | 121 | 90 | 33-132 | |
| Acenaphthene | ug/kg | 133 | 116 | 87 | 32-127 | |
| Acenaphthylene | ug/kg | 133 | 118 | 88 | 31-134 | |
| Anthracene | ug/kg | 133 | 117 | 88 | 42-135 | |
| Benzo(a)anthracene | ug/kg | 133 | 133 | 100 | 43-139 | |
| Benzo(a)pyrene | ug/kg | 133 | 139 | 104 | 44-144 | |
| Benzo(b)fluoranthene | ug/kg | 133 | 124 | 93 | 42-144 | |
| Benzo(g,h,i)perylene | ug/kg | 133 | 122 | 92 | 46-136 | |
| Benzo(k)fluoranthene | ug/kg | 133 | 134 | 101 | 45-147 | |
| Chrysene | ug/kg | 133 | 125 | 94 | 42-144 | |
| Dibenz(a,h)anthracene | ug/kg | 133 | 122 | 92 | 48-142 | |
| Fluoranthene | ug/kg | 133 | 124 | 93 | 44-143 | |
| Fluorene | ug/kg | 133 | 114 | 86 | 32-146 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 133 | 125 | 93 | 47-140 | |
| Naphthalene | ug/kg | 133 | 112 | 84 | 35-118 | |
| Phenanthrene | ug/kg | 133 | 120 | 90 | 42-131 | |



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Seattle, WA 98108
(206)767-5060

# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

LABORATORY CONTROL SAMPLE: 59446

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Pyrene | ug/kg | 133 | 128 | 96 | 47-136 | |
| 2-Fluorobiphenyl (S) | % | | | 91 | 31-131 | |
| Terphenyl-d14 (S) | % | | | 101 | 30-133 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 59447 59448

| Parameter | Units | 256691001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | ug/kg | 54.6 | 361 | 367 | 294 | 299 | 66 | 66 | 31-123 | 2 | |
| 2-Methylnaphthalene | ug/kg | 104 | 361 | 367 | 318 | 320 | 59 | 59 | 15-146 | .5 | |
| Acenaphthene | ug/kg | ND | 361 | 367 | 289 | 295 | 77 | 77 | 19-141 | 2 | |
| Acenaphthylene | ug/kg | 26.1 | 361 | 367 | 298 | 292 | 75 | 72 | 30-142 | 2 | |
| Anthracene | ug/kg | 22.4 | 361 | 367 | 326 | 317 | 84 | 80 | 38-137 | 3 | |
| Benzo(a)anthracene | ug/kg | 39.5 | 361 | 367 | 376 | 299 | 93 | 71 | 37-143 | 23 | R1 |
| Benzo(a)pyrene | ug/kg | 48.4 | 361 | 367 | 372 | 315 | 89 | 73 | 33-147 | 16 | |
| Benzo(b)fluoranthene | ug/kg | 31.5 | 361 | 367 | 298 | 302 | 74 | 74 | 25-156 | 1 | |
| Benzo(g,h,i)perylene | ug/kg | 25.3 | 361 | 367 | 271 | 255 | 68 | 63 | 26-142 | 6 | |
| Benzo(k)fluoranthene | ug/kg | 29.5 | 361 | 367 | 308 | 255 | 77 | 61 | 35-142 | 19 | |
| Chrysene | ug/kg | 44.0 | 361 | 367 | 350 | 285 | 85 | 66 | 23-150 | 20 | |
| Dibenz(a,h)anthracene | ug/kg | ND | 361 | 367 | 234 | 230 | 62 | 60 | 41-140 | 1 | |
| Fluoranthene | ug/kg | 88.0 | 361 | 367 | 486 | 358 | 110 | 74 | 25-155 | 30 | R1 |
| Fluorene | ug/kg | 18.7 | 361 | 367 | 306 | 305 | 79 | 78 | 33-152 | .6 | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21.3 | 361 | 367 | 266 | 248 | 68 | 62 | 36-139 | 7 | |
| Naphthalene | ug/kg | 169 | 361 | 367 | 367 | 366 | 55 | 54 | 25-121 | .5 | |
| Phenanthrene | ug/kg | 97.3 | 361 | 367 | 487 | 370 | 108 | 74 | 29-141 | 27 | R1 |
| Pyrene | ug/kg | 116 | 361 | 367 | 546 | 389 | 119 | 74 | 36-145 | 34 | R1 |
| 2-Fluorobiphenyl (S) | % | | | | | | 80 | 81 | 31-131 | | |
| Terphenyl-d14 (S) | % | | | | | | 71 | 72 | 30-133 | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: MSV/3891 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691010

METHOD BLANK: 59457 Matrix: Solid
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691010

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/23/11 10:54 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/23/11 10:54 | |
| Toluene | ug/kg | ND | 3.0 | 02/23/11 10:54 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/23/11 10:54 | |
| 1,2-Dichloroethane-d4 (S) | % | 102 | 80-143 | 02/23/11 10:54 | |
| 4-Bromofluorobenzene (S) | % | 97 | 72-122 | 02/23/11 10:54 | |
| Dibromofluoromethane (S) | % | 99 | 80-136 | 02/23/11 10:54 | |
| Toluene-d8 (S) | % | 97 | 80-120 | 02/23/11 10:54 | |

LABORATORY CONTROL SAMPLE & LCSD: 59458 59890

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 54.2 | 54.3 | 108 | 109 | 75-133 | .2 | 30 | |
| Ethylbenzene | ug/kg | 50 | 46.4 | 47.5 | 93 | 95 | 68-131 | 2 | 30 | |
| Toluene | ug/kg | 50 | 49.2 | 51.0 | 98 | 102 | 73-124 | 4 | 30 | |
| Xylene (Total) | ug/kg | 150 | 148 | 151 | 98 | 101 | 68-130 | 2 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 100 | 98 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 103 | 100 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 101 | 99 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 92 | 97 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: MSV/3904 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 256691005, 256691006, 256691007, 256691008, 256691009

METHOD BLANK: 59831 Matrix: Solid
Associated Lab Samples: 256691005, 256691006, 256691007, 256691008, 256691009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Benzene | ug/kg | ND | 3.0 | 02/24/11 10:02 | |
| Ethylbenzene | ug/kg | ND | 3.0 | 02/24/11 10:02 | |
| Toluene | ug/kg | ND | 3.0 | 02/24/11 10:02 | |
| Xylene (Total) | ug/kg | ND | 9.0 | 02/24/11 10:02 | |
| 1,2-Dichloroethane-d4 (S) | % | 94 | 80-143 | 02/24/11 10:02 | |
| 4-Bromofluorobenzene (S) | % | 92 | 72-122 | 02/24/11 10:02 | |
| Dibromofluoromethane (S) | % | 99 | 80-136 | 02/24/11 10:02 | |
| Toluene-d8 (S) | % | 95 | 80-120 | 02/24/11 10:02 | |

LABORATORY CONTROL SAMPLE & LCSD: 59832 59833

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ug/kg | 50 | 54.1 | 53.9 | 108 | 108 | 75-133 | .3 | 30 | |
| Ethylbenzene | ug/kg | 50 | 46.0 | 47.4 | 92 | 95 | 68-131 | 3 | 30 | |
| Toluene | ug/kg | 50 | 48.5 | 52.1 | 97 | 104 | 73-124 | 7 | 30 | |
| Xylene (Total) | ug/kg | 150 | 147 | 155 | 98 | 103 | 68-130 | 5 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | 96 | 92 | 80-143 | | | |
| 4-Bromofluorobenzene (S) | % | | | | 101 | 98 | 72-122 | | | |
| Dibromofluoromethane (S) | % | | | | 101 | 97 | 80-136 | | | |
| Toluene-d8 (S) | % | | | | 90 | 101 | 80-120 | | | |



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# QUALITY CONTROL DATA

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

QC Batch: PMST/1543 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 256691001, 256691002, 256691003, 256691004, 256691005, 256691006, 256691007, 256691008, 256691009

SAMPLE DUPLICATE: 59409

| Parameter | Units | 256691009 Result | Dup Result | RPD | Qualifiers |
|---|---|---|---|---|---|
| Percent Moisture | % | 33.6 | 29.3 | 14 | |



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# QUALIFIERS

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

## DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

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

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

## LABORATORIES

PASI-S Pace Analytical Services - Seattle

## BATCH QUALIFIERS

Batch: MSV/3891

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/3904

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

## ANALYTE QUALIFIERS

R1 RPD value was outside control limits.



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# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256691001** | **SPL-31-1** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691002** | **SPL-31-2** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691003** | **SPL-31-3** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691004** | **SPL-31-4** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691005** | **SPL-31-5** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691006** | **SPL-31-6** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691007** | **SPL-32-1** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691008** | **SPL-32-2** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691009** | **SPL-32-3** | EPA 3546 | OEXT/3337 | NWTPH-Dx | GCSV/2277 |
| **256691001** | **SPL-31-1** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691002** | **SPL-31-2** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691003** | **SPL-31-3** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691004** | **SPL-31-4** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691005** | **SPL-31-5** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691006** | **SPL-31-6** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691007** | **SPL-32-1** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691008** | **SPL-32-2** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691009** | **SPL-32-3** | NWTPH-Gx | GCV/2197 | NWTPH-Gx | GCV/2198 |
| **256691010** | **TB 021811** | NWTPH-Gx | GCV/2194 | NWTPH-Gx | GCV/2195 |
| **256691001** | **SPL-31-1** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691002** | **SPL-31-2** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691003** | **SPL-31-3** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691004** | **SPL-31-4** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691005** | **SPL-31-5** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691006** | **SPL-31-6** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691007** | **SPL-32-1** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691008** | **SPL-32-2** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691009** | **SPL-32-3** | EPA 3546 | OEXT/3338 | EPA 8270 by SIM | MSSV/1535 |
| **256691001** | **SPL-31-1** | EPA 8260 | MSV/3891 | | |
| **256691002** | **SPL-31-2** | EPA 8260 | MSV/3891 | | |
| **256691003** | **SPL-31-3** | EPA 8260 | MSV/3891 | | |
| **256691004** | **SPL-31-4** | EPA 8260 | MSV/3891 | | |
| **256691005** | **SPL-31-5** | EPA 8260 | MSV/3904 | | |
| **256691006** | **SPL-31-6** | EPA 8260 | MSV/3904 | | |
| **256691007** | **SPL-32-1** | EPA 8260 | MSV/3904 | | |
| **256691008** | **SPL-32-2** | EPA 8260 | MSV/3904 | | |
| **256691009** | **SPL-32-3** | EPA 8260 | MSV/3904 | | |
| **256691010** | **TB 021811** | EPA 8260 | MSV/3891 | | |
| **256691001** | **SPL-31-1** | ASTM D2974-87 | PMST/1543 | | |
| **256691002** | **SPL-31-2** | ASTM D2974-87 | PMST/1543 | | |
| **256691003** | **SPL-31-3** | ASTM D2974-87 | PMST/1543 | | |
| **256691004** | **SPL-31-4** | ASTM D2974-87 | PMST/1543 | | |
| **256691005** | **SPL-31-5** | ASTM D2974-87 | PMST/1543 | | |
| **256691006** | **SPL-31-6** | ASTM D2974-87 | PMST/1543 | | |
| **256691007** | **SPL-32-1** | ASTM D2974-87 | PMST/1543 | | |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: East Bay Redevelopment 138130
Pace Project No.: 256691

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **256691008** | **SPL-32-2** | ASTM D2974-87 | PMST/1543 | | |
| **256691009** | **SPL-32-3** | ASTM D2974-87 | PMST/1543 | | |



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# CHAIN-OF-CUSTODY / Analytical Request Document

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

256691
~~256690~~ NJS 2/18/11

Page: 1 of 1

1446268

**Section A** Required Client Information:

Company: BROWN AND CALDWELL
Address: 724 COLUMBIA NW #420
OLYMPIA, WA 98501
Email To: jturk@brwncald.com
Phone: 360 943 7525 Fax: 360 943 7513
Requested Due Date/TAT: 10 Day

**Section B** Required Project Information:

Report To: JON TURK
Copy To: JOSH JOHNSON
Purchase Order No.:
Project Name: EAST BAY REDEVELOPMENT
Project Number: 133130

**Section C** Invoice Information:

Attention: JON TURK
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER ECY

Site Location STATE: WA

256691

**Section D** Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

| ITEM # | SAMPLE ID | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED Composite Start DATE | COLLECTED Composite Start TIME | COLLECTED Composite End/Grab DATE | COLLECTED Composite End/Grab TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Analysis Test (Y/N) | Cu, Cd, Pb, As, Ni | Dioxin, Furan | TPH-HO, TPH-D | CPAH, Naphthalene | BTEX, TPH-G | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SPL-31-1 | SL | G | | | 02-18-11 | 10:45 | | 7 | X | | | | | | X | X | | | | SG | | SG | | |
| 2 | SPL-31-2 | | | | | | 11:00 | | | | | | | | | | | | | | | | | | |
| 3 | SPL-31-3 | | | | | | 11:10 | | | | | | | | | | | | | | | | | | |
| 4 | SPL-31-4 | | | | | | 11:20 | | | | | | | | | | | | | | | | | | |
| 5 | SPL-31-5 | | | | | | 11:40 | | | | | | | | | | | | | | | | | | |
| 6 | SPL-31-6 | | | | | | 11:50 | | | | | | | | | | | | | | | | | | |
| 7 | SPL-32-1 | | | | | | 12:00 | | | | | | | | | | | | | | | | | | |
| 8 | SPL-32-2 | | | | | | 12:15 | | | | | | | | | | | | | | | | | | |
| 9 | SPL-32-3 | | | | | | 12:30 | | | | | | | | | | | | | | | | | | |
| 10 | TB021811 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Temp Blank included | Ada Hamilton / BC | 2/18/11 | 15:50 | Jyothi Swamy | 2/18/11 | 1550 | 9.9 | Y | N | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: ADA HAMILTON
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 02-18-11

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

# Sample Container Count

CLIENT: Brown + Caldwell

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COC PAGE 1 of 1
COC ID# 1446268

256691

| Sample Line Item | VG9H | AG1H | AG1U | BG1H | BP1U | BP2U | BP3U | BP2N | BP2S | WGFU | WGKU | DG9M | VG9W | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 2 | | 1 | 2 | | |
| 2 | | | | | | | | | | 2 | | | | | |
| 3 | | | | | | | | | | 2 | | | | | |
| 4 | | | | | | | | | | 2 | | | | | |
| 5 | | | | | | | | | | 2 | | | | | |
| 6 | | | | | | | | | | 2 | | | | | |
| 7 | | | | | | | | | | 2 | | | | | |
| 8 | | | | | | | | | | 2 | | | | | |
| 9 | | | | | | | | | | 2 | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | Trip Blank? yes |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AG1H | 1 liter HCL amber glass | | BP2S | 500mL H2SO4 plastic | | JGFU | 4oz unpreserved amber wide |
| AG1U | 1liter unpreserved amber glass | | BP2U | 500mL unpreserved plastic | | R | terra core kit |
| AG2S | 500mL H2SO4 amber glass | | BP2Z | 500mL NaOH, Zn Ac | | U | Summa Can |
| AG2U | 500mL unpreserved amber glass | | BP3C | 250mL NaOH plastic | | VG9H | 40mL HCL clear vial |
| AG3S | 250mL H2SO4 amber glass | | BP3N | 250mL HNO3 plastic | | VG9T | 40mL Na Thio. clear vial |
| BG1H | 1 liter HCL clear glass | | BP3S | 250mL H2SO4 plastic | | VG9U | 40mL unpreserved **clear** vial |
| BG1U | 1 liter unpreserved glass | | BP3U | 250mL unpreserved plastic | | VG9W | 40mL glass vial preweighted (EPA 5035) |
| BP1N | 1 liter HNO3 plastic | | DG9B | 40mL Na Bisulfate amber vial | | VSG | Headspace septa vial & HCL |
| BP1S | 1 liter H2SO4 plastic | | DG9H | 40mL HCL amber voa vial | | WGFU | 4oz clear soil jar |
| BP1U | 1 liter unpreserved plastic | | DG9M | 40mL MeOH clear vial | | WGFX | 4oz wide jar w/hexane wipe |
| BP1Z | 1 liter NaOH, Zn, Ac | | DG9T | 40mL Na Thio amber vial | | ZPLC | Ziploc Bag |
| BP2N | 500mL HNO3 plastic | | DG9U | 40mL unpreserved **amber** vial | | | |
| BP2O | 500mL NaOH plastic | | I | Wipe/Swab | | | |

## Sample Condition Upon Receipt

Pace Analytical

Client Name: Brown & Caldwell Project # 256691

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

**Tracking #:** _____

**Custody Seal on Cooler/Box Present:** ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp. Blank Yes _____ No _____

**Thermometer Used** 132013 or 101731962 or 226099 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

**Cooler Temperature** 9.9°C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing ≤ 6°C

**Date and Initials of person examining contents:** NJS 2/18/11

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present: | ☑Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out: | ☑Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished: | ☑Yes | ☐No | ☐N/A | 3. |
| Sampler Name & Signature on COC: | ☑Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time: | ☑Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72hr):** | ☐Yes | ☑No | ☐N/A | 6. |
| **Rush Turn Around Time Requested:** | ☐Yes | ☑No | ☐N/A | 7. |
| **Follow Up / Hold Analysis Requested:** | ☐Yes | ☑No | ☐N/A | 8. |
| Sufficient Volume: | ☑Yes | ☐No | ☐N/A | 9. |
| Correct Containers Used: | ☑Yes | ☐No | ☐N/A | 10. |
| -Pace Containers Used: | ☑Yes | ☐No | ☐N/A | |
| Containers Intact: | ☑Yes | ☐No | ☐N/A | 11. |
| Filtered volume received for Dissolved tests | ☐Yes | ☐No | ☑N/A | 12. |
| Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: Soil | ☑Yes | ☐No | ☐N/A | 13. |
| All containers needing preservation have been checked. | ☐Yes | ☐No | ☑N/A | 14. |
| All containers needing preservation are found to be in compliance with EPA recommendation. | ☐Yes | ☐No | ☑N/A | |
| Exceptions: VOA, coliform, TOC, O&G | | | | Initial when completed / Lot # of added preservative |
| Samples checked for dechlorination: | ☐Yes | ☐No | ☑N/A | 15. |
| Headspace in VOA Vials ( >6mm): | ☐Yes | ☐No | ☑N/A | 16. |
| Trip Blanks Present: | ☑Yes | ☐No | ☐N/A | 17. |
| Trip Blank Custody Seals Present | ☐Yes | ☑No | ☐N/A | |
| Pace Trip Blank Lot # (if purchased): _____ | | | | |

**Client Notification/ Resolution:** Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

**Project Manager Review:** for Jenny Creech **Date:** 2/18/11

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

# Appendix F - PARCEL 4:

Weyerhaeuser
*The future is growing™*

Landfill
3434 South Silver Lake Rd
Castle Rock WA 98611
Tel (360) 274 6492
Fax (360) 274 6393

# LOAD SUMMARY

## CECCANTI - CHILDRENS HANDS ON MUSEUM

**1/17/2011 thru 1/21/2011**

| DATE | TIME | CUSTOMER | HAULER, DRIVER, TRUCK# | GROSS WGT (LBS) | TARE WGT (LBS) | NET WGT (LBS) | TICKET # |
|---|---|---|---|---|---|---|---|
| 1/19/2011 | 12:25P | Childrens Museum | Ceccanti - John - #C85 | 105,500 | 42,360 | 63,140 | 30177 |
| 1/20/2011 | 9:20A | Childrens Museum | Ceccanti - John - #C85 | 104,640 | 42,360 | 62,280 | 30215 |
| 1/20/2011 | 9:20A | Childrens Museum | Ceccanti - Mike - #C83 | 105,240 | 42,300 | 62,940 | 30214 |
| 1/20/2011 | 1:05P | Childrens Museum | Ceccanti - John - #C85 | 105,880 | 42,360 | 63,520 | 30240 |
| 1/20/2011 | 1:06P | Childrens Museum | Ceccanti - Mike - #C83 | 103,460 | 42,300 | 61,160 | 30239 |
| 1/21/2011 | 9:20A | Childrens Museum | Ceccanti - Mike - #C83 | 104,360 | 42,300 | 62,060 | 30277 |
| 1/21/2011 | 9:20A | Childrens Museum | Ceccanti - John - #C85 | 105,560 | 42,360 | 63,200 | 30278 |
| 1/21/2011 | 1:15P | Childrens Museum | Ceccanti - Mike - #C83 | 91,860 | 42,300 | 49,560 | 30297 |
| 1/21/2011 | 1:15P | Childrens Museum | Ceccanti - John - #C85 | 96,380 | 42,360 | 54,020 | 30301 |

| | | | |
|---|---|---|---|
| **Total Load Count:** | **9** | **Total Net Weight (LBS):** | **541,880** |
| | | **Total Net Weight (TONS):** | **270.9** |



100th Anniversary

Weyerhaeuser
*The future is growing™*

Landfill
3434 South Silver Lake Rd
Castle Rock WA 98611
Tel (360) 274 6492
Fax (360) 274 6393

# LOAD SUMMARY

## CECCANTI - CHILDRENS HANDS ON MUSEUM

**1/24/2011 thru 1/28/2011**

| DATE | TIME | CUSTOMER | HAULER, DRIVER, TRUCK# | GROSS WGT (LBS) | TARE WGT (LBS) | NET WGT (LBS) | TICKET # |
|---|---|---|---|---|---|---|---|
| 1/25/2011 | 9:10A | Childrens Museum | Ceccanti - John - #C85 | 92,020 | 42,360 | 49,660 | 95027524 |
| 1/25/2011 | 1:00P | Childrens Museum | Ceccanti - John - #C85 | 96,400 | 42,360 | 54,040 | 95027534 |
| 1/26/2011 | 9:05A | Childrens Museum | Ceccanti - John - #C85 | 87,820 | 42,360 | 45,460 | 30420 |
| 1/26/2011 | 1:00P | Childrens Museum | Ceccanti - John - #C85 | 104,720 | 42,360 | 62,360 | 30439 |
| 1/28/2011 | 9:50A | Childrens Museum | Ceccanti - John - #C85 | 96,480 | 42,360 | 54,120 | 30504 |

| | | | |
|---|---|---|---|
| **Total Load Count:** | **5** | **Total Net Weight (LBS):** | **265,640** |
| | | **Total Net Weight (TONS):** | **132.8** |

100th Anniversary

Light weight
C-83

1-21-11

PORT OF OLYMPIA

TICKET 30210

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 42300 LB

TIME 06:08 AM 20 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

TRUCK C-83
TARE WEIGHT
42,300

C-83 49,560 = 24.78 TONS
C-83 62,060 = 31.03 TONS

PORT OF OLYMPIA

TICKET 30173

SCALE NO. 1

GROSS 42360 LB

TIME 09:18 AM 19 JAN 11

C-85

Stock Pile #7

PORT OF OLYMPIA

TICKET 30297

SCALE NO. 1

CUSTOMER 82 CECCANTI
TARE - 42,300
GROSS 91860 LB
NET - 49,560
TIME 11:03 AM 21 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

TRUCK C-85
TARE WEIGHT 42,360

C-83

stockpile #7

PORT OF OLYMPIA

TICKET 30301

SCALE NO. 1

CUSTOMER 82 CECCANTI
TARE - 42,360
GROSS 96380 LB
NET - 54,020
TIME 11:12 AM 21 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C-85

C-85 54,020 = 27.01 TONS
C-85 63,200 = 31.60 TONS

Stockpile

PORT OF OLYMPIA

TICKET 30277

SCALE NO. 1

CUSTOMER 82 CECCANTI
TARE - 42,300
GROSS 104360 LB
NET - 62,060
TIME 06:59 AM 21 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

TOTAL
4 LOADS

114.42 TONS

C-83

Stockpile #6

PORT OF OLYMPIA

TICKET 30278

SCALE NO. 1

CUSTOMER 82 CECCANTI
TARE - 42,360
GROSS 105560 LB
NET - 63,200
TIME 07:01 AM 21 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C-85

Light weight
C-83

1-20-11

PORT OF OLYMPIA

TICKET 30210

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 42300 LB

TIME 06:08 AM 20 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
(206) [redacted]

TRUCK C-83
TARE WEIGHT 42,300

C-83 61,160 = 30.58 TONS
C-83 62,940 = 31.47 TONS

Stock Pile #6

PORT OF OLYMPIA

TICKET 30173

SCALE NO. 1

GROSS 42360 LB

TIME 09:18 AM 19 JAN 11

C-85

PORT OF OLYMPIA

TICKET 30239

SCALE NO. 2

CUSTOMER 82 CECCANTI
TARE - 42,300
GROSS 103460 LB
NET 61,160
TIME 10:55 AM 20 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
(206) [redacted]

TRUCK C-85
TARE WEIGHT 42,360

C-85 63,520 = 31.76 T
C-85 62,280 = 31.14 T

C-83

Stock Pile #6

PORT OF OLYMPIA

TICKET 30240

SCALE NO. 1

CUSTOMER 82 CECCANTI
Tare - 42,360
GROSS 105880 LB
NET 63,520
TIME 10:56 AM 20 JAN 11

Integrated Waste Management
Material Recovery | Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
(206) [redacted]

C-85 stockpile 6

TOTAL
4 LOADS
124.95 TONS

PORT OF OLYMPIA

TICKET 30214

SCALE NO. 1

CUSTOMER 82 CECCANTI
TARE - 42,300
GROSS 105240 LB
NET - 62,940
TIME 06:59 AM 20 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
(206) [redacted]

C-83

PORT OF OLYMPIA

TICKET 30215

SCALE NO. 1

CUSTOMER 82 CECCANTI
Tare - 42,360
GROSS 104640 LB
NET - 62,280
TIME 07:02 AM 20 JAN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
(206) [redacted]

C-85 stockpile 6

1-19-11

TRUCK C-85

TARE WEIGHT 42,360

PORT OF OLYMPIA

TICKET 30173

SCALE NO. 1

GROSS 42360 LB

TIME 09:18 AM 19 JAN 11

C-85

GROSS WEIGHT 105,500

— TARE 42,360

63,140

PORT OF OLYMPIA

Weyerhaeuser Company
Integrated Wood Products
Marshfield [redacted]
P.O. Box [redacted]
Longview [redacted]
[redacted]

TICKET 30177

SCALE NO. 1

CUSTOMER 82 CECCANTI

Tare 42,360

GROSS 105500 LB

Net - 63,140

TIME 09:56 AM 19 JAN 11

C-85 STK Pile #6

= 31.57 TONS

95027534

TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

1211
95027534

**THE CAT SCALE GUARANTEE**

The CAT Scale Company **GUARANTEES** that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.©

**IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:**

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE (toll free).
3) IMMEDIATELY send a copy of the citation, CAT Scale ticket, your name, company, address, and phone number to CAT Scale Company Attn: Operations Manager.

**THANK YOU FOR WEIGHING ON CAT SCALE!**

Stockpile #7

The four weights shown below are separate weights. The TOTAL WEIGHT was weighed on a full length platform scale. **AXLE WEIGHTS CAN NOT BE CERTIFIED** and are **NOT LEGAL FOR TRADE, however, CAT SCALE COMPANY GUARANTEES THESE WEIGHTS TO BE CORRECT.**

DATE: 1-25-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 21600 lb |
| DRIVE AXLE | 29580 lb |
| TRAILER AXLE | 45220 lb |
| TOTAL WEIGHT | 96400 lb |

Longview, WA 98632
(206) 578-4616

COMPANY Ceccanti

TRACTOR # C85 TRAILER # T85

WEIGHER'S SIGNATURE CHEREE PRATT FEE: 1.00

FULL WEIGH TICKET # 95027524 (IF REWEIGH)

**ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE**

CERTIFIED WEIGHTS (imprint seal)

GROSS 96,400

TARE 42,360

NET 54,040

27.02 TONS

WEIGH NUMBER 7524

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

COMMODITY WEIGHED: FREIGHT ALL KINDS

REMARKS:

TRACTOR LICENSE # TRACTOR #

TRAILER LICENSE # TRAILER #

TRAILER LICENSE # TRAILER #

NAME OF WEIGHMASTER (print):

WEIGHMASTER SIGNATURE:

© CAT SCALE COMPANY® 12 (WA)

1-25-11 C-85

54,040 = 27.02 TONS

95027524

TICKET NUMBER

CAT SCALE®

# CERTIFIED AUTOMATED TRUCK SCALE

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

832
95027524

stockpile #7

**THE CAT SCALE GUARANTEE**

The CAT Scale Company **GUARANTEES** that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.©

**IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:**

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE (toll free).
3) IMMEDIATELY send a copy of the citation, CAT Scale ticket, your name, company, address, and phone number to CAT Scale Company Attn: Operations Manager.

**THANK YOU FOR WEIGHING ON CAT SCALE!**

The four weights shown below are separate weights. The TOTAL WEIGHT was weighed on a full length platform scale. **AXLE WEIGHTS CAN NOT BE CERTIFIED** and are **NOT LEGAL FOR TRADE, however, CAT SCALE COMPANY GUARANTEES THESE WEIGHTS TO BE CORRECT.**

Weyerhaeuser Company
Integrated Waste Management
Material Recovery Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
[redacted]

**DATE:** 1-25-2011

**SCALE LOCATION:** 278
GEE-CEE'S TRUCKSTOP
I-5 AND EXIT 57
TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 17700 lb |
| **DRIVE AXLE** | 35200 lb |
| **TRAILER AXLE** | 39120 lb |
| **TOTAL WEIGHT** | 92020 lb |

COMPANY Ceccanti ~~[illegible]~~ TRACTOR # C85 TRAILER # T85

WEIGHER'S SIGNATURE: Cheree Pratt CHEREE PRATT FEE: 9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

**ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE**

CERTIFIED WEIGHTS (imprint seal)

| | |
|---|---|
| **GROSS** | 92,020 |
| **TARE** | 42,360 |
| **NET** | 49,660 |

WEIGH NUMBER
7524

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

COMMODITY WEIGHED: FREIGHT ALL KINDS
REMARKS: _____
TRACTOR LICENSE # _____ TRACTOR # _____
TRAILER LICENSE # _____ TRAILER # _____
TRAILER LICENSE # _____ TRAILER # _____

NAME OF WEIGHMASTER (print): _____
WEIGHMASTER SIGNATURE: _____

© CAT SCALE COMPANY® 12/(
(WA)

TRUCK
C-85 1-25-11

49,660 = 24.83 TONS

Stockpile #7

PORT OF OLYMPIA

C-85

TICKET 30439

SCALE NO. 1

CUSTOMER 82 CECCANTI

TARE - 42,360

GROSS 104720 LB

NET - 62,360

TIME 11:05 AM 26 JAN 11

31.18 Tons

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facilities
PO Box [illegible]
Longview, WA [illegible]
(206) 578-4616

Stockpile #7

PORT OF OLYMPIA

C-85

TICKET 30420

SCALE NO. 2

CUSTOMER 82 CECCANTI

TARE - ~~42,600~~ 42,360

GROSS 87820 LB

NET - 45,460

TIME 07:27 AM 26 JAN 11 22.73 TONS

[illegible] Company
[illegible] Waste Management
[illegible]erial Recovery / Transfer Facilit[illegible]
[illegible] Box 188
[illegible]ngview, WA 98632
[illegible] 578-4616

Stockpile #7

PORT OF OLYMPIA

TICKET 30504

SCALE NO. 1

CUSTOMER 82 CECCANTI

TARE - 42,360

GROSS 96480 LB

NET 54,120

TIME 08:16 AM 28 JAN 11

27.06 Tons

Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471694

DATE & TIME: 1/26/2011 2:20:30 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 99300 lb
TARE : 44260 lb
NET : 55040 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

1-26 #3 ex

TRUCK TYPE : Picked Up
TRUCK # : Cecc-30
TRAILER # :

NET TONS : 27.52 tn
DAILY TONS : 165.57 tn
JOB TOTAL : 1168.07 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

165.57 TONS

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471693

DATE & TIME: 1/26/2011 1:12:51 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 100220 lb
TARE : 44260 lb
NET : 55960 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-30
TRAILER # :

NET TONS : 27.98 tn
DAILY TONS : 138.05 tn
JOB TOTAL : 1140.55 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471692

DATE & TIME: 1/26/2011 11:56:18 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 98980 lb
TARE : 44260 lb
NET : 54720 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Truck & Trailer
TRUCK # : Cecc-30
TRAILER # :

NET TONS : 27.36 tn
DAILY TONS : 110.07 tn
JOB TOTAL : 1112.57 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471684

DATE & TIME: 1/26/2011 8:27:30 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 99420 lb
TARE : 44260 lb
NET : 55160 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-30
TRAILER # :

NET TONS : 27.58 tn
DAILY TONS : 27.58 tn
JOB TOTAL : 1030.08 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471687

DATE & TIME: 1/26/2011 9:41:05 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 99080 lb
TARE : 44260 lb
NET : 54820 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-30
TRAILER # :

NET TONS : 27.41 tn
DAILY TONS : 54.99 tn
JOB TOTAL : 1057.49 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471690

DATE & TIME: 1/26/2011 10:48:02 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 99700 lb
TARE : 44260 lb
NET : 55440 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-30
TRAILER # :

NET TONS : 27.72 tn
DAILY TONS : 82.71 tn
JOB TOTAL : 1085.21 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 471752

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 1/28/2011 9:36:04 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 105920 lb
TARE : 42480 lb
NET : 63440 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 84
TRAILER # :

NET TONS : 31.72 tn
DAILY TONS : 190.11 tn
JOB TOTAL : 1358.18 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691009

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 471749

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 1/28/2011 8:28:15 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 105340 lb
TARE : 42480 lb
NET : 62860 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 84
TRAILER # :

NET TONS : 31.43 tn
DAILY TONS : 158.39 tn
JOB TOTAL : 1326.46 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301087

DATE & TIME: 8/31/2011 3:20:50 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 101640 lb
TARE : 39520 lb
NET : 62120 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.06 tn
DAILY TONS : 57.92 tn
JOB TOTAL : 187.01 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

Castle Rock

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4414

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301086

DATE & TIME: 8/31/2011 3:01:24 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 92200 lb
TARE : 38480 lb
NET : 53720 lb

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4414

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 26.86 tn
DAILY TONS : 26.86 tn
JOB TOTAL : 155.95 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

Castle Rock

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481295

DATE & TIME: 8/31/2011 11:51:36 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99660 lb
TARE : 38840 lb
NET : 60820 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 30.41 tn
DAILY TONS : 131.39 tn
JOB TOTAL : 1595.70 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

Castle Rock

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481285

DATE & TIME: 8/31/2011 10:38:35 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103840 lb
TARE : 39320 lb
NET : 64520 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.26 tn
DAILY TONS : 100.98 tn
JOB TOTAL : 1565.29 tn

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632

Castle Rock

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481279

DATE & TIME: 8/31/2011 10:22:46 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105420 lb
TARE : 37840 lb
NET : 67580 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 33.79 tn
DAILY TONS : 68.72 tn
JOB TOTAL : 1533.03 tn

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Castle Rock.

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481234

DATE & TIME: 8/31/2011 7:44:06 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 108700 lb
TARE : 38840 lb
NET : 69860 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 34.93 tn
DAILY TONS : 34.93 tn
JOB TOTAL : 1499.24 tn

CUSTOMER SIGN: Kelly A Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Castle Rock

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301044

DATE & TIME: 8/30/2011 2:39:57 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 104900 lb
TARE : 38480 lb
NET : 66420 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 33.21 tn
DAILY TONS : 66.31 tn
JOB TOTAL : 129.09 tn

Castle Rock

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301043

DATE & TIME: 8/30/2011 2:34:54 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 105720 lb
TARE : 39520 lb
NET : 66200 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 33.10 tn
DAILY TONS : 33.10 tn
JOB TOTAL : 95.88 tn

Castle Rock

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-8400

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481163

DATE & TIME: 8/30/2011 11:51:12 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99040 lb
TARE : 38840 lb
NET : 60200 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 30.10 tn
DAILY TONS : 126.56 tn
JOB TOTAL : 1464.31 tn

Castle Rock

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481146

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103140 lb
TARE : 37840 lb
NET : 65300 lb

DATE & TIME: 8/30/2011 10:28:02 AM

SHIP LOC. : 4 Rochester

JOB PO # : 58002

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.65 tn
DAILY TONS : 96.46 tn
JOB TOTAL : 1434.21 tn

Castle Rock

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481143

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102220 lb
TARE : 39320 lb
NET : 62900 lb

DATE & TIME: 8/30/2011 10:18:18 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.45 tn
DAILY TONS : 63.81 tn
JOB TOTAL : 1401.56 tn

Castle Rock

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481115

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103560 lb
TARE : 38840 lb
NET : 64720 lb

DATE & TIME: 8/30/2011 7:49:35 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.36 tn
DAILY TONS : 32.36 tn
JOB TOTAL : 1370.11 tn

Castle Rock

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 300977

DATE & TIME: 8/29/2011 2:29:02 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 102440 lb
TARE : 39520 lb
NET : 62920 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.46 tn
DAILY TONS : 62.78 tn
JOB TOTAL : 62.78 tn

LOT 8

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 300973

DATE & TIME: 8/29/2011 1:41:09 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 101120 lb
TARE : 38480 lb
NET : 62640 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.32 tn
DAILY TONS : 31.32 tn
JOB TOTAL : 31.32 tn

LOT 8

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481062

DATE & TIME: 8/29/2011 12:43:56 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98740 lb
TARE : 38840 lb
NET : 59900 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 29.95 tn
DAILY TONS : 136.09 tn
JOB TOTAL : 389.14 tn

LOT #8

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481026

DATE & TIME: 8/29/2011 9:01:59 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105840 lb
TARE : 37840 lb
NET : 68000 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 34.00 tn
DAILY TONS : 106.14 tn
JOB TOTAL : 359.19 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481022

DATE & TIME: 8/29/2011 8:45:46 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 109460 lb
TARE : 39320 lb
NET : 70140 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 35.07 tn
DAILY TONS : 72.14 tn
JOB TOTAL : 325.19 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481017

DATE & TIME: 8/29/2011 8:31:25 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 112980 lb
TARE : 38840 lb
NET : 74140 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 37.07 tn
DAILY TONS : 37.07 tn
JOB TOTAL : 290.12 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

36804

**Quality Rock Products Inc**
10201 Littlerock Rd SW
Olympia, WA 98512
Phone: (360) 754-7777

?

**PIT LOCATION**

LITTLEROCK ROCHESTER DELPHI OTHER: East Bay Plaza

DATE: 8/26/11 TIME: 6:00

CUSTOMER: D.L.B.

JOB: East Bay Plaza

PRODUCT: Dirt PO#: 11555

CARRIER: QRP

TRUCK #: 18-708-AK DELIVERED PICKED UP

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer
PO Box 188
Longview, WA 98632
(360) 578-4516

| | |
|---|---|
| GROSS WT. | 97,500 |
| TARE WT. | 38,220 |
| NET WT. | 59,280 |
| NET TONS | 29.64 |

NOTES: East Bay to Weyerhaeuser

CUSTOMER SIGNATURE: [signature]

STANDBY TIME: _____ INITIALS: [initials]

Lot 4

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 146,682

In: 12:25:58 8/26/2011

Out: 12:37:46 8/26/2011

Truck Id: 2

Customer Id: 575

Product Id: 61

Truck #: 18704

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 99,480 |
| Tare Lbs: | 37,820 |
| Net Lbs: | 61,660 |
| Net Tons | 30.83 |

Rental needs signature

Lot 4

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 146,681

In: 12:22:43 8/26/2011

Out: 12:33:54 8/26/2011

Truck Id: 19

Customer Id: 575

Product Id: 611

Truck #: 7088

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 103,240 |
| Tare Lbs: | 37,980 |
| Net Lbs: | 65,260 |
| Net Tons | 32.63 |

Lot 4

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 146,677

In: 11:49:19 8/26/2011

Out: 12:07:43 8/26/2011

Truck Id: 16

Customer Id: 575

Product Id: 61

Truck #: 703

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 102,320 |
| Tare Lbs: | 37,880 |
| Net Lbs: | 64,440 |

Lot 4

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 146,658

In: 9:21:02 8/26/2011

Out: 9:35:08 8/26/2011

Truck Id: 16

Customer Id: 575

Product Id: 61

Truck #: 701

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 99,660 |
| Tare Lbs: | 38,180 |
| Net Lbs: | 61,480 |

36763

**Quality Rock Products Inc**
10201 Littlerock Rd SW
Olympia, WA 98512
Phone: (360) 754-7777

**PIT LOCATION**

LITTLEROCK ROCHESTER DELPHI OTHER: _____

DATE: 8/25/11 TIME: 2:20

CUSTOMER: DLB Earthworks Job #11555

JOB: East Bay Public Plaza Olympia, wa

PRODUCT: Bit contaminents PO#: _____

CARRIER: QRP

TRUCK #: 18-704 DELIVERED PICKED UP

| | |
|---|---|
| GROSS WT. | 100,520 |
| TARE WT. | 37,980 |
| NET WT. | ~~10,000~~ 62,540 |
| NET TONS | 31.27 |

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGNATURE: _____

STANDBY TIME: _____ INITIALS: _____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480823

DATE & TIME: 8/25/2011 12:22:04 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99160 lb
TARE : 38840 lb
NET : 60320 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 30.16 tn
DAILY TONS : 253.05 tn
JOB TOTAL : 253.05 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480819

DATE & TIME: 8/25/2011 11:59:18 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102900 lb
TARE : 39320 lb
NET : 63580 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.79 tn
DAILY TONS : 222.89 tn
JOB TOTAL : 222.89 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480815

DATE & TIME: 8/25/2011 11:33:46 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 101660 lb
TARE : 40080 lb
NET : 61580 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 30.79 tn
DAILY TONS : 191.10 tn
JOB TOTAL : 191.10 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480811

DATE & TIME: 8/25/2011 10:56:28 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101660 lb
TARE : 37840 lb
NET : 63820 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.91 tn
DAILY TONS : 160.31 tn
JOB TOTAL : 160.31 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480809

DATE & TIME: 8/25/2011 10:43:37 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98460 lb
TARE : 38240 lb
NET : 60220 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 30.11 tn
DAILY TONS : 128.40 tn
JOB TOTAL : 128.40 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480780

DATE & TIME: 8/25/2011 8:18:35 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104300 lb
TARE : 38840 lb
NET : 65460 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.73 tn
DAILY TONS : 98.29 tn
JOB TOTAL : 98.29 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480776

DATE & TIME: 8/25/2011 7:58:04 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103000 lb
TARE : 39320 lb
NET : 63680 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.84 tn
DAILY TONS : 65.56 tn
JOB TOTAL : 65.56 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480771

DATE & TIME: 8/25/2011 7:37:43 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 107520 lb
TARE : 40080 lb
NET : 67440 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 33.72 tn
DAILY TONS : 33.72 tn
JOB TOTAL : 33.72 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 300783

DATE & TIME: 8/24/2011 2:56:57 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 109980 lb
TARE : 37980 lb
NET : 72000 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 36.00 tn
DAILY TONS : 68.87 tn
JOB TOTAL : 166.31 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 300780

DATE & TIME: 8/24/2011 2:45:27 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 104240 lb
TARE : 38500 lb
NET : 65740 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.87 tn
DAILY TONS : 32.87 tn
JOB TOTAL : 130.31 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480720

DATE & TIME: 8/24/2011 12:39:00 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104620 lb
TARE : 38840 lb
NET : 65780 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.89 tn
DAILY TONS : 248.97 tn
JOB TOTAL : 948.61 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480711

DATE & TIME: 8/24/2011 12:19:02 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102260 lb
TARE : 39320 lb
NET : 62940 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.47 tn
DAILY TONS : 216.08 tn
JOB TOTAL : 915.72 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480701

DATE & TIME: 8/24/2011 11:50:10 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 110620 lb
TARE : 40080 lb
NET : 70540 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 35.27 tn
DAILY TONS : 184.61 tn
JOB TOTAL : 884.25 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480685

DATE & TIME: 8/24/2011 10:48:12 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 93900 lb
TARE : 37840 lb
NET : 56060 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 28.03 tn
DAILY TONS : 149.34 tn
JOB TOTAL : 848.98 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480680

DATE & TIME: 8/24/2011 10:29:49 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96020 lb
TARE : 38240 lb
NET : 57780 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 28.89 tn
DAILY TONS : 121.31 tn
JOB TOTAL : 820.95 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480657

DATE & TIME: 8/24/2011 8:29:59 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100360 lb
TARE : 38800 lb
NET : 61560 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 30.78 tn
DAILY TONS : 92.42 tn
JOB TOTAL : 792.06 tn

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480654

DATE & TIME: 8/24/2011 8:09:18 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102060 lb
TARE : ~~39140~~ lb 39220
NET : 62920 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.46 tn
DAILY TONS : 61.64 tn
JOB TOTAL : 761.28 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480651

DATE & TIME: 8/24/2011 7:42:52 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 100440 lb
TARE : 40080 lb
NET : 60360 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 30.18 tn
DAILY TONS : 30.18 tn
JOB TOTAL : 729.82 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 300624

DATE & TIME: 8/23/2011 3:13:50 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 105000 lb
TARE : 37940 lb
NET : 67060 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 33.53 tn
DAILY TONS : 65.69 tn
JOB TOTAL : 97.44 tn

NOTES:

Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 300623

DATE & TIME: 8/23/2011 3:12:21 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 101500 lb
TARE : ~~37180~~ lb 38220
NET : 64320 lb 63280
31.64

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.86 tn 31.64
DAILY TONS : 32.16 tn
JOB TOTAL : 63.91 tn

NOTES:

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480616

DATE & TIME: 8/23/2011 12:30:47 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104860 lb
TARE : 38000 lb
NET : 66860 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 33.43 tn
DAILY TONS : 249.03 tn
JOB TOTAL : 699.64 tn

NOTES:

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480614

DATE & TIME: 8/23/2011 12:01:57 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105680 lb
TARE : 38340 lb
NET : 67340 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 33.67 tn
DAILY TONS : 215.60 tn
JOB TOTAL : 666.21 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480609

DATE & TIME: 8/23/2011 11:26:10 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 109820 lb
TARE : 40080 lb
NET : 69740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 34.87 tn
DAILY TONS : 181.93 tn
JOB TOTAL : 632.54 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480604

DATE & TIME: 8/23/2011 10:48:47 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101780 lb
TARE : 38260 lb
NET : 63520 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 31.76 tn
DAILY TONS : 147.06 tn
JOB TOTAL : 597.67 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480602

DATE & TIME: 8/23/2011 10:41:06 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 94760 lb
TARE : 37980 lb
NET : 56780 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 28.39 tn
DAILY TONS : 115.30 tn
JOB TOTAL : 565.91 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4016

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480593

DATE & TIME: 8/23/2011 8:23:05 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96100 lb
TARE : 38000 lb
NET : 58100 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 29.05 tn
DAILY TONS : 86.91 tn
JOB TOTAL : 537.52 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4016

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480590

DATE & TIME: 8/23/2011 7:55:31 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 94060 lb
TARE : 38340 lb
NET : 55720 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 27.86 tn
DAILY TONS : 57.86 tn
JOB TOTAL : 508.47 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4016

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 480585

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 8/23/2011 7:33:24 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 100080 lb
TARE : 40080 lb
NET : 60000 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 30.00 tn
DAILY TONS : 30.00 tn
JOB TOTAL : 480.61 tn

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

95114585
TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

## THE CAT SCALE GUARANTEE

The CAT Scale Company **GUARANTEES** that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.©

**IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:**

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE (toll free).
3) IMMEDIATELY send a copy of the citation, CAT Scale ticket, your name, company, address, and phone number to CAT Scale Company Attn: Operations Manager.

**THANK YOU FOR WEIGHING ON CAT SCALE!**

The four weights shown below are separate weights. The TOTAL WEIGHT was weighed on a full length platform scale. **AXLE WEIGHTS CAN NOT BE CERTIFIED** and are **NOT LEGAL FOR TRADE, however, CAT SCALE COMPANY GUARANTEES THESE WEIGHTS TO BE CORRECT.**

DATE: 8-23-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| | 21400 lb |
| STEER AXLE | 29540 lb |
| DRIVE AXLE | 47000 lb |
| TRAILER AXLE | 97940 lb |
| TOTAL WEIGHT | - 37900 |
| | 60,040 = 30.02 TN |

COMPANY: QUALITY ROCK

TRACTOR #: 704 TRAILER #: 704

WEIGHER'S SIGNATURE: TIFFANY RUSSO FEE: $9.50 FULL WEIGH TICKET # (IF REWEIGH): 57,540

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

WEIGHMASTER CERTIFICATE

95114584
TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
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WALCOTT, IA 52773
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DATE: 8-23-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| | 20720 lb |
| STEER AXLE | 31420 lb |
| DRIVE AXLE | 43940 lb |
| TRAILER AXLE | 96080 lb |
| TOTAL WEIGHT | -38540 |
| | 57,540 = 28.77 TN |

Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-2616

COMPANY: QUALITY ROCK

TRACTOR #: 708 TRAILER #: 708

WEIGHER'S SIGNATURE: TIFFANY RUSSO FEE: $9.50 FULL WEIGH TICKET # (IF REWEIGH):

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

GROSS

TARE

NET

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

COMMODITY WEIGHED: FREIGHT ALL KINDS

REMARKS:

TRACTOR LICENSE #: TRACTOR #:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480547

DATE & TIME: 8/22/2011 1:09:07 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96620 lb
TARE : 38000 lb
NET : 58620 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 29.31 tn
DAILY TONS : 257.07 tn
JOB TOTAL : 450.61 tn

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480541

DATE & TIME: 8/22/2011 12:49:04 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99940 lb
TARE : 38340 lb
NET : 61600 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 30.80 tn
DAILY TONS : 227.76 tn
JOB TOTAL : 421.30 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480530

DATE & TIME: 8/22/2011 11:47:00 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 100880 lb
TARE : 40080 lb
NET : 60800 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 30.40 tn
DAILY TONS : 196.96 tn
JOB TOTAL : 390.50 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480505

DATE & TIME: 8/22/2011 9:30:55 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102920 lb
TARE : 37980 lb
NET : 64940 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.47 tn
DAILY TONS : 166.56 tn
JOB TOTAL : 360.10 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480502

DATE & TIME: 8/22/2011 9:04:34 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105400 lb
TARE : 38260 lb
NET : 67140 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 33.57 tn
DAILY TONS : 134.09 tn
JOB TOTAL : 327.63 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480499

DATE & TIME: 8/22/2011 8:54:11 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 106060 lb
TARE : 38000 lb
NET : 68060 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 34.03 tn
DAILY TONS : 100.52 tn
JOB TOTAL : 294.06 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480497

DATE & TIME: 8/22/2011 8:43:44 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 107080 lb
TARE : 38340 lb
NET : 68740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 34.37 tn
DAILY TONS : 66.49 tn
JOB TOTAL : 260.03 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480488

DATE & TIME: 8/22/2011 7:43:31 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 104320 lb
TARE : 40080 lb
NET : 64240 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 32.12 tn
DAILY TONS : 32.12 tn
JOB TOTAL : 225.66 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480487

DATE & TIME: 8/22/2011 7:26:10 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 13 - 5/8"- CSTC Del

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105540 lb
TARE : 38260 lb
NET : 67280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Truck & Trailer
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 33.64 tn
DAILY TONS : 33.64 tn
JOB TOTAL : 100.20 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480472

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 107300 lb
TARE : 40080 lb
NET : 67220 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 8/19/2011 12:42:24 PM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 33.61 tn
DAILY TONS : 162.10 tn
JOB TOTAL : 162.10 tn

NOTES:

THIS BATCH LOT 4 TO BE VERIFIED BY WEYERHAUSER LOG

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480468

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102220 lb
TARE : 38000 lb
NET : 64220 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 8/19/2011 11:56:15 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.11 tn
DAILY TONS : 128.49 tn
JOB TOTAL : 128.49 tn

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview WA 98632
(206) 577-8874

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 480464

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104980 lb
TARE : 37980 lb
NET : 67000 lb

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 8/19/2011 10:53:14 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 33.50 tn
DAILY TONS : 96.38 tn
JOB TOTAL : 96.38 tn

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview WA 98632
(206) 577-8874

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 480461

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 8/19/2011 10:35:21 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102800 lb
TARE : 38260 lb
NET : 64540 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.27 tn
DAILY TONS : 62.88 tn
JOB TOTAL : 62.88 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

---

QUALITY ROCK PRODUCTS
Littlerock Site

PRINT WEIGHT TICKET

Date : 8/19/2011 10:25:52 AM
Scale : 1

Total : 38160 lb

Trk + Trlr - 701

QUALITY ROCK PRODUCTS
Littlerock Site

#704

PRINT WEIGHT TICKET

Date : 8/19/2011 9:14:16 AM
Scale : 1

Total : 37900 lb

QUALITY ROCK PRODUCTS
Grand Mound Scale

PRINT WEIGHT TICKET

---

Date : 8/19/2011 8:56:50 AM
Scale : 1

Total : 38540 lb

Truck+ Trlr# 708

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 480445

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91ST - Dirt Back Haul by the Ton

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 101300 lb
TARE : 40080 lb
NET : 61220 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 8/19/2011 8:15:23 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 30.61 tn
DAILY TONS : 30.61 tn
JOB TOTAL : 30.61 tn

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 300349

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 91Y - ~~Dirty Brush Back Haul by the Yard~~ Dirt

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 101780 lb
TARE : 38280 lb
NET : 63500 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 8/19/2011 8:01:18 AM

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 31.75 tn
DAILY TONS : 31.75 tn
JOB TOTAL : 31.75 tn

NOTES:

95114475

TICKET NUMBER

CAT SCALE®

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

800

95114475

**THE CAT SCALE GUARANTEE**

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DATE: 8-19-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 21120 lb |
| DRIVE AXLE | 31600 lb |
| TRAILER AXLE | 44820 lb |
| TOTAL WEIGHT | 97540 lb |

59,380 = 29.69 TN

COMPANY QUALITY ROCK TRACTOR # 701 TRAILER # 701

WEIGHER'S SIGNATURE: TIFFANY RUSSELL FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

WEIGHMASTER CERTIFICATE

95114474

TICKET NUMBER

CAT SCALE®

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

649

95114474

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DATE: 8-19-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 21480 lb |
| DRIVE AXLE | 32440 lb |
| TRAILER AXLE | 51120 lb |
| TOTAL WEIGHT | 105040 lb |

67140 = 33.57 TN

COMPANY QUALITY ROCK TRACTOR # 704 TRAILER # 704

WEIGHER'S SIGNATURE: TIFFANY RUSSELL FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

GROSS

TARE

NET

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

COMMODITY WEIGHED: FREIGHT ALL KINDS

REMARKS: _____

TRACTOR LICENSE # _____ TRAILER # _____

95114473

TICKET NUMBER

CAT SCALE®

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

649

95114473

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**THANK YOU FOR WEIGHING ON CAT SCALE!**

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-[illegible]

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DATE: 8-19-2011

SCALE LOCATION: 278
GEE-CEE'S TRUCKSTOP
I-5 AND EXIT 57
TOLEDO WA

| | |
|---|---|
| STEER AXLE | 20880 lb |
| DRIVE AXLE | 33720 lb |
| TRAILER AXLE | 48500 lb |
| TOTAL WEIGHT | 103100 lb |

64560

=32.28 TN

COMPANY QUALITY ROCK TRACTOR # 708 TRAILER # 708

WEIGHER'S SIGNATURE: TIFFANY RUSSO FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

GROSS

TARE

NET

WEIGH NUMBER
4473

**WEIGHMASTER CERTIFICATE**

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

COMMODITY WEIGHED: FREIGHT ALL KINDS

REMARKS: _____

TRACTOR LICENSE # _____ TRACTOR # _____

TRAILER LICENSE # _____ TRAILER # _____

TRAILER LICENSE # _____ TRAILER # _____

NAME OF WEIGHMASTER (print): _____

WEIGHMASTER SIGNATURE: _____

© CAT SCALE COMPANY © 12/08 (WA)

36728

**Quality Rock Products Inc**
10201 Littlerock Rd SW
Olympia, WA 98512
Phone: (360) 754-7777

**PIT LOCATION**

LITTLEROCK ROCHESTER DELPHI OTHER: East Bay Plaza

DATE: 8-18-11 TIME: 7:00

CUSTOMER: D.L.B.

JOB: East Bay Plaza

PRODUCT: Dirt-Backhaul PO#: 11555

CARRIER: Quality Rock

TRUCK #: 18-701 DELIVERED PICKED UP

| | |
|---|---|
| GROSS WT. | 101880 |
| TARE WT. | 38,180 |
| NET WT. | 63,700 |
| NET TONS | 31.85 |

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(360) 578-4616

CUSTOMER SIGNATURE:

STANDBY TIME: INITIALS:

95114437
TICKET NUMBER

**THE CAT SCALE GUARANTEE**

The CAT Scale Company **GUARANTEES** that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.©

**IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:**

1) Post bond and request a court date.
2) Call CAT Scale Company direct 24 hours a day at 1-877-CAT-SCALE (toll free).
3) IMMEDIATELY send a copy of the citation, CAT Scale ticket, your name, company, address, and phone number to CAT Scale Company Attn: Operations Manager.

**THANK YOU FOR WEIGHING ON CAT SCALE!**

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

The four weights shown below are separate weights. The TOTAL WEIGHT was weighed on a full length platform scale. **AXLE WEIGHTS CAN NOT BE CERTIFIED** and are **NOT LEGAL FOR TRADE, however, CAT SCALE COMPANY GUARANTEES THESE WEIGHTS TO BE CORRECT.**

**DATE:** 8-18-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 22660 lb |
| **DRIVE AXLE** | 33540 lb |
| **TRAILER AXLE** | 50040 lb |
| **TOTAL WEIGHT** | 106240 lb |
| | 68060 |

COMPANY QUALITY ROCK TRACTOR # 701 TRAILER # 701

WEIGHER'S SIGNATURE: TIFFANY RUSSO FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS

95114433
TICKET NUMBER

**THE CAT SCALE GUARANTEE**

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CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com
1127
95114433

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**DATE:** 8-18-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 22840 lb |
| **DRIVE AXLE** | 34600 lb |
| **TRAILER AXLE** | 50540 lb |
| **TOTAL WEIGHT** | 107980 lb |
| | 70320 |

COMPANY QUALITY ROCK TRACTOR # 704 TRAILER # 704

WEIGHER'S SIGNATURE: TIFFANY RUSSO FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS
(imprint seal)

Weyerhaeuser Company
Longview Waste Management
Material Recovery | Transfer Facility
P.O. Box 188
Longview, WA 98632
(206) 578-4616

**GROSS**

**TARE**

**NET**

**WEIGHMASTER CERTIFICATE**

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

COMMODITY WEIGHED: FREIGHT ALL KINDS

REMARKS: _____

TRACTOR LICENSE # _____ TRACTOR # _____

95114432

TICKET NUMBER

CAT SCALE®

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

1126

95114432

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Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(206) 578-4616

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DATE: 8-18-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 21860 lb |
| DRIVE AXLE | 35040 lb |
| TRAILER AXLE | 52120 lb |
| TOTAL WEIGHT | ~~109020 lb~~ 70660 |

COMPANY: QUALITY ROCK TRACTOR #: 708 TRAILER #: 708

WEIGHER'S SIGNATURE: [illegible] FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

GROSS

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

95114414

TICKET NUMBER

CAT SCALE®

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

**THE CAT SCALE GUARANTEE**

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DATE: 8-18-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 22160 lb |
| DRIVE AXLE | 33620 lb |
| TRAILER AXLE | 48180 lb |
| TOTAL WEIGHT | ~~103960 lb~~ 66300 |

COMPANY: QUALITY ROCK TRACTOR #: 704 TRAILER #: 704A

WEIGHER'S SIGNATURE: TIA WARD FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

GROSS

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a recognized authority of accuracy, as prescribed by State Law.

95114413

TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

653

95114413

**THE CAT SCALE GUARANTEE**

The CAT Scale Company **GUARANTEES** that our scales will give an accurate weight. What makes us different from other scale companies is that we back up our guarantee with cash.©

**IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD OD THE FOLLOWING TO GET THE PROBLEM RESOLVED:**

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**DATE:** 8-18-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 21360 lb |
| **DRIVE AXLE** | 35160 lb |
| **TRAILER AXLE** | 47280 lb |
| **TOTAL WEIGHT** | 103800 lb |

65440

COMPANY QUALITY ROCK TRACTOR # 708 TRAILER # 708A

WEIGHER'S SIGNATURE: TIA WARD **FEE:** $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

**GROSS**

**TARE**

WEIGHMASTER CERTIFICATE

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COMMODITY WEIGHED: FREIGHT ALL KINDS

95114382

TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

**THE CAT SCALE GUARANTEE**

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**DATE:** 8-17-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 21580 lb |
| **DRIVE AXLE** | 32720 lb |
| **TRAILER AXLE** | 51140 lb |
| **TOTAL WEIGHT** | 105440 lb |

67180

COMPANY QUALITY ROCK TRACTOR # 18703 TRAILER # 187303

WEIGHER'S SIGNATURE: TIA WARD **FEE:** $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

WEIGHMASTER CERTIFICATE

This is to certify that the following described commodity was weighed, measured, or counted by a Weighmaster, whose signature is on this Certificate, who is a

95114381

TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

1306

95114381

**THE CAT SCALE GUARANTEE**

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**IF YOU SHOULD GET AN OVERWEIGHT FINE, YOU SHOULD DO THE FOLLOWING TO GET THE PROBLEM RESOLVED:**

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**DATE:** 8-17-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 21260 lb |
| **DRIVE AXLE** | 33740 lb |
| **TRAILER AXLE** | 50720 lb |
| **TOTAL WEIGHT** | 105720 lb |
| | 67540 |

COMPANY QUALITY ROCK TRACTOR # 701 TRAILER # 701T

WEIGHER'S SIGNATURE: TIA WARD **FEE:** $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

**GROSS**

WEIGHMASTER CERTIFICATE

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95114377

TICKET NUMBER

CAT SCALE

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P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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**DATE:** 8-17-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| **STEER AXLE** | 21740 lb |
| **DRIVE AXLE** | 34200 lb |
| **TRAILER AXLE** | 53140 lb |
| **TOTAL WEIGHT** | 109080 lb |
| | 70480 |

COMPANY QUALITY ROCK TRACTOR # 708 TRAILER # 708A

WEIGHER'S SIGNATURE: TIA WARD **FEE:** $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

**GROSS**

WEIGHMASTER CERTIFICATE

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95114360

TICKET NUMBER

CAT SCALE®

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CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

930

95114360

**THE CAT SCALE GUARANTEE**

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DATE: 8-17-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 21740 lb |
| DRIVE AXLE | 30240 lb |
| TRAILER AXLE | 47220 lb |
| TOTAL WEIGHT | 99200 lb |

B 11

-37820

61380

COMPANY: QUALITY ROCK

TRACTOR #: 704

TRAILER #: 704T

WEIGHER'S SIGNATURE: TIA WARD

FEE: $9.50

FULL WEIGH TICKET # (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS
(imprint seal)

Waste Management Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188

GROSS

WEIGHMASTER CERTIFICATE

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FREIGHT ALL KINDS

95114359

TICKET NUMBER

CAT SCALE®

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

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DATE: 8-17-2011

SCALE LOCATION: 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 17480 lb |
| DRIVE AXLE | 37580 lb |
| TRAILER AXLE | 45500 lb |
| TOTAL WEIGHT | 100560 lb |

62300

COMPANY: QUALITY ROCK

TRACTOR #: 18703

TRAILER #: 18703

WEIGHER'S SIGNATURE: TIA WARD

FEE: $9.50

FULL WEIGH TICKET # (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS
(imprint seal)

GROSS

WEIGHMASTER CERTIFICATE

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95114357

TICKET NUMBER

CAT SCALE

**CERTIFIED AUTOMATED TRUCK SCALE**

CAT SCALE COMPANY
P.O. BOX 630
WALCOTT, IA 52773
(563) 284-6263
www.catscale.com

836

95114357

**THE CAT SCALE GUARANTEE**

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**DATE:** 8-17-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 20960 lb |
| DRIVE AXLE | 29820 lb |
| TRAILER AXLE | 44120 lb |
| TOTAL WEIGHT | 94900 lb |

56720

COMPANY: QUALITY ROCK TRACTOR #: 701 TRAILER #: 701T

WEIGHER'S SIGNATURE: TIA WARD FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

GROSS

WEIGHMASTER CERTIFICATE

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95114356

TICKET NUMBER

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(563) 284-6263
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**DATE:** 8-17-2011

**SCALE LOCATION:** 278 GEE-CEE'S TRUCKSTOP I-5 AND EXIT 57 TOLEDO WA

| | |
|---|---|
| STEER AXLE | 20640 lb |
| DRIVE AXLE | 33160 lb |
| TRAILER AXLE | 45220 lb |
| TOTAL WEIGHT | 99020 lb |

60420

COMPANY: QUALITY ROCK TRACTOR #: 708 TRAILER #: 708T

WEIGHER'S SIGNATURE: TIA WARD FEE: $9.50 FULL WEIGH TICKET # _____ (IF REWEIGH)

ONLY CERTIFIED WEIGHTS APPEAR BELOW THIS LINE

CERTIFIED WEIGHTS (imprint seal)

GROSS

WEIGHMASTER CERTIFICATE

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FREIGHT ALL KINDS

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483060

DATE & TIME: 9/29/2011 12:26:05 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104960 lb
TARE : 38460 lb
NET : 66500 lb

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview WA 98632
(206) 578-4616

SHIP LOC. : 4 Rochester
JOB PO # :
MAP PAGE :
TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708
NET TONS : 33.25 tn
DAILY TONS : 51.20 tn
JOB TOTAL : 4577.87 tn

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483011

DATE & TIME: 9/29/2011 8:06:32 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 74360 lb
TARE : 38460 lb
NET : 35900 lb

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

SHIP LOC. : 4 Rochester
JOB PO # :
MAP PAGE :
TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708
NET TONS : 17.95 tn
DAILY TONS : 17.95 tn
JOB TOTAL : 4544.62 tn

OK

CUSTOMER SIGN:_____ Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482959

DATE & TIME: 9/28/2011 12:39:30 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 83340 lb
TARE : 38460 lb
NET : 44880 lb

SHIP LOC. : 4 Rochester
JOB PO # :
MAP PAGE :
TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708
NET TONS : 22.44 tn
DAILY TONS : 51.46 tn
JOB TOTAL : 4526.67 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482920

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96500 lb
TARE : 38460 lb
NET : 58040 lb

Integrated Waste Management
Material Recovery Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 9/28/2011 9:05:06 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.02 tn
DAILY TONS : 29.02 tn
JOB TOTAL : 4504.23 tn

ok

NOTES:

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482865

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 92160 lb
TARE : 38460 lb
NET : 53700 lb

Integrated Waste Management
Material Recovery Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 9/27/2011 12:33:42 PM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 26.85 tn
DAILY TONS : 57.39 tn
JOB TOTAL : 4475.21 tn

NOTES:

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482838

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99540 lb
TARE : 38460 lb
NET : 61080 lb

Integrated Waste Management
Material Recovery Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 9/27/2011 8:51:39 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 30.54 tn
DAILY TONS : 30.54 tn
JOB TOTAL : 4448.36 tn

OK

NOTES:

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 148,404

In: 12:54:50 9/26/2011

Out: 13:04:20 9/26/2011

Truck Id: 20

Customer Id: 575

Product Id: 61

Truck #: 1

SAFETY FIRST

Doms #1

| | |
|---|---|
| Gross Lbs: | 88,540 |
| Tare Lbs: | 36,600 |
| Net Lbs: | 51,940 |
| Net Tons | 25.97 |

Weyerhaeuser
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 148,403

In: 12:52:31 9/26/2011

Out: 13:02:46 9/26/2011

Truck Id: 19

Customer Id: 575

Product Id: 61

Truck #: 11

SAFETY FIRST

Mumme #11

| | |
|---|---|
| Gross Lbs: | 94,300 |
| Tare Lbs: | 39,940 |
| Net Lbs: | 54,360 |
| Net Tons | 27.18 |

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482796

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/26/2011 12:38:41 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101960 lb
TARE : 38120 lb
NET : 63840 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 31.92 tn
DAILY TONS : 198.77 tn
JOB TOTAL : 4417.82 tn

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Station
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN: Kelly A. Ticket C

STANDBY TIME:

STANDBY INITIALS:

NOTES:

# ROCK PRODUCTS, INC.

# TICKET # 482795

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/26/2011 12:17:23 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 94780 lb
TARE : 38460 lb
NET : 56320 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 28.16 tn
DAILY TONS : 166.85 tn
JOB TOTAL : 4385.90 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482793

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/26/2011 12:10:56 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101620 lb
TARE : 39320 lb
NET : 62300 lb

Material Recovery Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.15 tn
DAILY TONS : 138.69 tn
JOB TOTAL : 4357.74 tn

OK

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 148,389

In: 9:09:41 9/26/2011
Out: 9:22:05 9/26/2011

Truck Id: 20
Customer Id: 575
Product Id: 61

Truck #: 1
SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 91,760 |
| Tare Lbs: | 36,700 |
| Net Lbs: | 55,060 |
| Net Tons | 27.53 |

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 148,388

In: 9:06:57 9/26/2011
Out: 9:16:28 9/26/2011

Truck Id: 19
Customer Id: 575
Product Id: 61

Truck #: 11
SAFETY FIRST

Mammit
11

| | |
|---|---|
| Gross Lbs: | 99,560 |
| Tare Lbs: | 40,180 |
| Net Lbs: | 59,380 |
| Net Tons | 29.69 |

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482760

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/26/2011 8:59:44 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 95120 lb
TARE : 37840 lb
NET : 57280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 28.64 tn
DAILY TONS : 107.54 tn
JOB TOTAL : 4326.59 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482758

DATE & TIME: 9/26/2011 8:50:54 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 88760 lb
TARE : 38120 lb
NET : 50640 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 25.32 tn
DAILY TONS : 78.90 tn
JOB TOTAL : 4297.95 tn

Weyerhaeuser Company
Material Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 636-4400

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482757

DATE & TIME: 9/26/2011 8:36:01 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 89700 lb
TARE : 39320 lb
NET : 50380 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 25.19 tn
DAILY TONS : 53.58 tn
JOB TOTAL : 4272.63 tn

Weyerhaeuser Company
Material Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 636-4400

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482755

DATE & TIME: 9/26/2011 8:28:58 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 95240 lb
TARE : 38460 lb
NET : 56780 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 28.39 tn
DAILY TONS : 28.39 tn
JOB TOTAL : 4247.44 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482718

DATE & TIME: 9/23/2011 12:33:02 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103400 lb
TARE : 38120 lb
NET : 65280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.64 tn
DAILY TONS : 196.02 tn
JOB TOTAL : 4186.68 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482716

DATE & TIME: 9/23/2011 12:17:12 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104560 lb
TARE : 39320 lb
NET : 65240 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.62 tn
DAILY TONS : 163.38 tn
JOB TOTAL : 4154.04 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482712

DATE & TIME: 9/23/2011 11:54:58 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101540 lb
TARE : 37840 lb
NET : 63700 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.85 tn
DAILY TONS : 130.76 tn
JOB TOTAL : 4121.42 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482706

DATE & TIME: 9/23/2011 10:40:17 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 97860 lb
TARE : 38460 lb
NET : 59400 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.70 tn
DAILY TONS : 98.91 tn
JOB TOTAL : 4089.57 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: OK

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482686

DATE & TIME: 9/23/2011 8:24:48 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 107160 lb
TARE : 38120 lb
NET : 69040 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 34.52 tn
DAILY TONS : 69.21 tn
JOB TOTAL : 4059.87 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482685

DATE & TIME: 9/23/2011 8:02:27 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 107220 lb
TARE : 37840 lb
NET : 69380 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 34.69 tn
DAILY TONS : 34.69 tn
JOB TOTAL : 4025.35 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4615

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482682

DATE & TIME: 9/23/2011 7:42:22 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11509 - Port of Olympia Maintenance
JOB ADD.:
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104060 lb
TARE : 39320 lb
NET : 64740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.37 tn
DAILY TONS : 32.37 tn
JOB TOTAL : 32.37 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301608

DATE & TIME: 9/22/2011 3:14:00 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 99680 lb
TARE : 38500 lb
NET : 61180 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 30.59 tn
DAILY TONS : 30.59 tn
JOB TOTAL : 627.74 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482649

DATE & TIME: 9/22/2011 12:51:21 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 95080 lb
TARE : 39320 lb
NET : 55760 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 27.88 tn
DAILY TONS : 187.77 tn
JOB TOTAL : 3990.66 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482644

DATE & TIME: 9/22/2011 12:21:18 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98740 lb
TARE : 37840 lb
NET : 60900 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 30.45 tn
DAILY TONS : 159.89 tn
JOB TOTAL : 3962.78 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482628

DATE & TIME: 9/22/2011 10:34:22 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103160 lb
TARE : 38120 lb
NET : 65040 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.52 tn
DAILY TONS : 129.44 tn
JOB TOTAL : 3932.33 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482620

DATE & TIME: 9/22/2011 9:55:34 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103000 lb
TARE : 38460 lb
NET : 64540 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.27 tn
DAILY TONS : 96.92 tn
JOB TOTAL : 3899.81 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482609

DATE & TIME: 9/22/2011 8:44:16 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101020 lb
TARE : 39320 lb
NET : 61700 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 30.85 tn
DAILY TONS : 64.65 tn
JOB TOTAL : 3867.54 tn

OK

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482607

DATE & TIME: 9/22/2011 8:22:04 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105440 lb
TARE : 37840 lb
NET : 67600 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 33.80 tn
DAILY TONS : 33.80 tn
JOB TOTAL : 3836.69 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301578

DATE & TIME: 9/21/2011 4:03:06 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 105100 lb
TARE : 38500 lb
NET : 66600 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 33.30 tn
DAILY TONS : 64.54 tn
JOB TOTAL : 597.15 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301567

DATE & TIME: 9/21/2011 1:17:19 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 101860 lb
TARE : 39380 lb
NET : 62480 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 31.24 tn
DAILY TONS : 31.24 tn
JOB TOTAL : 563.85 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482558

DATE & TIME: 9/21/2011 12:53:14 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100780 lb
TARE : 37840 lb
NET : 62940 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.47 tn
DAILY TONS : 222.08 tn
JOB TOTAL : 3802.89 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482554

DATE & TIME: 9/21/2011 12:16:06 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101880 lb
TARE : 39320 lb
NET : 62560 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.28 tn
DAILY TONS : 190.61 tn
JOB TOTAL : 3771.42 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482550

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/21/2011 12:02:20 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104240 lb
TARE : 38460 lb
NET : 65780 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.89 tn
DAILY TONS : 159.33 tn
JOB TOTAL : 3740.14 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482514

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/21/2011 8:54:50 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102860 lb
TARE : 37840 lb
NET : 65020 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.51 tn
DAILY TONS : 126.44 tn
JOB TOTAL : 3707.25 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482513

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/21/2011 8:52:12 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102800 lb
TARE : 38120 lb
NET : 64680 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.34 tn
DAILY TONS : 93.93 tn
JOB TOTAL : 3674.74 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482501

DATE & TIME: 9/21/2011 8:08:09 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100120 lb
TARE : 39320 lb
NET : 60800 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

Lot 8

NET TONS : 30.40 tn
DAILY TONS : 61.59 tn
JOB TOTAL : 3642.40 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482498

DATE & TIME: 9/21/2011 7:57:15 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100840 lb
TARE : 38460 lb
NET : 62380 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

Lot 8

NET TONS : 31.19 tn
DAILY TONS : 31.19 tn
JOB TOTAL : 3612.00 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482455

DATE & TIME: 9/20/2011 12:37:02 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99660 lb
TARE : 37840 lb
NET : 61820 lb

SHIP LOC. : 4 Rochester

JOB PO # :

Lot 8

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 30.91 tn
DAILY TONS : 185.72 tn
JOB TOTAL : 3580.81 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482452

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 94420 lb
TARE : 39320 lb
NET : 55100 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 9/20/2011 12:22:57 PM

SHIP LOC. : 4 Rochester

JOB PO # : Lot 8

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 27.55 tn
DAILY TONS : 154.81 tn
JOB TOTAL : 3549.90 tn

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482447

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101060 lb
TARE : 38460 lb
NET : 62600 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 9/20/2011 12:10:34 PM

SHIP LOC. : 4 Rochester

JOB PO # : ~~Lot 8~~

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 31.30 tn
DAILY TONS : 127.26 tn
JOB TOTAL : 3522.35 tn

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482413

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102060 lb
TARE : 37840 lb
NET : 64220 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 9/20/2011 8:32:10 AM

SHIP LOC. : 4 Rochester

JOB PO # : ~~Lot 8~~

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.11 tn
DAILY TONS : 95.96 tn
JOB TOTAL : 3491.05 tn

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482412

DATE & TIME: 9/20/2011 8:21:57 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100060 lb
TARE : 39320 lb
NET : 60740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 30.37 tn
DAILY TONS : 63.85 tn
JOB TOTAL : 3458.94 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(360) 578-4516

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482411

DATE & TIME: 9/20/2011 8:11:35 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105420 lb
TARE : 38460 lb
NET : 66960 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 33.48 tn
DAILY TONS : 33.48 tn
JOB TOTAL : 3428.57 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 147,850

In: 15:08:29 9/16/2011

Out: 15:19:23 9/16/2011

Truck Id: 1

Customer Id: 575

Product Id: 61

Truck #: 703

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 101,940 |
| Tare Lbs: | 37,920 |
| Net Lbs: | 64,020 |
| Net Tons | 32.01 |

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 147,845

In: 14:14:52 9/16/2011

Out: 14:32:14 9/16/2011

Truck Id: 2

Customer Id: 575

Product Id: 61

Truck #: 18704

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 101,440 |
| Tare Lbs: | 37,600 |
| Net Lbs: | 63,840 |
| Net Tons | 31.92 |

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 147,831

In: 12:35:25 9/16/2011

Out: 12:44:26 9/16/2011

Truck Id: 7

Customer Id: 575

Product Id: 61

Truck #: 11

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 101,260 |
| Tare Lbs: | 39,760 |
| Net Lbs: | 61,500 |
| Net Tons | 30.75 |

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA
360-578-4616

Ticket #: 147,823

In: 11:30:08 9/16/2011

Out: 11:42:32 9/16/2011

Truck Id: 4

Customer Id: 575

Product Id: 61

Truck #: 708

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 94,140 |
| Tare Lbs: | 37,980 |
| Net Lbs: | 56,160 |
| Net Tons | 28.08 |

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 147,822

In: 11:25:14 9/16/2011

Out: 11:40:47 9/16/2011

Truck Id: 3

Customer Id: 575

Product Id: 61

Truck #: 701

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 94,460 |
| Tare Lbs: | 37,780 |
| Net Lbs: | 56,680 |
| Net Tons | 28.34 |

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 147,817

In: 9:39:41 9/16/2011

Out: 9:55:18 9/16/2011

Truck Id: 2

Customer Id: 575

Product Id: 61

Truck #: 18704

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 93,620 |
| Tare Lbs: | 37,820 |
| Net Lbs: | 55,800 |
| Net Tons | 27.90 |

~~Lot 8~~

Weyerhaeuser MRF
3401 Industrial Way
Longview, WA 98632
360-578-4616

Ticket #: 147,816

In: 9:33:56 9/16/2011

Out: 9:53:30 9/16/2011

Truck Id: 1

Customer Id: 575

Product Id: 61

Truck #: 18703

SAFETY FIRST

| | |
|---|---|
| Gross Lbs: | 94,700 |
| Tare Lbs: | 37,500 |
| Net Lbs: | 57,200 |

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482260

DATE & TIME: 9/16/2011 7:42:27 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 99840 lb
TARE : 40080 lb
NET : 59760 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 29.88 tn
DAILY TONS : 29.88 tn
JOB TOTAL : 3250.32 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301473

DATE & TIME: 9/15/2011 1:50:12 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 99440 lb
TARE : 38500 lb
NET : 60940 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 30.47 tn
DAILY TONS : 60.90 tn
JOB TOTAL : 532.61 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301471

DATE & TIME: 9/15/2011 1:26:59 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 99180 lb
TARE : 38320 lb
NET : 60860 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 30.43 tn
DAILY TONS : 30.43 tn
JOB TOTAL : 502.14 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482223

DATE & TIME: 9/15/2011 11:55:32 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102660 lb
TARE : 37840 lb
NET : 64820 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.41 tn
DAILY TONS : 239.08 tn
JOB TOTAL : 3220.44 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482221

DATE & TIME: 9/15/2011 11:45:23 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96460 lb
TARE : 38120 lb
NET : 58340 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 29.17 tn
DAILY TONS : 206.67 tn
JOB TOTAL : 3188.03 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482216

DATE & TIME: 9/15/2011 11:06:23 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 102800 lb
TARE : 40080 lb
NET : 62720 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 31.36 tn
DAILY TONS : 177.50 tn
JOB TOTAL : 3158.86 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482203

DATE & TIME: 9/15/2011 9:50:03 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96080 lb
TARE : 39320 lb
NET : 56760 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 28.38 tn
DAILY TONS : 146.14 tn
JOB TOTAL : 3127.50 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482202

DATE & TIME: 9/15/2011 9:46:33 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96540 lb
TARE : 38460 lb
NET : 58080 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.04 tn
DAILY TONS : 117.76 tn
JOB TOTAL : 3099.12 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482187

DATE & TIME: 9/15/2011 8:00:18 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100960 lb
TARE : 37840 lb
NET : 63120 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.56 tn
DAILY TONS : 88.72 tn
JOB TOTAL : 3070.08 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482185

DATE & TIME: 9/15/2011 7:50:11 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 94800 lb
TARE : 38120 lb
NET : 56680 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 28.34 tn
DAILY TONS : 57.16 tn
JOB TOTAL : 3038.52 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482183

DATE & TIME: 9/15/2011 7:42:30 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 97720 lb
TARE : 40080 lb
NET : 57640 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

Lot 8

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 28.82 tn
DAILY TONS : 28.82 tn
JOB TOTAL : 3010.18 tn

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301441

DATE & TIME: 9/14/2011 2:40:03 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 98120 lb
TARE : 38500 lb
NET : 59620 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.81 tn
DAILY TONS : 61.25 tn
JOB TOTAL : 471.71 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: Lot 8

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301440

DATE & TIME: 9/14/2011 2:33:23 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 101200 lb
TARE : 38320 lb
NET : 62880 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.44 tn
DAILY TONS : 31.44 tn
JOB TOTAL : 441.90 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Lot 8

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482113

DATE & TIME: 9/14/2011 12:35:51 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100500 lb
TARE : 37840 lb
NET : 62660 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.33 tn
DAILY TONS : 245.82 tn
JOB TOTAL : 2981.36 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

Lot 8

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482108

DATE & TIME: 9/14/2011 12:25:11 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101640 lb
TARE : 38120 lb
NET : 63520 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 31.76 tn
DAILY TONS : 214.49 tn
JOB TOTAL : 2950.03 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482082

DATE & TIME: 9/14/2011 11:16:17 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 106760 lb
TARE : 40080 lb
NET : 66680 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 33.34 tn
DAILY TONS : 182.73 tn
JOB TOTAL : 2918.27 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: ~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482075

DATE & TIME: 9/14/2011 10:48:46 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100580 lb
TARE : 39320 lb
NET : 61260 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 30.63 tn
DAILY TONS : 149.39 tn
JOB TOTAL : 2884.93 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: ~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 482073

DATE & TIME: 9/14/2011 10:44:38 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 97580 lb
TARE : 38460 lb
NET : 59120 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.56 tn
DAILY TONS : 118.76 tn
JOB TOTAL : 2854.30 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: ~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482043

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/14/2011 8:07:21 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96260 lb
TARE : 38120 lb
NET : 58140 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 29.07 tn
DAILY TONS : 89.20 tn
JOB TOTAL : 2824.74 tn

CUSTOMER SIGN: Kim Henry Ticket C

STANDBY TIME:

STANDBY INITIALS:

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482042

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/14/2011 8:05:23 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98380 lb
TARE : 37840 lb
NET : 60540 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 30.27 tn
DAILY TONS : 60.13 tn
JOB TOTAL : 2795.67 tn

CUSTOMER SIGN: Ticket B

STANDBY TIME:

STANDBY INITIALS:

NOTES:

~~Lot 8~~

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 482039

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/14/2011 7:47:29 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 99800 lb
TARE : 40080 lb
NET : 59720 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 29.86 tn
DAILY TONS : 29.86 tn
JOB TOTAL : 2765.40 tn

CUSTOMER SIGN: Ticket C

STANDBY TIME:

STANDBY INITIALS:

NOTES:

~~Lot 8~~

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301407

DATE & TIME: 9/13/2011 2:14:35 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 98040 lb
TARE : 38500 lb
NET : 59540 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.77 tn
DAILY TONS : 58.40 tn
JOB TOTAL : 410.46 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301401

DATE & TIME: 9/13/2011 1:31:26 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 95580 lb
TARE : 38320 lb
NET : 57260 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 28.63 tn
DAILY TONS : 28.63 tn
JOB TOTAL : 380.69 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481958

DATE & TIME: 9/13/2011 11:58:11 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102120 lb
TARE : 37840 lb
NET : 64280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.14 tn
DAILY TONS : 254.01 tn
JOB TOTAL : 2735.54 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

Waste Management
Integrated Waste Management
Material Recovery & Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481951

DATE & TIME: 9/13/2011 11:36:16 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 97380 lb
TARE : 38120 lb
NET : 59260 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 29.63 tn
DAILY TONS : 221.87 tn
JOB TOTAL : 2703.40 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Lot 8

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481949

DATE & TIME: 9/13/2011 11:19:54 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 103280 lb
TARE : 40080 lb
NET : 63200 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 31.60 tn
DAILY TONS : 192.24 tn
JOB TOTAL : 2673.77 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Lot 8

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481940

DATE & TIME: 9/13/2011 10:05:36 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102720 lb
TARE : 38460 lb
NET : 64260 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.13 tn
DAILY TONS : 160.64 tn
JOB TOTAL : 2642.17 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Lot 8

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481937

DATE & TIME: 9/13/2011 9:52:38 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98660 lb
TARE : 39320 lb
NET : 59340 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 29.67 tn
DAILY TONS : 128.51 tn
JOB TOTAL : 2610.04 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481918

DATE & TIME: 9/13/2011 8:15:58 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 97120 lb
TARE : 37840 lb
NET : 59280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 29.64 tn
DAILY TONS : 98.84 tn
JOB TOTAL : 2580.37 tn

CUSTOMER SIGN:_____ Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481914

DATE & TIME: 9/13/2011 7:56:00 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100780 lb
TARE : 38120 lb
NET : 62660 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 31.33 tn
DAILY TONS : 69.20 tn
JOB TOTAL : 2550.73 tn

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481913

DATE & TIME: 9/13/2011 7:54:47 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 4103 - Mumme Excavating LLC

GROSS : 115820 lb
TARE : 40080 lb
NET : 75740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUMME11
TRAILER # :

NET TONS : 37.87 tn
DAILY TONS : 37.87 tn
JOB TOTAL : 2519.40 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

Lot 8

NOTES:

Integrated Waste Services
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301358

DATE & TIME: 9/12/2011 3:12:22 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 104100 lb
TARE : 38500 lb
NET : 65600 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.80 tn
DAILY TONS : 67.92 tn
JOB TOTAL : 352.06 tn

Lot 8

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301349

DATE & TIME: 9/12/2011 1:47:56 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 108560 lb
TARE : 38320 lb
NET : 70240 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 35.12 tn
DAILY TONS : 35.12 tn
JOB TOTAL : 319.26 tn

Lot 8

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481886

DATE & TIME: 9/12/2011 12:12:47 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 96780 lb
TARE : 38120 lb
NET : 58660 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

Lot 8

NET TONS : 29.33 tn
DAILY TONS : 212.39 tn
JOB TOTAL : 2481.53 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481885

DATE & TIME: 9/12/2011 12:03:23 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 115380 lb
TARE : 37840 lb
NET : 77540 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

Lot 8

NET TONS : 38.77 tn
DAILY TONS : 183.06 tn
JOB TOTAL : 2452.20 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481882

DATE & TIME: 9/12/2011 11:25:40 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103980 lb
TARE : 38460 lb
NET : 65520 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

Lot 8

NET TONS : 32.76 tn
DAILY TONS : 144.29 tn
JOB TOTAL : 2413.43 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481875

DATE & TIME: 9/12/2011 10:06:48 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 100420 lb
TARE : 39320 lb
NET : 61100 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

Lot 8

NET TONS : 30.55 tn
DAILY TONS : 111.53 tn
JOB TOTAL : 2380.67 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Recycled Waste Management
Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481862

DATE & TIME: 9/12/2011 8:23:40 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98300 lb
TARE : 38120 lb
NET : 60180 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

Lot 8

NET TONS : 30.09 tn
DAILY TONS : 80.98 tn
JOB TOTAL : 2350.12 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Recycled Waste Management
Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481860

DATE & TIME: 9/12/2011 8:11:13 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 97540 lb
TARE : 37840 lb
NET : 59700 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

Lot 8

NET TONS : 29.85 tn
DAILY TONS : 50.89 tn
JOB TOTAL : 2320.03 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Recycled Waste Management
Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481856

DATE & TIME: 9/12/2011 7:55:13 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 80540 lb
TARE : 38460 lb
NET : 42080 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 21.04 tn
DAILY TONS : 21.04 tn
JOB TOTAL : 2290.18 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: ~~Lot 8~~

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481811

DATE & TIME: 9/9/2011 1:06:34 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 99720 lb
TARE : 39320 lb
NET : 60400 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 30.20 tn
DAILY TONS : 117.10 tn
JOB TOTAL : 2269.14 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Material Recovery, Transfer Facility
PO Box 188
WA 98632

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481804

DATE & TIME: 9/9/2011 12:21:51 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 98740 lb
TARE : 38460 lb
NET : 60280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 30.14 tn
DAILY TONS : 86.90 tn
JOB TOTAL : 2238.94 tn

Material Recovery, Transfer Facility
PO Box 188
WA 98632

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481772

DATE & TIME: 9/9/2011 8:19:11 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 97900 lb
TARE : 38460 lb
NET : 59440 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 29.72 tn
DAILY TONS : 56.76 tn
JOB TOTAL : 2208.80 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481765

DATE & TIME: 9/9/2011 7:57:59 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 93400 lb
TARE : 39320 lb
NET : 54080 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 27.04 tn
DAILY TONS : 27.04 tn
JOB TOTAL : 2179.08 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4014

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481594

DATE & TIME: 9/7/2011 12:18:22 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 107240 lb
TARE : 38120 lb
NET : 69120 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 34.56 tn
DAILY TONS : 133.42 tn
JOB TOTAL : 2152.04 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481589

DATE & TIME: 9/7/2011 11:43:56 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 103280 lb
TARE : 38460 lb
NET : 64820 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 32.41 tn
DAILY TONS : 98.86 tn
JOB TOTAL : 2117.48 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481562

DATE & TIME: 9/7/2011 8:33:55 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 107660 lb
TARE : 38120 lb
NET : 69540 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 34.77 tn
DAILY TONS : 66.45 tn
JOB TOTAL : 2085.07 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481557

DATE & TIME: 9/7/2011 8:02:29 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101820 lb
TARE : 38460 lb
NET : 63360 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE : ~~Lot 8~~

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 31.68 tn
DAILY TONS : 31.68 tn
JOB TOTAL : 2050.30 tn

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301189

DATE & TIME: 9/6/2011 1:25:55 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 102960 lb
TARE : 38320 lb
NET : 64640 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.32 tn
DAILY TONS : 32.32 tn
JOB TOTAL : 284.14 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481530

DATE & TIME: 9/6/2011 1:06:02 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 93260 lb
TARE : 38120 lb
NET : 55140 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 27.57 tn
DAILY TONS : 158.07 tn
JOB TOTAL : 2018.62 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481529

DATE & TIME: 9/6/2011 12:58:32 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101240 lb
TARE : 38460 lb
NET : 62780 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 31.39 tn
DAILY TONS : 130.50 tn
JOB TOTAL : 1991.05 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481501

DATE & TIME: 9/6/2011 9:21:48 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105060 lb
TARE : 38840 lb
NET : 66220 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 33.11 tn
DAILY TONS : 99.11 tn
JOB TOTAL : 1959.66 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481497

DATE & TIME: 9/6/2011 8:56:06 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 105520 lb
TARE : 38240 lb
NET : 67280 lb

SHIP LOC. : 4 Rochester

JOB PO # : 58002

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-708
TRAILER # : 18-708

NET TONS : 33.64 tn
DAILY TONS : 66.00 tn
JOB TOTAL : 1926.55 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481495

DATE & TIME: 9/6/2011 8:41:49 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104040 lb
TARE : 39320 lb
NET : 64720 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.36 tn
DAILY TONS : 32.36 tn
JOB TOTAL : 1892.91 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481457

DATE & TIME: 9/2/2011 11:43:00 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104180 lb
TARE : 38840 lb
NET : 65340 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.67 tn
DAILY TONS : 128.76 tn
JOB TOTAL : 1860.55 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

51005/
203-009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481448

DATE & TIME: 9/2/2011 11:01:42 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 102720 lb
TARE : 39320 lb
NET : 63400 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 31.70 tn
DAILY TONS : 96.09 tn
JOB TOTAL : 1827.88 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

51005/
203-009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481446

DATE & TIME: 9/2/2011 10:56:26 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 101280 lb
TARE : 37840 lb
NET : 63440 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 31.72 tn
DAILY TONS : 64.39 tn
JOB TOTAL : 1796.18 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

51005/
203-009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481423

DATE & TIME: 9/2/2011 7:38:54 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104180 lb
TARE : 38840 lb
NET : 65340 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 32.67 tn
DAILY TONS : 32.67 tn
JOB TOTAL : 1764.46 tn

DK

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 51005 / 203-009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301127

DATE & TIME: 9/1/2011 3:13:21 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 102680 lb
TARE : 38480 lb
NET : 64200 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 32.10 tn
DAILY TONS : 64.81 tn
JOB TOTAL : 251.82 tn

CUSTOMER SIGN:_____ Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301126

DATE & TIME: 9/1/2011 3:12:29 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 01 - Quality Rock Products, Inc.

GROSS : 104940 lb
TARE : 39520 lb
NET : 65420 lb

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 32.71 tn
DAILY TONS : 32.71 tn
JOB TOTAL : 219.72 tn

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4016

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481380

DATE & TIME: 9/1/2011 11:46:03 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 110200 lb
TARE : 38840 lb
NET : 71360 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 35.68 tn
DAILY TONS : 136.09 tn
JOB TOTAL : 1731.79 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481369

DATE & TIME: 9/1/2011 10:42:17 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 106260 lb
TARE : 39320 lb
NET : 66940 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-701
TRAILER # : 18-701

NET TONS : 33.47 tn
DAILY TONS : 100.41 tn
JOB TOTAL : 1696.11 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 481367

DATE & TIME: 9/1/2011 10:25:34 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 104440 lb
TARE : 37840 lb
NET : 66600 lb

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 578-4619

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-704
TRAILER # : 18-704

NET TONS : 33.30 tn
DAILY TONS : 66.94 tn
JOB TOTAL : 1662.64 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 481349

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 9/1/2011 7:42:27 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 01 - Quality Rock Products Inc

GROSS : 106120 lb
TARE : 38840 lb
NET : 67280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 18-703
TRAILER # : 18-703

NET TONS : 33.64 tn
DAILY TONS : 33.64 tn
JOB TOTAL : 1629.34 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484245

DATE & TIME: 10/31/2011 9:01:07 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 110720 lb
TARE : 42420 lb
NET : 68300 lb

SHIP LOC. : 4 Rochester

51005
203-009

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 34.15 tn
DAILY TONS : 34.15 tn
JOB TOTAL : 5818.94 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484241

DATE & TIME: 10/28/2011 11:57:43 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 104920 lb
TARE : 42420 lb
NET : 62500 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 31.25 tn
DAILY TONS : 68.15 tn
JOB TOTAL : 5784.79 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484240

DATE & TIME: 10/28/2011 8:31:10 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 116220 lb
TARE : 42420 lb
NET : 73800 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 36.90 tn
DAILY TONS : 36.90 tn
JOB TOTAL : 5753.54 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484228

DATE & TIME: 10/27/2011 9:53:55 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 106640 lb
TARE : 36520 lb
NET : 70120 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cliff 01
TRAILER # :

NET TONS : 35.06 tn
DAILY TONS : 35.06 tn
JOB TOTAL : 5716.64 tn

OK

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484206

DATE & TIME: 10/26/2011 12:45:29 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 93280 lb
TARE : 36520 lb
NET : 56760 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cliff 01
TRAILER # :

NET TONS : 28.38 tn
DAILY TONS : 76.78 tn
JOB TOTAL : 5681.58 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484184

DATE & TIME: 10/26/2011 9:07:12 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 83660 lb
TARE : 42340 lb
NET : 41320 lb

LOT 4

SHIP LOC. : 4 Rochester

JOB PO # : 51005

MAP PAGE : 203-009

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 20.66 tn
DAILY TONS : 48.40 tn
JOB TOTAL : 5653.20 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484179

DATE & TIME: 10/26/2011 8:42:32 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 92260 lb
TARE : 36780 lb
NET : 55480 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cliff 01
TRAILER # :

NET TONS : 27.74 tn
DAILY TONS : 27.74 tn
JOB TOTAL : 5632.54 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4614

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484140

DATE & TIME: 10/25/2011 12:38:27 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 105880 lb
TARE : 42340 lb
NET : 63540 lb

LOT 4

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

51005 / 203-009

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 31.77 tn
DAILY TONS : 62.54 tn
JOB TOTAL : 5604.80 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484115

DATE & TIME: 10/25/2011 8:31:11 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 103880 lb
TARE : 42340 lb
NET : 61540 lb

LOT 4

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

51005 / 203-009

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 30.77 tn
DAILY TONS : 30.77 tn
JOB TOTAL : 5573.03 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4614

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484077

DATE & TIME: 10/24/2011 1:02:58 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 105040 lb
TARE : 42340 lb
NET : 62700 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 31.35 tn
DAILY TONS : 61.55 tn
JOB TOTAL : 5542.26 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484042

DATE & TIME: 10/24/2011 8:52:58 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 102740 lb
TARE : 42340 lb
NET : 60400 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 30.20 tn
DAILY TONS : 30.20 tn
JOB TOTAL : 5510.91 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484000

DATE & TIME: 10/21/2011 12:02:38 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 110540 lb
TARE : 40400 lb
NET : 70140 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mumm11
TRAILER # :

NET TONS : 35.07 tn
DAILY TONS : 93.86 tn
JOB TOTAL : 5480.71 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483968

DATE & TIME: 10/21/2011 8:29:51 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 105580 lb
TARE : 41300 lb
NET : 64280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mumm20
TRAILER # :

NET TONS : 32.14 tn
DAILY TONS : 58.79 tn
JOB TOTAL : 5445.64 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483967

DATE & TIME: 10/21/2011 8:17:08 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 93700 lb
TARE : 40400 lb
NET : 53300 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mumm11
TRAILER # :

NET TONS : 26.65 tn
DAILY TONS : 26.65 tn
JOB TOTAL : 5413.50 tn

OK

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483919

DATE & TIME: 10/20/2011 9:34:20 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 110140 lb
TARE : 40400 lb
NET : 69740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mumm11
TRAILER # :

NET TONS : 34.87 tn
DAILY TONS : 34.87 tn
JOB TOTAL : 5386.85 tn

OK

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483877

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/19/2011 12:00:35 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 103140 lb
TARE : 41300 lb
NET : 61840 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mumm20
TRAILER # :

NET TONS : 30.92 tn
DAILY TONS : 30.92 tn
JOB TOTAL : 5351.98 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483650

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/14/2011 12:03:43 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 104940 lb
TARE : 42500 lb
NET : 62440 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 31.22 tn
DAILY TONS : 63.50 tn
JOB TOTAL : 5321.06 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

51005/203-314

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483633

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/14/2011 8:07:12 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 106740 lb
TARE : 42180 lb
NET : 64560 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 32.28 tn
DAILY TONS : 63.50 tn
JOB TOTAL : 5321.06 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

51005/203-314

*Reprinted Ticket *Edited Ticket

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483596

DATE & TIME: 10/13/2011 12:18:57 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 105040 lb
TARE : 42500 lb
NET : 62540 lb

SHIP LOC. : 4 Rochester

JOB PO # : 51005

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

203-009

NET TONS : 31.27 tn
DAILY TONS : 63.06 tn
JOB TOTAL : 5257.56 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483571

DATE & TIME: 10/13/2011 8:33:16 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 106300 lb
TARE : 42720 lb
NET : 63580 lb

SHIP LOC. : 4 Rochester

JOB PO # : 51005

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

203-009

NET TONS : 31.79 tn
DAILY TONS : 31.79 tn
JOB TOTAL : 5226.29 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483500

DATE & TIME: 10/12/2011 8:44:41 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 116480 lb
TARE : 41640 lb
NET : 74840 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL25
TRAILER # :

NET TONS : 37.42 tn
DAILY TONS : 37.42 tn
JOB TOTAL : 5194.50 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483457

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 100220 lb
TARE : 41580 lb
NET : 58640 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 10/11/2011 12:18:26 PM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL15
TRAILER # :

NET TONS : 29.32 tn
DAILY TONS : 52.12 tn
JOB TOTAL : 5157.08 tn

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483425

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 87240 lb
TARE : 41640 lb
NET : 45600 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 10/11/2011 8:23:56 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL25
TRAILER # :

OK

NET TONS : 22.80 tn
DAILY TONS : 22.80 tn
JOB TOTAL : 5127.76 tn

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483393

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 107940 lb
TARE : 42720 lb
NET : 65220 lb

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 10/10/2011 9:50:46 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

OK

NET TONS : 32.61 tn
DAILY TONS : 32.61 tn
JOB TOTAL : 5104.96 tn

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483377

DATE & TIME: 10/7/2011 12:44:18 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 108680 lb
TARE : 42340 lb
NET : 66340 lb

51005/203-004

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 33.17 tn
DAILY TONS : 33.17 tn
JOB TOTAL : 5072.35 tn

NOTES: Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483312

DATE & TIME: 10/5/2011 11:47:58 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 93180 lb
TARE : 36760 lb
NET : 56420 lb

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : CLIFF1
TRAILER # :

NET TONS : 28.21 tn
DAILY TONS : 164.48 tn
JOB TOTAL : 5039.18 tn

NOTES: Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483298

DATE & TIME: 10/5/2011 8:33:26 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 90400 lb
TARE : 40300 lb
NET : 50100 lb

Mumm B #11

CUSTOMER SIGN:_____ Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUNN11
TRAILER # :

NET TONS : 25.05 tn
DAILY TONS : 136.27 tn
JOB TOTAL : 5010.97 tn

NOTES: Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483297

DATE & TIME: 10/5/2011 8:27:16 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 100640 lb
TARE : 41640 lb
NET : 59000 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL25
TRAILER # :

NET TONS : 29.50 tn
DAILY TONS : 111.22 tn
JOB TOTAL : 4985.92 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483296

DATE & TIME: 10/5/2011 8:24:49 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 100160 lb
TARE : 41580 lb
NET : 58580 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL15
TRAILER # :

NET TONS : 29.29 tn
DAILY TONS : 81.72 tn
JOB TOTAL : 4956.42 tn

OK

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483294

DATE & TIME: 10/5/2011 8:02:34 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 96720 lb
TARE : 42340 lb
NET : 54380 lb

SHIP LOC. : 4 Rochester

JOB PO # : 51005 / 203-009

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 27.19 tn
DAILY TONS : 52.43 tn
JOB TOTAL : 4927.13 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483293

DATE & TIME: 10/5/2011 7:51:18 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 87240 lb
TARE : 36760 lb
NET : 50480 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : CLIFF1
TRAILER # :

NET TONS : 25.24 tn
DAILY TONS : 25.24 tn
JOB TOTAL : 4899.94 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4618

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483267

DATE & TIME: 10/4/2011 1:02:42 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 101440 lb
TARE : 40300 lb
NET : 61140 lb

Mummf #11

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUNN11
TRAILER # :

NET TONS : 30.57 tn
DAILY TONS : 296.83 tn
JOB TOTAL : 4874.70 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4618

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483266

DATE & TIME: 10/4/2011 12:51:02 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 108460 lb
TARE : 41640 lb
NET : 66820 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL25
TRAILER # :

NET TONS : 33.41 tn
DAILY TONS : 266.26 tn
JOB TOTAL : 4844.13 tn

OK

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4618

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483265

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/4/2011 12:48:39 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 104640 lb
TARE : 41580 lb
NET : 63060 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL15
TRAILER # :

NET TONS : 31.53 tn
DAILY TONS : 232.85 tn
JOB TOTAL : 4810.72 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483258

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/4/2011 12:27:13 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 104260 lb
TARE : 42340 lb
NET : 61920 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 30.96 tn
DAILY TONS : 201.32 tn
JOB TOTAL : 4779.19 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery Transfer Facility
PO Box 188
Longview WA 98632
(206) 578-4016

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483252

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/4/2011 12:09:30 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 89240 lb
TARE : 36760 lb
NET : 52480 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : CLIFF1
TRAILER # :

NET TONS : 26.24 tn
DAILY TONS : 170.36 tn
JOB TOTAL : 4748.23 tn

CUSTOMER SIGN:_____ Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483226

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/4/2011 8:42:29 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 99440 lb
TARE : 40400 lb
NET : 59040 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : MUNN11
TRAILER # :

NET TONS : 29.52 tn
DAILY TONS : 144.12 tn
JOB TOTAL : 4721.99 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

Mumme #11

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483224

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/4/2011 8:37:39 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 99000 lb
TARE : 41660 lb
NET : 57340 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL15
TRAILER # :

NET TONS : 28.67 tn
DAILY TONS : 114.60 tn
JOB TOTAL : 4692.47 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483223

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/4/2011 8:34:21 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 99320 lb
TARE : 41660 lb
NET : 57660 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : HARL25
TRAILER # :

NET TONS : 28.83 tn
DAILY TONS : 85.93 tn
JOB TOTAL : 4663.80 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483221

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 88380 lb
TARE : 36700 lb
NET : 51680 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 10/4/2011 8:17:36 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : CLIFF1
TRAILER # :

NET TONS : 25.84 tn
DAILY TONS : 57.10 tn
JOB TOTAL : 4634.97 tn

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 483220

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 104680 lb
TARE : 42160 lb
NET : 62520 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 10/4/2011 8:10:53 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 31.26 tn
DAILY TONS : 31.26 tn
JOB TOTAL : 4609.13 tn

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 301866

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Backhaul

CARRIER : 22650 - DLB Earthworks

GROSS : 104960 lb
TARE : 41640 lb
NET : 63320 lb

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 10/3/2011 11:44:06 AM

SHIP LOC. : 2

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB57
TRAILER # :

NET TONS : 31.66 tn
DAILY TONS : 31.66 tn
JOB TOTAL : 659.40 tn

OK

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 483177

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 10/3/2011 9:52:13 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 100760 lb
TARE : 57280 lb
NET : 43480 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 50
TRAILER # :

NET TONS : 21.74 tn
DAILY TONS : 21.74 tn
JOB TOTAL : 4599.61 tn

0/2

CUSTOMER SIGN: _____ Ticket C

STANDBY TIME: _____

STANDBY INITIALS: _____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 484590

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 11/16/2011 12:20:55 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 109740 lb
TARE : 42460 lb
NET : 67280 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 33.64 tn
DAILY TONS : 63.46 tn
JOB TOTAL : 6033.81 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Waste Connections Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(360) 636-4214

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484577

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 102200 lb
TARE : 42560 lb
NET : 59640 lb

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 11/16/2011 8:17:28 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 29.82 tn
DAILY TONS : 29.82 tn
JOB TOTAL : 6000.17 tn

NOTES:

Waste Management
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484562

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 100740 lb
TARE : 42360 lb
NET : 58380 lb

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 11/15/2011 10:28:09 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 29.19 tn
DAILY TONS : 60.54 tn
JOB TOTAL : 5970.35 tn

NOTES:

Waste Management
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484557

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 105060 lb
TARE : 42360 lb
NET : 62700 lb

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 11/15/2011 7:02:10 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 31.35 tn
DAILY TONS : 31.35 tn
JOB TOTAL : 5941.16 tn

NOTES:

Waste Management
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484550

DATE & TIME: 11/14/2011 10:19:27 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 106360 lb
TARE : 42360 lb
NET : 64000 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 32.00 tn
DAILY TONS : 32.00 tn
JOB TOTAL : 5909.81 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Shelton, WA 98632
(360) 978-4016

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484468

DATE & TIME: 11/9/2011 8:06:24 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11509 - Port of Olympia Maintenance
JOB ADD.:
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 100980 lb
TARE : 42420 lb
NET : 58560 lb

SHIP LOC. : 4 Rochester

JOB PO # : Cargo Yard

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 29.28 tn
DAILY TONS : 29.28 tn
JOB TOTAL : 29.28 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Shelton, WA 98632
(360) 978-4016

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484318

DATE & TIME: 11/3/2011 11:53:41 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 101600 lb
TARE : 42420 lb
NET : 59180 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 29.59 tn
DAILY TONS : 29.59 tn
JOB TOTAL : 5848.53 tn

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Shelton, WA 98632
(360) 978-4016

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

# TICKET # 484969

DATE & TIME: 12/12/2011 12:05:08 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 106720 lb
TARE : 42340 lb
NET : 64380 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 32.19 tn
DAILY TONS : 64.56 tn
JOB TOTAL : 6256.82 tn

51005
203-009

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Longview Waste Management
Material Recovery / Transfer Facility

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

# TICKET # 484958

DATE & TIME: 12/12/2011 8:22:21 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 107340 lb
TARE : 42600 lb
NET : 64740 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 32.37 tn
DAILY TONS : 32.37 tn
JOB TOTAL : 6224.63 tn

51005
803-009

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

Weyerhaeuser Company
Longview Waste Management
Material Recovery / Transfer Facility
P.O. Box 188
Longview, WA 98632
(360) 578-4014

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484950

DATE & TIME: 12/9/2011 12:16:10 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 103820 lb
TARE : 42600 lb
NET : 61220 lb

SHIP LOC. : 4 Rochester
51005
203-008

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 30.61 tn
DAILY TONS : 63.01 tn
JOB TOTAL : 6192.26 tn

NOTES:

CUSTOMER SIGN: _____ Ticket C

STANDBY TIME: _____

STANDBY INITIALS: _____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484944

DATE & TIME: 12/9/2011 8:43:09 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 107400 lb
TARE : 42600 lb
NET : 64800 lb

SHIP LOC. : 4 Rochester
51005
203-009

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 32.40 tn
DAILY TONS : 32.40 tn
JOB TOTAL : 6161.65 tn

NOTES:

CUSTOMER SIGN: _____ Ticket C

STANDBY TIME: _____

STANDBY INITIALS: _____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484940

DATE & TIME: 12/8/2011 12:34:53 PM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 104920 lb
TARE : 40400 lb
NET : 64520 lb

SHIP LOC. : 4 Rochester
51005
203-009

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mumm11
TRAILER # :

NET TONS : 32.26 tn
DAILY TONS : 65.47 tn
JOB TOTAL : 6129.25 tn

NOTES:
Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4618

CUSTOMER SIGN: _____ Ticket B

STANDBY TIME: _____

STANDBY INITIALS: _____

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484935

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 106820 lb
TARE : 40400 lb
NET : 66420 lb

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 12/8/2011 8:22:29 AM

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Mummll
TRAILER # :

NET TONS : 33.21 tn
DAILY TONS : 33.21 tn
JOB TOTAL : 6096.99 tn

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 484925

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 92 - Certified Scale Contaminated Dirt Back Haul

CARRIER : 22650 - DLB Earthworks

GROSS : 102540 lb
TARE : 42600 lb
NET : 59940 lb

CUSTOMER SIGN:_____Ticket C

STANDBY TIME:_____

STANDBY INITIALS:_____

DATE & TIME: 12/7/2011 11:25:46 AM

SHIP LOC. : 4 Rochester

JOB PO # : 51005/203-009

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 29.97 tn
DAILY TONS : 29.97 tn
JOB TOTAL : 6063.78 tn

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 485391

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 1/26/2012 10:19:00 AM

CUSTOMER: 22650 - DLB Earthworks

JOB : 11555 - East Bay Public Plaza
JOB ADD.: 421 Jefferson St NE
JOB CITY: Olympia

PRODUCT : 93 - Certified Weight Check

CARRIER : 22650 - DLB Earthworks

GROSS : 57140 lb
TARE : 28920 lb
NET : 28220 lb

SHIP LOC. : 4 Rochester

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : DLB 57
TRAILER # :

NET TONS : 14.11 tn
DAILY TONS : 14.11 tn
JOB TOTAL : 14.11 tn

CUSTOMER SIGN:_____Ticket A

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# Appendix F -  PARCEL 5:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471771

DATE & TIME: 1/28/2011 1:43:04 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 10572 - Athletic Complex Ph II
JOB ADD.: Marvin Rd
JOB CITY:

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 105120 lb
TARE : 42520 lb
NET : 62600 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-83
TRAILER # :

NET TONS : 31.30 tn
DAILY TONS : 62.98 tn
JOB TOTAL : 62.98 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009
469.1 Tons

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471770

DATE & TIME: 1/28/2011 1:41:33 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 10572 - Athletic Complex Ph II
JOB ADD.: Marvin Rd
JOB CITY:

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 105840 lb
TARE : 42480 lb
NET : 63360 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 84
TRAILER # :

NET TONS : 31.68 tn
DAILY TONS : 31.68 tn
JOB TOTAL : 31.68 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471767

DATE & TIME: 1/28/2011 1:28:15 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 53860 lb
TARE : 27480 lb
NET : 26380 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 85 Solo
TRAILER # :

NET TONS : 13.19 tn
DAILY TONS : 389.14 tn
JOB TOTAL : 1557.21 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/009

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471761

DATE & TIME: 1/28/2011 12:17:02 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 105300 lb
TARE : 42480 lb
NET : 62820 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 84
TRAILER # :

NET TONS : 31.41 tn
DAILY TONS : 375.95 tn
JOB TOTAL : 1544.02 tn

691/009

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471760

DATE & TIME: 1/28/2011 12:13:54 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 105240 lb
TARE : 42520 lb
NET : 62720 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-83
TRAILER # :

NET TONS : 31.36 tn
DAILY TONS : 344.54 tn
JOB TOTAL : 1512.61 tn

691/009

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471759

DATE & TIME: 1/28/2011 11:40:00 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 104980 lb
TARE : 42640 lb
NET : 62340 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 85
TRAILER # :

NET TONS : 31.17 tn
DAILY TONS : 313.18 tn
JOB TOTAL : 1481.25 tn

691/009

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471756

DATE & TIME: 1/28/2011 10:48:27 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 103380 lb
TARE : 42520 lb
NET : 60860 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-83
TRAILER # :

NET TONS : 30.43 tn
DAILY TONS : 282.01 tn
JOB TOTAL : 1450.08 tn

691/008

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

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# [redacted]CK PRODUCTS, INC.

[redacted]TTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471755

DATE & TIME: 1/28/2011 10:43:47 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 103140 lb
TARE : 42480 lb
NET : 60660 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 84
TRAILER # :

NET TONS : 30.33 tn
DAILY TONS : 251.58 tn
JOB TOTAL : 1419.65 tn

691/008

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

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# QUALITY ROCK PRODUCTS, INC.

10201 LITTLEROCK RD SW - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

## TICKET # 471753

DATE & TIME: 1/28/2011 9:37:39 AM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 50BP - Ballast PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 104800 lb
TARE : 42520 lb
NET : 62280 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : Cecc-83
TRAILER # :

NET TONS : 31.14 tn
DAILY TONS : 221.25 tn
JOB TOTAL : 1389.32 tn

691/008

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES:

# QUALITY ROCK PRODUCTS, INC.

# TICKET # 471760

10201 LITTLEROCK RD SW' - OLYMPIA, WA 98512 - OFFICE: 360-754-7777

DATE & TIME: 1/28/2011 1:28:46 PM

CUSTOMER: 17150 - Ceccanti Construction

JOB : 11367 - Hands On Children's Museum
JOB ADD.: Marine Drive
JOB CITY: Olympia

PRODUCT : 30P - Washed Sand PU

CARRIER : 17150 - Ceccanti Construction

GROSS : 48740 lb
TARE : 14780 lb
NET : 33960 lb

SHIP LOC. : 4

JOB PO # :

MAP PAGE :

TRUCK TYPE : Picked Up
TRUCK # : 85 Trailer
TRAILER # :

NET TONS : 16.98 tn
DAILY TONS : 16.98 tn
JOB TOTAL : 16.98 tn

CUSTOMER SIGN:_____Ticket B

STANDBY TIME:_____

STANDBY INITIALS:_____

NOTES: 691/007

Sand to bed utility trench
Thru South end of Ex. #1

3-2-11
87.98 TONS

New Tare Weight
C-85
PORT OF OLYMPIA

TICKET 31149 Pile Pile 18
SCALE NO. 1 18 & 19
CUSTOMER 82 CECCANTI
GROSS 42520 LB
TIME 06:50 AM 02 MAR 11
TARE

C-84
PORT OF OLYMPIA
TARE
TICKET 31150
SCALE NO. 2
CUSTOMER 82 CECCANTI
GROSS 42040 LB
TIME 06:51 AM 02 MAR 11

C-85
PORT OF OLYMPIA
Pile 18 & 19
TICKET 31153
SCALE NO. 1
CUSTOMER 82 CECCANTI
Tare - 42,520
GROSS 97860 LB
NET 55,340
TIME 07:30 AM 02 MAR 11
27.67 TONS

Placed in Heavy Job

Pacific Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C-85
PORT OF OLYMPIA
Placed in Heavy Job
TICKET 31161 Pile
SCALE NO. 1 18 & 19
CUSTOMER 82 CECCANTI
Tare - 42,520
GROSS 105020 LB
NET - 62,500
TIME 11:39 AM 02 MAR 11
31.25 TONS

Pile 18 + 19
C-84
PORT OF OLYMPIA
Placed in Heavy Job
TICKET 31154
SCALE NO. 1
CUSTOMER 82 CECCANTI
TARE - 42,040
GROSS 100160 LB
58,120
TIME 07:45 AM 02 MAR 11
29.06 TONS

3-2-11

C-85
Tare 42.520
PORT OF OLYMPIA
Pile 18/19

TICKET 31165

SCALE NO. 1

CUSTOMER 82 CECCANTI
Tare- 42,520
GROSS 102660 LB
NET- 60,140
TIME 07:22 AM 03 MAR 11

30.07 TONS

C-85
Tare Weight 42.520
PORT OF OLYMPIA

TICKET 31172 Pile 18/19

SCALE NO. 1

CUSTOMER 82 CECCANTI
Tare- 42,520
GROSS 104360 LB
NET- 61,840
TIME 11:20 AM 03 MAR 11

30.92 TONS

C-85
3-3-11
60.99 TONS

3-3-11

3-4-11

123.14 TONS

C-85

Tare Weight 42.520

PORT OF OLYMPIA

Pile 18/19

TICKET 31183

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 106400 LB

TIME 07:18 AM 04 MAR 11

31.94 TONS

C-85

Tare Weight 42,520

PORT OF OLYMPIA

Pile 18/19

TICKET 31197

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 105060 LB

TIME 11:41 AM 04 MAR 11

31.27 TONS

Ceccanti C83

TIME 11:13 AM 04 MAR 11

PORT OF OLYMPIA

Pile 18+19

TICKET 31195

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 102220 LB

TIME 11:30 AM 04 MAR

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box [redacted]
Longview, WA [redacted]
(206) [redacted]

29.96 TONS

C-83 ~~[illegible]~~ Ceccanti

PORT OF OLYMPIA

Pile 18X19

TICKET 31185

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 102240 LB

TIME 07:37 AM 04 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery/Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

29.97 TONS

Ceccanti C-83

PORT OF LMOI

TICKET 31181

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 42300 LB

TIME 06:44 AM 04 MAR 11

TARE

PORT OF OLYMPIA

ET 31315

E NO. 1

OMER 82 CECCANTI

S 42200 LB

06:05 AM 10 MAR 11

C-84 Ceccanti Hauls on MUS

TARE 42200

PORT OF OLYMPIA

TICKET 31319

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 105540 LB

TIME 06:46 AM 10 MAR 11

C-84 Ceccanti Hauls on MUS

Pile #32

(31.67 TONS)

TARE 42200

PORT OF OLYMPIA

TICKET 31335

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 103800 LB

TIME 10:33 AM 10 MAR 11

C-84 Child Hauls on Pile #32

(30.8 TONS)

TARE C-42

PORT OF OLYMPIA

KET 31317

E NO. 1

OMER 82 CECCANTI

S 44860 LB

06:07 AM 10 MAR 11

C42 44860

PORT OF OLYMPIA

TICKET 31321

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 104780 LB

TIME 07:02 AM 10 MAR 11

PILE 32

29.96 TON

Waste Recovery Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C42 44860

PORT OF OLYMPIA

TICKET 31337

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 105860 LB

TIME 10:39 AM 10 MAR 11

PILE 32

30.5 TON

C-84 + C-42
3-10-11

122.93 TONS

C-85
42,320

PORT OF OLYMPIA

TICKET 31318 Pile 32

SCALE NO. 2

CUSTOMER 82 CECCANTI

GROSS 105200 LB

TIME 06:36 AM 10 MAR 11

31.44 TONS

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer facility
PO Box 188
Longview, WA 98632
(206) 578-4614

C-85
42,320

PORT OF OLYMPIA

TICKET 31336 Pile 32

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 105220 LB

TIME 10:38 AM 10 MAR 11

31.45 TONS

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer facility
PO Box 188
Longview, WA 98632
(206) 578-4614

C-85 TARE

PORT OF OLYMPIA

TICKET 31316

SCALE NO. 2

CUSTOMER 82 CECCANTI

GROSS 42320 LB

TIME 06:05 AM 10 MAR 11

C-85

3-10-11

62.89 TONS

PORT OF OLYMPIA

Ceccanti

TICKET 31353

C83

SCALE NO. 1

Pile 31

CUSTOMER 82 CECCANTI

GROSS 106100 LB

TIME 06:54 AM 11 MAR 11

31.92 TONS

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

TARE 42260

PORT OF OLYMPIA

TARE

Ceccanti

TICKET 31347

C 83

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 42260 LB

TIME 06:04 AM 11 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery | Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

PORT OF OLYMPIA

Ceccanti

TICKET 31371

C83

SCALE NO. 1

CUSTOMER 82 CECCANTI

Pile 31

GROSS 105320 LB

TIME 10:55 AM 11 MAR 11

31.53 TONS

TARE 42260

187.65 TONS

TOTAL 3-11-11

C-85

TARE 42.320

PORT OF OLYMPIA

Pile 19/31

TICKET 31368

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 103560 LB

30.62 TONS

TIME 10:27 AM 11 MAR 11

C-85

TARE 42.320

PORT OF OLYMPIA

Pile 31

TICKET 31351

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 105320 LB

31.50 TONS

TIME 06:34 AM 11 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C 84
42200 TARE

PORT OF OLYMPIA

TICKET 31352 PILE 31

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 105160 LB

31.48 TONS

TIME 06:52 AM 11 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C 84 42200 TARE

PORT OF OLYMPIA

TICKET 31370 PILE 31.

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 103380 LB

30.59 TONS

TIME 10:41 AM 11 MAR 11

C-83 TARE 42260

PORT OF OLYMPIA

Ceccanti

TICKET 31394

SCALE NO. 2

CUSTOMER 82 CECCANTI

NET 42,260

GROSS 105860 LB

NET - 63,600 31.80

TIME 10:04 AM 14 MAR 11

Pile 31

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C84 42200

PORT OF OLYMPIA

TICKET 31396 PILE 31

SCALE NO. 1

CUSTOMER 82 CECCANTI

TARE - 42,200

GROSS 104780 LB 31.29 TONS

NET - 62,580

TIME 10:08 AM 14 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C-85 42,320

PORT OF OLYMPIA

Pile 31

TICKET 31393

SCALE NO. 1

CUSTOMER 82 CECCANTI 33.08 Ton

GROSS 108480 LB

TIME 09:40 AM 14 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C 84 42200

PORT OF OLYMPIA

TICKET 31389 PILE 31

SCALE NO. 1

CUSTOMER 82 CECCANTI

TARE - 42,200

GROSS 105260 LB 31.53 TONS

NET - 63,060

TIME 05:56 AM 14 MAR 11

C-85 42,320

PORT OF OLYMPIA

Pile 31

TICKET 31387

SCALE NO. 1

Ceccanti 85 29.36 Ton

GROSS 101040 LB

TIME 05:50 AM 14 MAR 11

C83 TARE 42260

PORT OF OLYMPIA

Ceccanti

TICKET 31388

SCALE NO. 1

CUSTOMER 82 CECCANTI

TARE - 42,260

GROSS 104240 LB 30.99 TONS

NET - 61,980

TIME 05:55 AM 14 MAR 11

Pile 31

C-83, C84, C-85

185.05 TONS

3-14-11

TANE C83
42260

PORT OF OLYMPIA

Ceccanti

TICKET 31408

SCALE NO. 1

CUSTOMER 82 CECCANTI

30.10 TONS

GROSS 102460 LB

TIME 05:50 AM 15 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

Pile 26

C84
42200

TICKET 31410

PILE 26

ENTER 0 00
WEIGH-IN 103440 LB
TIME 06:02 AM 15 MAR 11

30.62 TONS

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C-85
42.320

PORT OF OLYMPIA

pile 26

TICKET 31417

CALE NO. 1

USTOMER 82 CECCANTI

ROSS 104140 LB

30.91 TONS

IME 09:39 AM 15 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

Ceccanti

PORT OF OLYMPIA C 83

TICKET 31418 TANE 42260

SCALE NO. 1

CUSTOMER 82 CECCANTI

GROSS 104800 LB

31.27 TONS

TIME 09:40 AM 15 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

Pile 26

C84
42200

PORT OF OLYMPIA

TICKET 31420

PILE 26

SCALE NO. 1

CUSTOMER 82 CECCANTI

31.17 TONS

GROSS 104540 LB

TIME 09:54 AM 15 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C-85
42.320

PORT OF OLYMPIA

Pile 26

TICKET 31407

SCALE NO. 1

CUSTOMER 82 CECCANTI

30.5

GROSS 103500 LB

TIME 05:41 AM 15 MAR 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4616

C83, C84, C85
3-15-11
184.57 TONS

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Castle Rock WA 98611
Tel (360) 274 6492
Fax (360) 274 6393

# LOAD SUMMARY

## CECCANTI - CHILDRENS HANDS ON MUSEUM

**6/6/2011**

| DATE | TIME | CUSTOMER | HAULER, DRIVER, TRUCK# | GROSS WGT (LBS) | TARE WGT (LBS) | NET WGT (LBS) | TICKET # |
|---|---|---|---|---|---|---|---|
| 6/6/2011 | 8:10A | Childrens Museum | Ceccanti - Cheryl - #42 | 105,640 | 44,180 | 61,460 | 32943 |
| 6/6/2011 | 8:12A | Childrens Museum | Ceccanti - Joanne - #C84 | 102,320 | 42,200 | 60,120 | 32942 |
| 6/6/2011 | 12:20P | Childrens Museum | Ceccanti - Joanne - #C84 | 102,680 | 42,200 | 60,480 | 32957 |
| 6/6/2011 | 12:20P | Childrens Museum | Ceccanti - Cheryl - #42 | 55,860 | 27,500 | 28,360 | 32959 |

| | | | |
|---|---|---|---|
| **Total Load Count:** | **4** | **Total Net Weight (LBS):** | **210,420** |
| | | **Total Net Weight (TONS):** | **105.2** |

100th Anniversary

# TRUCK LOG SHEET

| Ctrl # | DATE | TIME | CUSTOMER | HAULER, DRIVER & TRUCK# | GROSS/TARE WGT (LBS) | | TICKET # | SYSTEM ID# (OFFICE USE ONLY) |
|---|---|---|---|---|---|---|---|---|
| 6937 | 6/1/11 | [illegible] | [illegible] | [illegible] | 143800 / 108[illegible] | | 1184291 | |
| 6938 | 6-1-11 | 7:30 | CDL Recycle | Jordan 941 | 94[illegible] | 41,951 | | |
| 6939 | 6-2-11 | 6:45 | Riverdale | CRT Brian 44 | 95,800 | 45,660 | 31088 | |
| 6940 | 6-2-11 | 7:30 | Riverdale | CRT [illegible] 45 | 87,600 | 41,22[illegible] | 31078 | |
| 6941 | 6-2-11 | 7:30 | Riverdale | CRT Bob 41 | 88[illegible] | 43,280 | 31073 | |
| 6942 | 6-2-11 | 11:00 | LV Fibre | WASTE CONTROL Tim 35 | 78,100 | 36,820 | | |
| 6943 | 6-2-11 | 1:30 | Riverdale | CRT Bob 41 | 88460 | 43340 | 31120 | |
| 6944 | 6-3-11 | 6:00 | Riverdale | CRT Brian 43 | 87[illegible] | 41300 | 31141 | |
| 6945 | 6-3-11 | 6:30 | Riverdale | CRT Bob 41 | 87860 | [illegible] | 31137 | |
| 6946 | 6-3-11 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 6947 | 6-6-11 | 8:10 | Children Museum | Cecanti 42 Cheryl | 105640 | 44180 | 32943 | |
| 6948 | 6-6-11 | 8:12 | Children's Museum | Cecanti 84 Jamie | 102320 | 42202 | 32142 | |
| 6949 | 6-6-11 | 9:15 | Riverdale | CRT Bra 44 | 94,830 | 45220 | 31187 | |
| 6950 | 6-6-11 | 9:25 | LV Fibre | WASTE CONTROL Tim 35 | 102,440 | 36,620 | ✓ | |
| 6951 | 6-6-11 | 11:25 | LV Fibre | WASTE CONTROL Tim 35 | 102,[illegible] | 36,680 | ✓ | |
| 6952 | 6-6-11 | 12:20 | Children's Museum | Cecanti 84 Jamie | 102680 | 42200 | 32957 | |
| 6953 | " " | " | " " | Cecanti 42 Cheryl | 55860 | 27500 | 32959 | |
| 6954 | 6/6/11 | 12:30 | CDL | Jordan Dave 70 | 97116 | 47960 | ✓ | |
| 6955 | 6-7-11 | 6:15 | Riverdale | CRT Bob 41 | 87090 | 43200 | 31231 | |
| 6956 | 6-7-11 | 6:30 | Riverdale | CRT Brian 44 | 88,080 | 45740 | 31234 | |
| 6957 | 6-7-11 | 6:30 | Riverdale | CRT Rudy 43 | 85,520 | 40,820 | 31232 | |
| 6958 | 6-7-11 | 6:35 | Riverdale | CRT Dean 42 | 95,320 | [illegible] | 31233 | |
| 6959 | 6-7-11 | 9:20 | LV Fibre | WASTE CONTROL Tim 35 | 101,980 | 36,960 | ✓ | |

**PLEASE OBEY STOP SIGNS @ RR CROSSING - TRAIN RAIL MTCE EQUIPMENT HAVE THE RIGHT OF WAY**

*** * * REMEMBER <u>30 MPH MAX SPEED</u> THRU RESIDENTIAL AREAS * * ***

C. 42
TARE 44180

PORT OF [illegible]

Job #691
008

TICKET 32943

SCALE NO. 1

CUSTOMER OF LOGGER

TRUCK [illegible] B

TIME 05:07 AM 06 JUN [illegible]

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer Facility
PO Box 188
Longview, WA 98632
(206) 578-4618

C 42
TAGE 5020 27500

PORT OF OLYMPIA

Job # 691
008

TICKET 32959

SCALE NO. 1

CUSTOMER ID LECCANTI

GROSS 55860 LB

TIME 09:48 AM 06 JUN 11

Weyerhaeuser Company
Integrated Waste Management
Material Recovery / Transfer facility
PO Box 188
Longview, WA 98632
(206) 578-4616

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# LOAD SUMMARY

## CECCANTI - CHILDRENS HANDS ON MUSEUM

**5/30/2011 thru 6/3/2011**

| DATE | TIME | CUSTOMER | HAULER, DRIVER, TRUCK# | GROSS WGT (LBS) | TARE WGT (LBS) | NET WGT (LBS) | TICKET # |
|---|---|---|---|---|---|---|---|
| 6/1/2011 | 9:04A | Childrens Museum | Ceccanti - Joanne - #C84 | 103,520 | 42,200 | 61,320 | 32868 |
| 6/1/2011 | 9:08A | Childrens Museum | Ceccanti - Cheryl - #42 | 106,240 | 44,180 | 62,060 | 32867 |
| 6/1/2011 | 1:15P | Childrens Museum | Ceccanti - Joanne - #C84 | 104,260 | 42,200 | 62,060 | 32880 |
| 6/1/2011 | 1:15P | Childrens Museum | Ceccanti - Cheryl - #42 | 106,880 | 44,180 | 62,700 | 32879 |

| | | | |
|---|---|---|---|
| **Total Load Count:** | **4** | **Total Net Weight (LBS):** | **248,140** |
| | | **Total Net Weight (TONS):** | **124.1** |



100th Anniversary

# TRUCK LOG SHEET

| Ctrl # | DATE | TIME | CUSTOMER | HAULER, DRIVER & TRUCK# | GROSS/TARE WGT (LBS) | | TICKET # | SYSTEM ID# (OFFICE USE ONLY) |
|---|---|---|---|---|---|---|---|---|
| 6914 | 5-31-11 | [illegible] | Paul Kelso | Hartzell Bark #Clay | 13,320 | 10,800 | [illegible] | |
| 6915 | [illegible] | 7:15 | SCHWITZER | WILKINS, BILLR. 08-101 | 102,820 | 40,380 | ✓ | |
| 6916 | 5-31-11 | [illegible] | SNE | JOEL COLSON 72 | NET | 15TON | | |
| 6917 | 5-31-11 | 9:50 | Paul Kelso | Hartzell Bark Clay | 14,[illegible] | 10,800 | 94984344 | |
| 6918 | 5-31-11 | 9:55 | Rivergate | CRT #43 | 82,000 | 41,320 | 30986 | |
| 6919 | 5-31-11 | 11:18 | Schwitzer | WILKINS, Stuart 08-[illegible] | 101,780 | 40120 | ✓ | |
| 6920 | 5-31-11 | 11:25 | Rivergate | CRT 42 Kat | 94,700 | 45,440 | 30995 | |
| 6921 | 5-31-11 | 11:33 | SCHWITZER | WILKINS, BILLR 08-101 | 102,300 | 40,880 | ✓ | |
| 6922 | 5-31-11 | 1:35 | Paul Kelso | Hartzell Bark Clay | 14,860 | 10,800 | 94984366 | |
| 6923 | 6-1-11 | 6:45 | Rivergate | CRT Brian 44 | 95,380 | 45,740 | 31038 | |
| 6924 | 6-1-11 | 6:57 | Paul Kelso | Hartzell Bark Paul | 14,280 | 10,800 | 94984291 | |
| 6925 | 6-1-11 | 7:15 | Schwitzer | WILKINS, Stuart 08-[illegible] | 102,020 | 39,860 | ✓ | |
| 6926 | 6-1-11 | 7:35 | Rivergate | CRT Jeff D 45 | 87,940 | 41,100 | 31037 | |
| 6927 | 6-1-11 | 7:45 | Rivergate | CRT 43 | 89,940 | 41,220 | 31040 | |
| 6928 | 6-1-11 | 8:00 | Rivergate | CRT 42 Kat | 77,240 | 45,420 | 31041 | |
| 6929 | 6-1-11 | 8:48 | Liv Fibre | WASTE CONTROL Tim 35 | 104,340 | 37,020 | ✓ | |
| 6930 | 6-1-11 | 9:04 | CHILDREN'S MUSEUM | CECCANTI 84 JOANNE | 103,520 | 42,200 | 32868 | |
| 6931 | 6-1-11 | 9:08 | " " | CECCANTI 42 Cheryl | 106,240 | 44,180 | 32867 | |
| 6932 | ~~6-1-11~~ | ~~[illegible]~~ | ~~Paul Kelso~~ | ~~Hartzell Bark/Paul~~ | ~~14,320~~ | ~~10,800~~ | ~~94984364~~ | |
| 6933 | ~~6-1-11~~ | ~~11:06~~ | ~~Liv Fib~~ | ~~WASTE CONTROL Tim 35~~ | ~~87,100~~ | ~~37,020~~ | ~~✓~~ | |
| 6934 | ~~6-1-11~~ | ~~11:35~~ | ~~Schwitzer~~ | ~~WILKINS, Stuart 08-103~~ | ~~103,960~~ | ~~40120~~ | ~~✓~~ | |
| 6935 | 6-1-11 | 1:15 | CHILDREN'S MUSEUM | CECCANTI C84 JOANNE | 104,260 | 42,200 | 32880 | |
| 6936 | 6-1-11 | 1:15 | " " | CECCANTI 42 Cheryl | 106,580 | 44,180 | 32879 | |

**PLEASE OBEY STOP SIGNS @ RR CROSSING - TRAIN RAIL MTCE EQUIPMENT HAVE THE RIGHT OF WAY**

*** * * REMEMBER <u>30 MPH MAX SPEED</u> THRU RESIDENTIAL AREAS * * ***

C 84
42200

PORT OF [illegible]

TICKET [illegible]

SCALE NO. 1

CUSTOMER ID [illegible]

GROSS 103020 LB

TIME 06:21 AM [illegible]

Cocoanut # 42
44180 TARE

PORT OF [illegible]

TICKET 32847

SCALE NO. 1

CUSTOMER ID COCOANUT

GROSS 106240 LB

TIME 06:29 AM [illegible] JUN 11

C84
42200

PORT OF OLYMPIA

TICKET 42820

SCALE NO. 1

CUSTOMER 82 OCEANTI

GROSS 104240 LB

TIME 10:38 AM 06 JUN 11

Occanti H2
TARE 44180

PORT OF OLYMPIA

TICKET 32179

SCALE NO. 1

CUSTOMER 82

GROSS 10568[illegible]

TIME 10:34 AM [illegible] JUN 11

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Material Recovery & Transfer
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Longview, WA [illegible]
(206) 577-4614

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Castle Rock WA 98611
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Fax (360) 274 6393

# LOAD SUMMARY

## Baker Underground Const. - LOTT Hands On Museum

**3/7/2012 thru 3/9/2012**

| DATE | TIME | CUSTOMER | HAULER, DRIVER, TRUCK# | GROSS WGT (LBS) | TARE WGT (LBS) | NET WGT (LBS) | TICKET # |
|---|---|---|---|---|---|---|---|
| LOADS DELIVERED TO LANDFILL | | | | | | | |
| 3/7/2012 | 11:25A | Baker UC | Baker Underground - James - T10 | 97,580 | 39,280 | 58,300 | 25220323 |
| 3/7/2012 | 3:30P | Baker UC | Baker Underground - James | 97,400 | 39,280 | 58,120 | 25220333 |
| 3/8/2012 | 9:20A | Baker UC | Lees Dumptrucking - L1 | 92,640 | 39,100 | 53,540 | 25220347 |
| 3/8/2012 | 12:50P | Baker UC | Lees Dumptrucking - L1 | 91,300 | 39,100 | 52,200 | 25220357 |
| 3/8/2012 | 1:30P | Baker UC | Baker Underground - James - #1 | 101,500 | 39,280 | 62,220 | 25220360 |
| 3/9/2012 | 8:40A | Baker UC | Lee Watkins - L1 | 98,380 | 39,100 | 59,280 | 25220376 |
| 3/9/2012 | 9:04A | Baker UC | Baker Underground - James | 104,040 | 39,280 | 64,760 | 25220378 |
| 3/9/2012 | 12:15P | Baker UC | Lees Dumptrucking - L1 | 98,360 | 39,100 | 59,260 | 25220381 |
| 3/9/2012 | 12:55P | Baker UC | Baker Underground - James | 98,420 | 39,280 | 59,140 | 25220385 |

| | | |
|---|---|---|
| **Total Load Count:** 9 | **Total Net Weight (LBS):** | **526,820** |
| | **Total Net Weight (TONS):** | **263.4** |

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# LOAD SUMMARY

## Baker Underground Const. - LOTT Hands On Museum

**3/12/2012 thru 3/16/2012**

| DATE | TIME | CUSTOMER | HAULER, DRIVER, TRUCK# | GROSS WGT (LBS) | TARE WGT (LBS) | NET WGT (LBS) | TICKET # |
|---|---|---|---|---|---|---|---|
| **LOADS DELIVERED TO LANDFILL** | | | | | | | |
| 3/12/2012 | 8:50A | Baker UC | Lees Dumptrucking - L1 | 90,560 | 39,100 | 51,460 | 25220413 |
| 3/12/2012 | 9:30A | Baker UC | Baker Underground - James | 102,680 | 39,280 | 63,400 | 25220416 |
| 3/12/2012 | 12:30P | Baker UC | Lees Dumptrucking - L1 | 99,680 | 39,100 | 60,580 | 25220422 |
| 3/12/2012 | 1:20P | Baker UC | Baker Underground - James | 102,740 | 39,280 | 63,460 | 28220424 |

| | | | |
|---|---|---|---|
| **Total Load Count:** | **4** | **Total Net Weight (LBS):** | **238,900** |
| | | **Total Net Weight (TONS):** | **119.5** |



100th Anniversary

# TRUCK LOG SHEET

| Ctrl # | DATE | TIME | CUSTOMER | HAULER, DRIVER & TRUCK# | GROSS/TARE WGT (LBS) | TICKET # | SYSTEM ID# (OFFICE USE ONLY) |
|---|---|---|---|---|---|---|---|
| 9053 | 3-9-12 | 11:40 | Schutzer | Olson Dave 5 | 101500 45540 | | |
| 9054 | 3-9-12 | 11:50 | CDL | Jordan 839 | 97,560 40,250 | ✓ | |
| 9055 | 3-9-12 | 12:15 | Baker (Hands on museum) Underground | Lee's Dumptruck Ring | 98,360 39,100 | ✓ | |
| 9056 | 3-9-12 | 12:16 | ACI | Harlow IRV #12 | 91,380 40720 | 37969 | |
| 9057 | 3/9/12 | 12:40 | ACI | Harlow Kevin 24 | 92,580 41,660 | 37970 | |
| 9058 | 3-9-12 | 1253 | ACI | Harlow Bill 17 | 92760 42320 | 37973 | |
| 9059 | 3/9/12 | 1255 | Hands on Museum Baker | Baker Underground Dames | 98420 39280 | 0385 | |
| 9060 | 3.9.12 | 112 | ACI | Harlow Jim 22 | 99460 41,600 | 37975 | |
| 9061 | 3-9-12 | 120 | ACI | Harlow Lee 21 | 88900 41920 | 37976 | |
| 9062 | 3-9-12 | 143 | ACI | Harlow Dave 20 | 90320 40360 | 37980 | |
| 9063 | 3-9-12 | 1350 | ACI | Harlow Curt 27 | 89860 42000 | 37978 | |
| 9064 | 3-9-12 | 1:51 | ACI | Harlow Tim 15 | 93,260 41340 | 37981 | |
| 9065 | 3/12/12 | 8:30 | Rivergate | CRT Steve 43 | 78100 42160 | 40697 | |
| 9066 | 3/12/12 | 8:50 | Baker (Hands on Museum) Underground | Lee's Dumptruck Ring | 90560 39100 | 0413 | |
| 9067 | 3-12-12 | 9:20 | ACI | Harlow Dave 16 | 98920 41840 | 38019 | |
| 9068 | 3-12 | 9:21 | ACI | Harlow Randy 13 | 92320 41880 | 38022 | |
| 9069 | 3-12-12 | 9:20 | ACI | Harlow Gary 26 | 91180 41080 | 38023 | |
| 9070 | 3-12-12 | 9:30 | Hands on museum Baker | Baker Underground Lunt | 102680 39280 | 0416 | |
| 9071 | 3-12-12 | 935 | ACI | Harlow Phil 25 | 102640 41980 | 38024 | |
| 9072 | 3-12-12 | 9:40 | ACI | Harlow IRV 12 | 99700 40820 | 38026 | |
| 9073 | 3/12/12 | 10:00 | ACI | Harlow Kevin 24 | 100,020 41,560 | 38028 | |
| 9074 | 3/12/12 | 9.55 | ACI | Harlow Vince 28 | 94,420 42,000 | 38030 | |
| 9075 | 3-12-12 | 10:13 | ACI | Harlow Bill 17 | 93060 42080 | 38031 | |

**PLEASE OBEY STOP SIGNS @ RR CROSSING - TRAIN RAIL MTCE EQUIPMENT HAVE THE RIGHT OF WAY**

*** * * REMEMBER <u>30 MPH MAX SPEED</u> THRU RESIDENTIAL AREAS * * ***

# TRUCK LOG SHEET

| Ctrl # | DATE | TIME | CUSTOMER | HAULER, DRIVER & TRUCK# | GROSS/TARE WGT (LBS) | TICKET # | SYSTEM ID# (OFFICE USE ONLY) |
|---|---|---|---|---|---|---|---|
| 9076 | 3-12-12 | 10:15 | ACI | Harlow Geo. 21 | 95120 41120 | 38033 | |
| 9077 | 3.12.12 | 10:17 | ACI | Harlow Jim 22 | 88780 41,820 | 38034 | |
| 9078 | 3-12-12 | 10:25 | Flexible Foam / Waste Control | Crews 40 | 37340 | | |
| 9079 | 3-12-12 | 10:29 | ACI | HARLOW Tim 15 | 93260 | 41160 | 38039 |
| 9080 | 3-12-12 | 10:49 | United Rec | F&L Dave 56 | 97,540 | 41,140 | 38041 |
| 9081 | 3-12-12 | 11:45 | Schnitzer | Olson Dale 5 | 101500 | 44960 | ✓ |
| 9082 | 3/12/12 | 12:10 | Rivergate | CRT Steve 43 | 10000 | 42360 | 46712 |
| 9083 | 3/12/12 | 12:30 | Baker Underground | Lee's Dump truck Inc LA | 99,680 | 39,100 | 0422 |
| 9084 | 3/12/12 | 12:35 | ACI | Harlow Ron 16 | 98,500 | 41,840 | 38044 |
| 9085 | 3/12 | 12:36 | ACI | Harlow Randy 13 | 100,500 | 41,860 | 38045 |
| 9086 | 3-12-12 | 12:40 | ACI | HARLOW GARY 26 | 95160 | 41080 | 38046 |
| 9087 | 3-12-12 | 12:55 | ACI | Harlow Tim 25 | 96520 | 41860 | 38047 |
| 9088 | 3-12-12 | 12:59 | ACI | Harlow IRV 12 | 41740 | 40820 | 38048 |
| 9089 | 3/12/12 | 1:15 | ACI | Harlow Ken 24 | 98,840 | 41,500 | 38049 |
| 9090 | 3/12/12 | 1:20 | ACI | Harlow Vince 28 | 96740 | 42,000 | 38050 |
| 9091 | 3/12/12 | 1:20 | Hands on museum | Baker underground Jim | 102740 | 39280 | 0424 |
| 9092 | 3-12-12 | 1:34 | ACI | Harlow Bill 17 | 97720 | 42080 | 38051 |
| 9093 | 3-12-12 | 1:39 | BOI | Harlow Geo 21 | 93520 | 41,700 | 38053 |
| 9094 | 3-12-12 | 1:40 | ACI | Harlow Jim 22 | 98700 | 41,820 | 38052 |
| 9095 | 3-12-12 | 1:51 | ACI | HARLOW Tim 15 | 96200 | 41,160 | 38055 |
| 9096 | 3/12/12 | 1:56 | CDL | Jordan 70 | 90050 | 41960 | ✓ |
| 9097 | | | | | | | |
| 9098 | | | | | | | |

**PLEASE OBEY STOP SIGNS @ RR CROSSING - TRAIN RAIL MTCE EQUIPMENT HAVE THE RIGHT OF WAY**

*** * * REMEMBER <u>30 MPH MAX SPEED</u> THRU RESIDENTIAL AREAS * * ***

# **Appendix G:** Data Validation Report



Use of contents on this sheet is subject to the limitations specified at the beginning of this document.

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Boise, Idaho 83702
Tel: 208-389-7700
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# Technical Memorandum

Prepared for: The City of Olympia and the Lott Alliance

Project Title: Parcel 4 and 5 Interim Action

Project No: 138130

## Technical Memorandum

Subject: Data Quality Assessment—Pace Analytical

Date: June 21, 2012

To: Project File

From: Annika Deutsch

Copy to: Jon Turk

Prepared by: Annika R P Deutsch

Annika Deutsch

*Limitations:*

*This document was prepared solely for the City of Olympia and the LOTT Alliance in accordance with professional standards at the time the services were performed and in accordance with the contract between the City of Olympia and the LOTT Alliance and Brown and Caldwell. This document is governed by the specific scope of work authorized by the City of Olympia and the LOTT Alliance; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the City of Olympia and the LOTT Alliance and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.*

# Executive Summary

A Qualitative Data Usability Review was performed on all analytical data for Sample Delivery Groups (SDGs) listed in Table 1 (see Sample Summary section below) analyzed by Pace Analytical (Pace) of Seattle, Washington. The samples were collected at the Parcels 4 and 5 Site in Olympia, Washington. This review was perforn with the general guidance provided by the National Functional Guidelines for Data Review and the project quality assurance project plan.

The following were reviewed for the analysis in this report:

**Table E-1. Review Item Summary**

| Review Item | Review Summary |
|---|---|
| COCs | Samples were analyzed for all methods requested on the COCs. |
| Case narratives | No discrepancies were noted in the data that were not also mentioned in the case narratives. |
| Analysis data sheets | All requested results were present and accounted for. |
| Holding time and sample preservation | Some samples were received by Pace outside the recommended temperature. |
| Laboratory control sample results | All laboratory control sample results were within the laboratory control limits. |
| Matrix spike results | Some metal and cPAH matrix spike results were outside laboratory control limits. |
| Laboratory duplicate results | One motor oil laboratory duplicate result was outside laboratory control limits. |
| Surrogate recoveries | All surrogate recoveries were within the laboratory control limits. |
| Field duplicate precision | Some field duplicate imprecision was identified. Dioxin/furan TEQ calculation field duplicate results, rather than individual dioxin/furan field duplicate results, were reviewed for precision. |
| Blank contamination | Some dioxins/furans were detected in method blanks at levels that may bias the sample results. |

Overall, the data are acceptable for the intended purposes. No results were rejected as a result of this review. In addition to Pace-applied qualifiers, some results were qualified as estimated due to LCS recoveries, MS/MSD recoveries, and field duplicate imprecision as described in the sections below.

Samples have been assessed within and among the sample delivery groups (SDGs), or lab batches.

## Sample Summary

Data from the following samples were reviewed as part of this data quality assessment.

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 255583 | 255583001 | CNF-1-1-9 |
| 255583 | 255583002 | CNF-1-2-9 |
| 255583 | 255583003 | CNF-1-3-9 |
| 255583 | 255583004 | CNF-1-4-9 |
| 255583 | 255583005 | CNF-1-5-9 |
| 255583 | 255583006 | CNF-1-6-4 |
| 255583 | 255583007 | CNF-1-7-5 |
| 255583 | 255583008 | CNF-1-8-3 |
| 255583 | 255583009 | CNF-1-9-1.5 |
| 255583 | 255583010 | CNF-1-10-3.5 |
| 255583 | 255583011 | CNF-1-11-1 |
| 255583 | 255583012 | CNF-1-12-3 |
| 255662 | 255662001 | CNF-4-1-15 |
| 255662 | 255662002 | CNF-4-2-13 |
| 255662 | 255662003 | CNF-4-3-12 |
| 255662 | 255662004 | CNF-4-4-12 |
| 255662 | 255662005 | CNF-4-5-12 |
| 255662 | 255662006 | CNF-4-6-10.5 |
| 255662 | 255662007 | CNF-4-7-6 |
| 255662 | 255662008 | CNF-4-8-2.5 |
| 255662 | 255662009 | CNF-4-9-11 |
| 255662 | 255662010 | CNF-4-10-7 |
| 255662 | 255662011 | CNF-4-11-2 |
| 255662 | 255662012 | CNF-4-12-11 |
| 255662 | 255662013 | CNF-4-13-2.5 |
| 255662 | 255662014 | CNF-4-14-11 |
| 255662 | 255662015 | CNF-4-15-3.5 |
| 255662 | 255662016 | CNF-4-16-2 |
| 255662 | 255662017 | CNF-5-1-15 |
| 255662 | 255662018 | CNF-5-2-13.5 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 255662 | 255662019 | CNF-5-3-10 |
| 255662 | 255662020 | CNF-5-4-2 |
| 255662 | 255662021 | CNF-5-5-13.5 |
| 255662 | 255662022 | CNF-5-6-10 |
| 255662 | 255662023 | CNF-5-7-2 |
| 255662 | 255662024 | CNF-5-8-13 |
| 255662 | 255662025 | CNF-5-9-10 |
| 255662 | 255662026 | CNF-5-10-2 |
| 255662 | 255662027 | CNF-5-11-13 |
| 255662 | 255662028 | CNF-5-12-10 |
| 255662 | 255662029 | CNF-5-13-2 |
| 255662 | 255662030 | Trip Blank |
| 255663 | 255663001 | CNF-3-1-1.5 |
| 255663 | 255663002 | CNF-3-2-0.5 |
| 255663 | 255663003 | CNF-3-3-1.5 |
| 255663 | 255663004 | CNF-3-4-1.5 |
| 255663 | 255663005 | CNF-3-5-1 |
| 255663 | 255663006 | CNF-3-6-1 |
| 255663 | 255663007 | CNF-3-7-2.5 |
| 255663 | 255663008 | CNF-3-8-2.5 |
| 255663 | 255663009 | CNF-3-9-2.5 |
| 255663 | 255663010 | CNF-3-10-2.5 |
| 255663 | 255663011 | CNF-3-11-2.5 |
| 255663 | 255663012 | CNF-3-12-2.5 |
| 255663 | 255663013 | CNF-3-13-3.5 |
| 255663 | 255663014 | CNF-3-14-3.5 |
| 255663 | 255663015 | CNF-3-15-3.5 |
| 255663 | 255663016 | CNF-3-16-3.5 |
| 255663 | 255663017 | CNF-3-17-3.5 |
| 255663 | 255663018 | CNF-3-18-3.5 |
| 255663 | 255663019 | CNF-3-19-7.5 |
| 255663 | 255663020 | CNF-3-20-7.5 |
| 255663 | 255663021 | CNF-3-21-7.5 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 255663 | 255663022 | CNF-3-22-7.5 |
| 255663 | 255663023 | CNF-3-23-7.5 |
| 255663 | 255663024 | CNF-3-24-7.4 |
| 255663 | 255663025 | CNF-3-25-10 |
| 256177 | 256177001 | CNF-3A-1-1.75 |
| 256177 | 256177002 | CNF-3A-2-3 |
| 256177 | 256177003 | CNF-3A-3-3.25 |
| 256177 | 256177004 | CNF-3A-4-2.25 |
| 256177 | 256177005 | CNF-3A-5-3.25 |
| 256177 | 256177006 | CNF-3A-6-2 |
| 256177 | 256177007 | CNF-3A-7-3.25 |
| 256177 | 256177008 | CNF-3A-8-5.5 |
| 256177 | 256177009 | CNF-3A-9-5.5 |
| 256177 | 256177010 | CNF-3A-10-5.5 |
| 256177 | 256177011 | CNF-3A-11-6 |
| 256181 | 256181001 | CNF-3-17-3.5_010511 |
| 256210 | 256210001 | CNF-2-1-10 |
| 256210 | 256210002 | CNF-2-2-7 |
| 256210 | 256210003 | CNF-2-3-5 (duplicate: CNF-2-4-5) |
| 256210 | 256210004 | CNF-2-4-5 (parent: CNF-2-3-5) |
| 256210 | 256210005 | CNF-2-5-1.75 |
| 256210 | 256210006 | CNF-2-6-7 |
| 256210 | 256210007 | CNF-2-7-5 |
| 256210 | 256210008 | CNF-2-8-1.75 (duplicate: CNF-2-9-1.75) |
| 256210 | 256210009 | CNF-2-9-1.75 (parent: CNF-2-8-1.75) |
| 256210 | 256210010 | CNF-2-10-7 |
| 256210 | 256210011 | CNF-2-11-5 |
| 256210 | 256210012 | CNF-2-12-1.5 |
| 256210 | 256210013 | CNF-2-13-7 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256210 | 256210014 | CNF-2-14-5 |
| 256210 | 256210015 | CNF-2-15-1.75 |
| 256348 | 256348001 | CNF 2-1A-2 |
| 256348 | 256348002 | CNF 2-2A-1.75 |
| 256348 | 256348003 | CNF 2-3A-1.75 (duplicate: DUP) |
| 256348 | 256348004 | CNF 2-4A-10 |
| 256348 | 256348005 | CNF 2-6A-5 |
| 256348 | 256348006 | CNF 2-7A-9 |
| 256348 | 256348007 | CNF 2-8A-5 |
| 256348 | 256348008 | CNF 2-9A-9.5 |
| 256348 | 256348009 | CNF 2-10A-5 |
| 256348 | 256348010 | DUP (parent: CNF 2-3A-1.75) |
| 256348 | 256348011 | CNF 2-5A-9 |
| 255572 | 255572001 | SPL-1-1 |
| 255572 | 255572002 | SPL-1-2 |
| 255572 | 255572003 | SPL-1-3 |
| 255572 | 255572004 | SPL-2-1 |
| 255572 | 255572005 | SPL-2-2 |
| 255572 | 255572006 | SPL-2-3 |
| 255574 | 255574001 | SPL-1-1 |
| 255574 | 255574002 | SPL-1-2 |
| 255574 | 255574003 | SPL-1-3 |
| 255574 | 255574004 | SPL-2-1 |
| 255574 | 255574005 | SPL-2-2 |
| 255574 | 255574006 | SPL-2-3 |
| 255589 | 255589001 | SPL-4-1 |
| 255589 | 255589002 | SPL-4-2 |
| 255589 | 255589003 | SPL-4-3 |
| 255589 | 255589004 | SPL-5-1 |
| 255589 | 255589005 | SPL-5-2 |
| 255589 | 255589006 | SPL-5-3 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 255589 | 255589007 | SPL-3-1 |
| 255589 | 255589008 | SPL-3-2 |
| 255589 | 255589009 | SPL-3-3 |
| 255590 | 255590001 | SPL-4-1 |
| 255590 | 255590002 | SPL-4-2 |
| 255590 | 255590003 | SPL-4-3 |
| 255590 | 255590004 | SPL-5-1 |
| 255590 | 255590005 | SPL-5-2 |
| 255590 | 255590006 | SPL-5-3 |
| 255590 | 255590007 | SPL-3-1 |
| 255590 | 255590008 | SPL-3-2 |
| 255590 | 255590009 | SPL-3-3 |
| 255590 | 255590010 | Trip blank |
| 255764 | 255764001 | SPL-11-1 |
| 255764 | 255764002 | SPL-11-2 |
| 255764 | 255764003 | SPL-11-3 |
| 255764 | 255764004 | SPL-10-1 |
| 255764 | 255764005 | SPL-10-2 |
| 255764 | 255764006 | SPL-10-3 |
| 255764 | 255764007 | TB-1318922 |
| 255812 | 255812001 | SPL-6-1 |
| 255812 | 255812002 | SPL-6-2 |
| 255812 | 255812003 | SPL-6-3 |
| 255812 | 255812004 | SPL-6-4 |
| 255812 | 255812005 | SPL-6-5 |
| 255812 | 255812006 | SPL-9-1 |
| 255812 | 255812007 | SPL-9-2 |
| 255812 | 255812008 | SPL-9-3 |
| 255812 | 255812009 | SPL-8-3 |
| 255812 | 255812010 | SPL-7-5 |
| 255812 | 255812011 | SPL-8-1 |
| 255812 | 255812012 | SPL-8-2 |
| 255818 | 255818001 | SPL-7-1 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 255818 | 255818002 | SPL-7-2 |
| 255818 | 255818003 | SPL-7-3 |
| 255818 | 255818004 | SPL-7-4 |
| 255818 | 255818005 | SPL-6-1 |
| 255818 | 255818006 | SPL-6-2 |
| 255818 | 255818007 | SPL-6-3 |
| 255818 | 255818008 | SPL-6-4 |
| 255818 | 255818009 | SPL-6-5 |
| 255818 | 255818010 | SPL-9-1 |
| 255818 | 255818011 | SPL-9-2 |
| 255818 | 255818012 | SPL-9-3 |
| 255818 | 255818013 | SPL-8-1 |
| 255818 | 255818014 | SPL-8-2 |
| 255818 | 255818015 | SPL-8-3 |
| 255818 | 255818016 | TB-1318561 |
| 255818 | 255818017 | SPL-7-5 |
| 255986 | 255986001 | SPL-6-1 |
| 255986 | 255986002 | SPL-6-2 |
| 255986 | 255986003 | SPL-6-3 |
| 255986 | 255986004 | SPL-6-4 |
| 255986 | 255986005 | SPL-6-5 |
| 255986 | 255986006 | SPL-9-1 |
| 255986 | 255986007 | SPL-9-2 |
| 255986 | 255986008 | SPL-9-3 |
| 255986 | 255986009 | SPL-8-1 |
| 255986 | 255986010 | SPL-8-2 |
| 255986 | 255986011 | TB-1318558 |
| 255708 | 255708001 | SPL-12-1 |
| 255708 | 255708002 | SPL-12-2 |
| 255708 | 255708003 | SPL-12-3 |
| 255708 | 255708004 | SPL-12-4 |
| 255708 | 255708005 | SPL-12-5 |
| 255708 | 255708006 | SPL-12-6 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 255708 | 255708007 | SPL-12-7 |
| 255892 | 255892001 | SPL-14-1 |
| 255892 | 255892002 | SPL-14-2 |
| 255892 | 255892003 | SPL-14-3 |
| 255892 | 255892004 | SPL-14-4 |
| 255892 | 255892005 | SPL-14-5 |
| 255892 | 255892006 | TB-1391160 |
| 255893 | 255893001 | SPL-13-1 |
| 255893 | 255893002 | SPL-13-2 |
| 255893 | 255893003 | SPL-13-3 |
| 255893 | 255893004 | SPL-13-4 |
| 255893 | 255893005 | SPL-13-5 |
| 255893 | 255893006 | SPL-13-6 |
| 255893 | 255893007 | SPL-13-7 |
| 255893 | 255893008 | TB-1318560 |
| 255895 | 255895001 | SPL-15-1 |
| 255895 | 255895002 | SPL-15-2 |
| 255895 | 255895003 | SPL-15-3 |
| 256083 | 256083001 | SPL-16-1 (duplicate: SPL-16-7) |
| 256083 | 256083002 | SPL-16-2 (duplicate: SPL-16-6) |
| 256083 | 256083003 | SPL-16-3 |
| 256083 | 256083004 | SPL-16-4 |
| 256083 | 256083005 | SPL-16-5 |
| 256083 | 256083006 | SPL-16-6 (parent: SPL-16-2) |
| 256083 | 256083007 | SPL-16-7 (parent: SPL-16-1) |
| 256084 | 256084001 | SPL-16-1 (duplicate: SPL-16-7) |
| 256084 | 256084002 | SPL-16-2 (duplicate: SPL-16-6) |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256084 | 256084003 | SPL-16-3 |
| 256084 | 256084004 | SPL-16-4 |
| 256084 | 256084005 | SPL-16-5 |
| 256084 | 256084006 | SPL-16-6 (parent: SPL-16-2) |
| 256084 | 256084007 | SPL-16-7 (parent: SPL-16-1) |
| 256084 | 256084008 | TB-1391161 |
| 256178 | 256178001 | SPL-18-1 (duplicate: SPL-18-2) |
| 256178 | 256178002 | SPL-18-2 (parent: SPL-18-1) |
| 256178 | 256178003 | SPL-18-3 |
| 256178 | 256178004 | SPL-18-4 |
| 256178 | 256178005 | SPL-18-5 |
| 256178 | 256178006 | SPL-18-6 |
| 256178 | 256178007 | SPL-17-1 |
| 256178 | 256178008 | SPL-17-2 |
| 256178 | 256178009 | SPL-17-3 |
| 256178 | 256178010 | TB-1391152 |
| 256261 | 256261001 | SPL-19-1 |
| 256261 | 256261002 | SPL-19-2 (duplicate: SPL-19-6) |
| 256261 | 256261003 | SPL-19-3 |
| 256261 | 256261004 | SPL-19-4 |
| 256261 | 256261005 | SPL-19-5 |
| 256261 | 256261006 | SPL-19-6 (parent: SPL-19-2) |
| 256269 | 256269001 | SPL-19-1 |
| 256269 | 256269002 | SPL-19-2 (duplicate: SPL-19-6) |
| 256269 | 256269003 | SPL-19-3 |
| 256269 | 256269004 | SPL-19-4 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256269 | 256269005 | SPL-19-5 |
| 256269 | 256269006 | SPL-19-6 (parent: SPL-19-2) |
| 256269 | 256269007 | TB-1446260 |
| 256323 | 256323001 | SPL-20-1 |
| 256323 | 256323002 | SPL-20-2 |
| 256323 | 256323003 | SPL-20-3 (parent: SPL-20-4) |
| 256323 | 256323004 | SPL-20-4 (duplicate: SPL-20-3) |
| 256323 | 256323005 | SPL-20-5 |
| 256323 | 256323006 | SPL-20-6 |
| 256323 | 256323007 | SPL-21-1 (duplicate: SPL-21-6) |
| 256323 | 256323008 | SPL-21-2 |
| 256323 | 256323009 | SPL-21-3 |
| 256323 | 256323010 | SPL-21-4 |
| 256323 | 256323011 | SPL-21-5 |
| 256323 | 256323012 | SPL-21-6 (parent: SPL-21-1) |
| 256324 | 256324001 | SPL-20-1 |
| 256324 | 256324002 | SPL-20-2 |
| 256324 | 256324003 | SPL-20-3 (parent: SPL-20-4) |
| 256324 | 256324004 | SPL-20-4 (duplicate: SPL-20-3) |
| 256324 | 256324005 | SPL-20-5 |
| 256324 | 256324006 | SPL-20-6 |
| 256324 | 256324007 | SPL-21-1 (duplicate: SPL-21-6) |
| 256324 | 256324008 | SPL-21-2 |
| 256324 | 256324009 | SPL-21-3 |
| 256324 | 256324010 | SPL-21-4 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256324 | 256324011 | SPL-21-5 |
| 256324 | 256324012 | SPL-21-6 (parent: SPL-21-1) |
| 256324 | 256324013 | TB-011911 |
| 256519 | 256519001 | SPL-22-1 |
| 256519 | 256519002 | SPL-22-2 |
| 256519 | 256519003 | SPL-22-3 |
| 256519 | 256519004 | SPL-23-1 |
| 256519 | 256519005 | SPL-23-2 |
| 256519 | 256519006 | SPL-23-3 |
| 256519 | 256519007 | SPL-24-1 |
| 256519 | 256519008 | SPL-24-2 (duplicate: SPL-24-3) |
| 256519 | 256519009 | SPL-24-3 (parent: SPL-24-2) |
| 256519 | 256519010 | SPL-24-4 |
| 256520 | 256520001 | SPL-22-1 |
| 256520 | 256520002 | SPL-22-2 |
| 256520 | 256520003 | SPL-22-3 |
| 256520 | 256520004 | SPL-23-1 |
| 256520 | 256520005 | SPL-23-2 |
| 256520 | 256520006 | SPL-23-3 |
| 256520 | 256520007 | SPL-24-1 |
| 256520 | 256520008 | SPL-24-2 (duplicate: SPL-24-3) |
| 256520 | 256520009 | SPL-24-3 (parent: SPL-24-2) |
| 256520 | 256520010 | SPL-24-4 |
| 256520 | 256520011 | TB-020711 |
| 256548 | 256548001 | SPL-25-1 |
| 256548 | 256548002 | SPL-25-2 |
| 256548 | 256548003 | SPL-25-3 |
| 256548 | 256548004 | SPL-25-4 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256548 | 256548005 | SPL-25-5 |
| 256548 | 256548006 | SPL-26-1 |
| 256548 | 256548007 | SPL-26-2 |
| 256548 | 256548008 | SPL-26-3 (duplicate: SPL-26-4) |
| 256548 | 256548009 | SPL-26-4 (parent: SPL-26-3) |
| 256550 | 256550001 | SPL-25-1 |
| 256550 | 256550002 | SPL-25-2 |
| 256550 | 256550003 | SPL-25-3 |
| 256550 | 256550004 | SPL-25-4 |
| 256550 | 256550005 | SPL-25-5 |
| 256550 | 256550006 | SPL-26-1 |
| 256550 | 256550007 | SPL-26-2 |
| 256550 | 256550008 | SPL-26-3 (duplicate: SPL-26-4) |
| 256550 | 256550009 | SPL-26-4 (parent: SPL-26-3) |
| 256550 | 256550010 | TB 020911-A |
| 256490 | 256490001 | SPL-29-1 |
| 256490 | 256490002 | SPL-29-2 |
| 256490 | 256490003 | SPL-29-3 |
| 256490 | 256490004 | SPL-29-4 (parent: SPL-29-5) |
| 256490 | 256490005 | SPL-29-5 (duplicate: SPL-29-4) |
| 256490 | 256490006 | SPL-29-6 |
| 256490 | 256490007 | SPL-29-7 |
| 256490 | 256490008 | SPL-29-8 |
| 256491 | 256491001 | SPL-30-1 |
| 256491 | 256491002 | SPL-30-2 |
| 256491 | 256491003 | SPL-30-3 |
| 256491 | 256491004 | SPL-30-4 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256491 | 256491005 | SPL-30-5 |
| 256491 | 256491006 | SPL-30-6 |
| 256491 | 256491007 | SPL-30-7 |
| 256498 | 256498001 | SPL-29-1 |
| 256498 | 256498002 | SPL-29-2 |
| 256498 | 256498003 | SPL-29-3 |
| 256498 | 256498004 | SPL-29-4 (parent: SPL-29-5) |
| 256498 | 256498005 | SPL-29-5 (duplicate: SPL-29-4) |
| 256498 | 256498006 | SPL-29-6 |
| 256498 | 256498007 | SPL-29-7 |
| 256498 | 256498008 | SPL-29-8 |
| 256498 | 256498009 | TB-020411 |
| 256499 | 256499001 | SPL-30-1 |
| 256499 | 256499002 | SPL-30-2 |
| 256499 | 256499003 | SPL-30-3 |
| 256499 | 256499004 | SPL-30-4 |
| 256499 | 256499005 | SPL-30-5 |
| 256499 | 256499006 | SPL-30-6 |
| 256499 | 256499007 | SPL-30-7 |
| 256499 | 256499008 | TB-020311 |
| 256547 | 256547001 | SPL-27-1 |
| 256547 | 256547002 | SPL-27-2 |
| 256547 | 256547003 | SPL-27-3 |
| 256547 | 256547004 | SPL-27-4 |
| 256547 | 256547005 | SPL-27-5 |
| 256547 | 256547006 | SPL-28-1 (duplicate: SPL-28-4) |
| 256547 | 256547007 | SPL-28-2 |
| 256547 | 256547008 | SPL-28-3 |
| 256547 | 256547009 | SPL-28-4 (parent: SPL-28-1) |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256549 | 256549001 | SPL-27-1 |
| 256549 | 256549002 | SPL-27-2 |
| 256549 | 256549003 | SPL-27-3 |
| 256549 | 256549004 | SPL-27-4 |
| 256549 | 256549005 | SPL-27-5 |
| 256549 | 256549006 | SPL-28-1 (duplicate: SPL-28-4) |
| 256549 | 256549007 | SPL-28-2 |
| 256549 | 256549008 | SPL-28-3 |
| 256549 | 256549009 | SPL-28-4 (parent: SPL-28-1) |
| 256549 | 256549010 | TB020911-B |
| 256690 | 256690001 | SPL-31-1 |
| 256690 | 256690002 | SPL-31-2 (duplicate: SPL-31-4) |
| 256690 | 256690003 | SPL-31-3 |
| 256690 | 256690004 | SPL-31-4 (parent: SPL-31-2) |
| 256690 | 256690005 | SPL-31-5 |
| 256690 | 256690006 | SPL-31-6 |
| 256690 | 256690007 | SPL-32-1 |
| 256690 | 256690008 | SPL-32-2 |
| 256690 | 256690009 | SPL-32-3 |
| 256691 | 256691001 | SPL-31-1 |
| 256691 | 256691002 | SPL-31-2 (duplicate: SPL-31-4) |
| 256691 | 256691003 | SPL-31-3 |
| 256691 | 256691004 | SPL-31-4 (parent: SPL-31-2) |
| 256691 | 256691005 | SPL-31-5 |
| 256691 | 256691006 | SPL-31-6 |
| 256691 | 256691007 | SPL-32-1 |
| 256691 | 256691008 | SPL-32-2 |

| Table 1. SDGs, Lab IDs, and Sample IDs | | |
|---|---|---|
| SDG | Lab ID | Sample ID |
| 256691 | 256691009 | SPL-32-3 |
| 256691 | 256691010 | TB 021811 |

A Qualitative Data Usability Review was performed on all analytical data for SDGs listed in Table 1 (above) analyzed by Pace Analytical (Pace) of Seattle, Washington. The samples were collected at the Parcels 4 and 5 Site in Olympia, Washington. The following table outlines the analytical methods uses to analyze the samples:

| Table 2. Analytical Methods | | |
|---|---|---|
| Matrix | Analysis | Method |
| Confirmation Samples (Soil)* | Metals | EPA 6020A** |
| | TPH-D, -HO | NWTPH-Dx |
| | TPH-Gx and BTEX | NWTPH-Gx and EPA 8260B |
| | Dioxins/Furans | EPA 1613 |
| Stockpiles Samples (Soil) | Metals | EPA 6020A |
| | cPAHs | EPA 8270C |
| | TPH-D, -HO | NWTPH-Dx |
| | TPH-Gx and BTEX | NWTPH-Gx and EPA 8260B |
| | Dioxins/Furans | EPA 1613 |

**One or more of the following analyses were requested on the chain-of-custody for the confirmation samples.*

***Some samples were analyzed using EPA 6010.*

The samples were analyzed for all methods requested on the chains-of-custody (COCs). This review was performed in accordance with the general guidance provided by the National Functional Guidelines for Data Review and the project quality assurance project plan.

## Review Items

The following were reviewed for the analysis in this report:

- COCs
- Case narratives
- Analysis data sheets
- Holding time and sample preservation
- Laboratory control sample (LCS)/LCS duplicate (LCSD) recoveries and relative percent differences (RPDs)
- Matrix spike (MS)/MS duplicate (MSD) recoveries and RPDs
- Laboratory duplicate sample RPDs
- Surrogate recoveries
- Field duplicate precision
- Blank contamination

## COCs

The COCs were reviewed for completeness and accuracy. There were no discrepancies noted, and all requested analyses were performed.

## Case Narratives

The case narratives were reviewed for completeness and accuracy. There were no discrepancies noted in the data that were not also mentioned in the case narratives.

## Analysis Data Sheets

The analysis data sheets were reviewed for completeness and accuracy. All requested results were present and accounted for.

## Holding Time and Sample Preservation

All samples were properly preserved and no analysis holding times were violated, with the exceptions noted below.

- Samples in SDGs 256323 and 256324 were received by Pace at a cooler temperature of 9.6 degrees Celsius, and samples in SDGs 256690 and 256991 were received by Pace at a cooler temperature of 9.9 degrees Celsius. This may result in a low bias for semivolatiles and volatiles. Based on a discussion with the project manager, no data were qualified based on this temperature exceedance.

## LCS/LCSD Recoveries and RPDs

All LCS/LCSD recoveries and RPDs were within the laboratory control limits.

## MS/MSD Recoveries and RPDs

All MS/MSD recoveries and RPDs were within the laboratory control limits, with the exceptions noted below.

**Table 3. Qualified Data Based on Matrix Spike Recoveries**

| WO | Lab ID | Sample ID | Analytes qualified as "J" (estimated) |
|---|---|---|---|
| 256210 | 256210011 | CNF-2-11-5 | Copper and Nickel |
| 255662 | 255662011 | CNF-4-11-2 | Arsenic, Copper, and Lead |
| 255662 | 255662017 | CNF-5-1-15 | Lead |
| 255574 | 255574001 | SPL-1-1 | cPAHs: anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorine, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene |
| 255818 | 255818001 | SPL-7-1 | Copper, Lead, and Nickel |
| 255812 | 255812011 | SPL-8-1 | Lead and Nickel |
| 255708 | 255708001 | SPL-12-1 | Arsenic, Copper, Lead, Nickel |
| 255893 | 255893007 | SPL-13-7 | Copper and Nickel |
| 255892 | 255892001 | SPL-14-1 | Copper and Nickel and cPAHs: anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene |
| 256084 | 256084001 | SPL-16-1 | cPAHs: anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene |
| 256083 | 256083003 | SPL-16-3 | Lead and Nickel |

| Table 3. Qualified Data Based on Matrix Spike Recoveries | | | |
|---|---|---|---|
| WO | Lab ID | Sample ID | Analytes qualified as "J" (estimated) |
| 256178 | 256178008 | SPL-17-2 | Copper and Lead |
| 256261 | 256261006 | SPL-19-6 | Copper and Nickel |
| 256323 | 256323001 | SPL-20-1 | Copper, Lead, and Nickel |
| 256324 | 256324001 | SPL-20-1 | cPAHs:benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene,, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene |
| 256323 | 256323011 | SPL-21-5 | Copper, Lead, and Nickel |
| 256519 | 256519001 | SPL-22-1 | Copper |
| 256548 | 256548002 | SPL-25-2 | Copper |
| 256547 | 256547001 | SPL-27-1 | Copper and Nickel |
| 256549 | 256549001 | SPL-27-1 | cPAHs: anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene |
| 256490 | 256490001 | SPL-29-1 | Nickel |
| 256491 | 256491001 | SPL-30-1 | Copper, Lead, and Nickel |
| 256690 | 256690001 | SPL-31-1 | Arsenic and Copper |
| 256691 | 256691001 | SPL-31-1 | cPAHs: benzo(a)anthracene, fluoranthene, phenanthrene, and pyrene |

## Laboratory Duplicate

All laboratory duplicate RPDs were within the laboratory control limits, with the exceptions noted below.

| Table 4. Qualified Data Based on Laboratory Duplicate RPDs | | | |
|---|---|---|---|
| WO | Lab ID | Sample ID | Analytes qualified as "J" (estimated) |
| 255590 | 255590002 | SPL-4-2 | Motor Oil |

## Surrogate Recoveries

All surrogate recoveries were within the laboratory control limits.

## Field Duplicate Precision

All field duplicate RPDs were below the project-specific goals of 30 percent for soil samples, with the exceptions noted below. Individual dioxin/furan analytes were not reviewed for this assessment; rather, the Pace-calculated TEQ RPD was analyzed.

| Table 4. Qualified Data Based on Field Duplicate Imprecision | | |
|---|---|---|
| Parent Sample | Duplicate Sample | Analyte with RPD>30% |
| CNF-2-8-1.75 | CNF-2-9-1.75 | Arsenic |
| | | Lead |
| SPL-16-1 | SPL-16-7 | Copper |
| | | Nickel |
| | | Acenaphthene |
| | | Benzo(a)anthracene |

| Table 4. Qualified Data Based on Field Duplicate Imprecision | | |
|---|---|---|
| Parent Sample | Duplicate Sample | Analyte with RPD>30% |
| SPL-16-1 (cont.) | SPL-16-7 (cont.) | Benzo(a)pyrene |
| | | Benzo(b)fluoranthene |
| | | Benzo(g,h,i)perylene |
| | | Benzo(k)fluoranthene |
| | | Chrysene |
| | | Dibenz(a,h)anthracene |
| | | Fluoranthene |
| | | Fluorene |
| | | Indeno(1,2,3-cd)pyrene |
| | | Phenanthrene |
| | | Pyrene |
| | | Diesel Range SG |
| | | Dioxin/Furan TEQ |
| SPL-16-2 | SPL-16-6 | Benzo(k)fluoranthene |
| | | Naphthalene |
| | | Phenanthrene |
| | | Dioxin/Furan TEQ |
| SPL-18-1 | SPL-18-2 | Arsenic |
| SPL-20-4 | SPL-20-3 | Lead |
| | | Benzo(g,h,i)perylene |
| SPL-21-1 | SPL-21-6 | Arsenic |
| | | Anthracene |
| | | Benzo(a)anthracene |
| | | Benzo(a)pyrene |
| | | Benzo(b)fluoranthene |
| | | Benzo(g,h,i)perylene |
| | | Benzo(k)fluoranthene |
| | | Chrysene |
| | | Fluoranthene |
| | | Indeno(1,2,3-cd)pyrene |
| | | Phenanthrene |
| | | Pyrene |
| | | Dioxin/Furan TEQ |
| SPL-24-2 | SPL-24-3 | Arsenic |
| | | 1-Methylnaphthalene |
| | | 2-Methylnaphthalene |
| | | Acenaphthene |

| Table 4. Qualified Data Based on Field Duplicate Imprecision | | |
|---|---|---|
| Parent Sample | Duplicate Sample | Analyte with RPD>30% |
| SPL-24-2 (cont.) | SPL-24-3 (cont.) | Acenaphthylene |
| | | Benzo(a)anthracene |
| | | Benzo(a)pyrene |
| | | Benzo(b)fluoranthene |
| | | Benzo(g,h,i)perylene |
| | | Benzo(k)fluoranthene |
| | | Chrysene |
| | | Dibenz(a,h)anthracene |
| | | Indeno(1,2,3-cd)pyrene |
| | | Pyrene |
| | | Diesel Range SG |
| | | Motor Oil Range SG |
| SPL-26-3 | SPL-26-4 | Copper |
| | | Lead |
| | | Anthracene |
| | | Fluoranthene |
| | | Phenanthrene |
| | | Pyrene |
| SPL-28-1 | SPL-28-4 | Arsenic |
| | | Acenaphthene |
| | | Benzo(k)fluoranthene |
| SPL-29-5 | SPL-29-4 | Dioxin/Furan TEQ |
| SPL-31-2 | SPL-31-4 | Arsenic |
| | | Cadmium |
| | | Lead |
| | | Nickel |
| | | Acenaphthylene |
| | | Benzo(a)pyrene |
| | | Benzo(b)fluoranthene |
| | | Benzo(g,h,i)perylene |
| | | Benzo(k)fluoranthene |
| | | Chrysene |
| | | Indeno(1,2,3-cd)pyrene |
| | | Naphthalene |
| | | Dioxin/Furan TEQ |

## Blank Contamination

All blanks were non-detect for all compounds, with the exceptions noted below.

- Diesel in the method blank associated with CNF-1-5-9 (255583005); however, the sample result was more than five times the concentration detected in the method blank. Therefore, no data were qualified based on this blank contamination.
- Several dioxin/furan analytes were detected in associated samples. The Pace qualifiers were applied to the TEQ calculated concentrations per the project manager.

## Summary Evaluation of Data and Potential Usability Issues

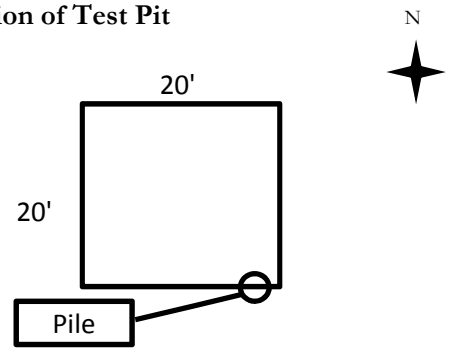
Overall, the data are acceptable for the intended purposes. No results were rejected as a result of this review. In addition to Pace-applied qualifiers, some results were qualified as estimated due to LCS recoveries, MS/MSD recoveries, and field duplicate imprecision as described in the sections above.

# Appendix H: Excavation Logs



Use of contents on this sheet is subject to the limitations specified at the beginning of this document.

**Location of Test Pit**




| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Excavation of hot spot DP-17 |
| **Sampling/Screening:** | PID Screening, Samples for As, Pb, Cu, Ni |
| **Start Date/Time:** | 11/8/2010, 08:15 |
| **End Date/Time:** | 11/8/2010, 10:30 |

**Site Conditions:** Temperature in the 40s, cloudy, bare soil at ground surface

| North | East | South | West | Notes | Depth | Sample Information |
|---|---|---|---|---|---|---|
| Silt, silty gravel (ML-GM) | | | | | 1 | |
| Well-graded sand and gravel (SW-GW) | | | | | 2 | CNF-4-16-2 (S), CNF-4-11-2 (W) CNF-4-8-2.5 (N), CNF-4-13-2.5 (E) |
| | | | | | 3 | CNF-4-15-3.5 (south) |
| Silt (ML) | | | | | 4 | |
| | | | | | 5 | |
| | | | | | 6 | CNF-4-7-6 (N) |
| | | | | | 7 | CNF-4-10-7 (W) |
| | | | | | 8 | |
| | | | | | 9 | |
| Wood (hog fuel) | | | | | 10 | CNF-4-6-10.5 (N) |
| | | | | | 11 | CNF-4-9-11 (W), CNF-4-12-11 (E), CNF-4-14-11 (S) |
| | | | | | 12 | CNF-4-3-12 (S), CNF-4-4-12 (W) CNF-4-5-12 (N) |
| Silt, clay, some wood near top (ML-CL) | | | | | 13 | CNF-4-2-13 (E) |
| | | | | | 14 | |
| | | | | | 15 | CNF-4-1-15 (bottom center) |

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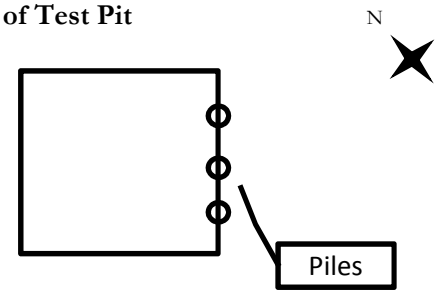
**Location of Test Pit**




| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Excavation of hot spot DP-17 |
| **Sampling/Screening:** | PID Screening, Samples for TPH-D, HO, BTEX, Pb |
| **Start Date/Time:** | 11/8/2010, 11:00 |
| **End Date/Time:** | 11/8/2010, 16:00 |

**Site Conditions:** Temperature in the 40s, cloudy, bare soil at ground surface

| North | East | South | West | Notes | Depth | Sample Information |
|---|---|---|---|---|---|---|
| Well-graded sand and gravel (SW-GW) | | | | | 1 | |
| | | | | | 2 | CNF-5-4-2 (E), CNF-5-7-2, CNF-5-10-2 (S), CNF-5-13-2 (N) |
| | | | | | 3 | |
| | | | | | 4 | |
| | | | | | 5 | |
| | | | | | 6 | |
| | | | | | 7 | |
| | | | | | 8 | |
| | | | | | 9 | |
| Wood (hog fuel), some silt near top | | | | | 10 | CNF-5-3-10 (E), CNF-5-6-10 (W), CNF-5-9-10 (S), CNF-5-12-10 (N) |
| | | | | | 11 | |
| | | | | | 12 | |
| | | | | | 13 | CNF-5-8-13 (S), CNF-5-11-13 (N) CNF-5-2-13.5(E), CNF-5-5-13.5(W) |
| Silt, some wood near top (ML) | | | | | 14 | |
| | | | | | 15 | CNF-5-1-15 (bottom center) |

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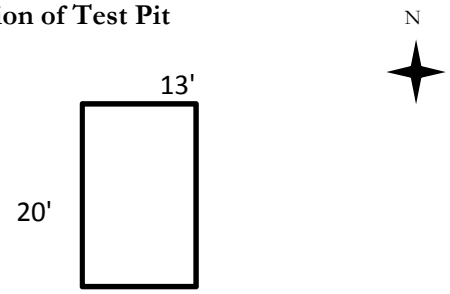
**Location of Test Pit**




| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Excavation of hot spot TP-2 |
| **Sampling/Screening:** | PID Screening, Samples for dioxins/furans |
| **Start Date/Time:** | 11/9/2010, 07:45 |
| **End Date/Time:** | 11/9/2010, 10:30 |

**Site Conditions:** Temperature in the 40s, cloudy, bare soil at ground surface

| North | East | South | West | Notes | Depth | Sample Information |
|---|---|---|---|---|---|---|
| Well-graded sand and gravel (SW-GW) | | | | | 1 | CNF-3-5-1(E/NE), CNF-3-6-1(E/SE) |
| | | | | | | CNF-3-1-1.5 (N), CNF-3-2-1.5 (E) |
| | | | | | 2 | CNF-3-3-1.5 (S), CNF-3-4-1.5 (W) |
| Silty Gravel (GM) | | | | | | CNF-3-7-2.5 (N), CNF-3-8-2.5 (E) |
| | | | | | 3 | CNF-3-9-2.5 (S), CNF-3-10-2.5 (W) |
| | | | | | | CNF-3-11-2.5(E/NE), CNF-3-12-2.5(E/SE) |
| | | | | | 4 | CNF-3-13-3.5(N), CNF-3-14-3.5(E) |
| Silt (ML) | | | | | | CNF-3-15-3.5(S), CNF3-16-3.5(W) |
| | | | | | 5 | CNF-3-17-3.5(E/NE),CNF-3-18-3.5(E/SE) |
| | | | | | 6 | |
| | | | | | 7 | |
| | | | | | | CNF-3-19-7.5(N), CNF-3-20-7.5(E) |
| Poorly-graded sand (SP) | | | | | 8 | CNF-3-21-7.5(S), CNF-3-22-7.5(W) |
| | | | | | | CNF-3-23-7.5(E/NE), CNF-3-24-7.5(E/SE) |
| | | | | | 9 | |
| | | | | | 10 | CNF-3-25-10 (bottom center) |
| | | | | | 11 | |
| | | | | | 12 | |
| | | | | | 13 | |
| | | | | | 14 | |
| | | | | | 15 | |

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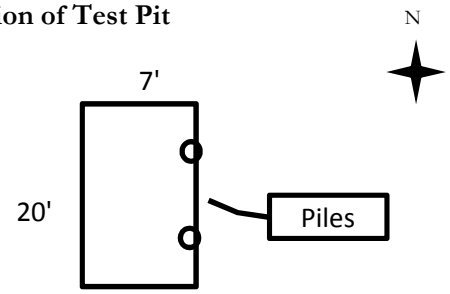
**Location of Test Pit**



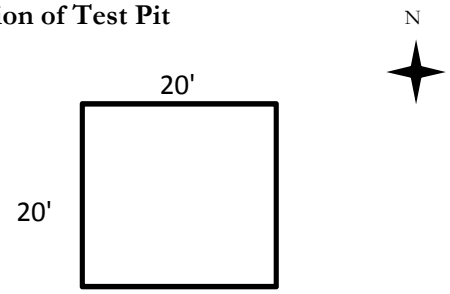

| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Excavation of hot spot TP-2 expansion area |
| **Sampling/Screening:** | PID Screening, Samples for dioxins/furans |
| **Start Date/Time:** | 01/5/2011, 10:00 |
| **End Date/Time:** | 01/5/201, 13:00 |

**Site Conditions:** Temperature in the 40s, moderate rain, bare soil at ground surface

| North | East | South | West | Notes | Depth | Sample Information |
|---|---|---|---|---|---|---|
| Poorly-graded gravel (GP) Sidewalk subgrade | | | | | 1 | |
| | | | | | | CNF-3a-1-1.75 (S) |
| | | | | | 2 | CNF-3a-6-2 (N), CNF-3a-4-2.25 (E) |
| Well-graded sand and gravel (SW-GW) | | | | | 3 | CNF-3a-2-3 (S), CNF-3a-3-3.25 (S) CNF-3a-5-3.25 (E), CNF-3a-7-3.25 (N) |
| | | | | | 4 | |
| Well-graded sand and gravel with silt some clay and wood fragments (SW-GW) | | | | | 5 | |
| | | | | | | CNF-3a-8-5.5 (S), CNF-3a-9-5.5 (E) |
| | | | | | 6 | CNF-3a-10-5.5(N) CNF-3a-11-6 (bottom center) |
| | | | | | 7 | |
| Poorly-graded sand (SP) | | | | | 8 | |
| | | | | | 9 | |
| | | | | | 10 | |
| | | | | | 11 | |
| | | | | | 12 | |
| | | | | | 13 | |
| | | | | | 14 | |
| | | | | | 15 | |

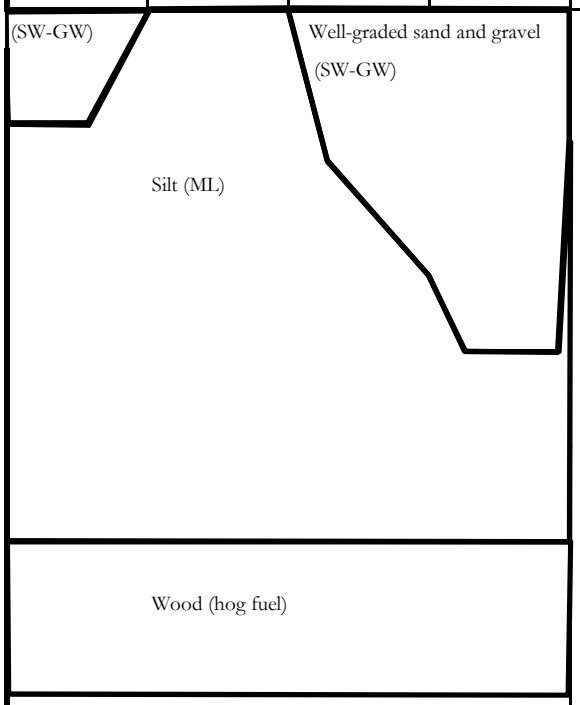
Brown AND Caldwell

**Location of Test Pit**




| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Excavation of hot spot DP-11 |
| **Sampling/Screening:** | PID Screening, Samples for As, Pb, Cu, Ni |
| **Start Date/Time:** | 11/9/2010, 07:45 |
| **End Date/Time:** | 11/9/2010, 10:30 |

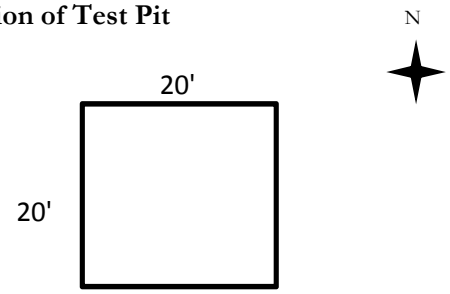
**Site Conditions:** Temperature in the 40s, cloudy, bare soil at ground surface




| Notes | Depth | Sample Information |
|---|---|---|
| | 1 | CNF-1-11-1 (N) |
| | | CNF-1-9-1.5 (S) |
| | 2 | |
| | 3 | CNF-1-8-3 (S), CNF-1-12-3 (E) |
| | | CNF-4-10-3.5 (N) |
| | 4 | CNF-1-6-4 (W) |
| | 5 | CNF-1-7-5 (W) |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | CNF-1-1-9 (Bottom center) |
| | | CNF-1-2-9 (E), CNF-1-3-9 (S), CNF-1-5-9 (N) |
| | 10 | CNF-1-4-9 (W) |
| | 11 | |
| | 12 | |
| | 13 | |
| | 14 | |
| | 15 | |

Brown AND Caldwell

**Location of Test Pit**



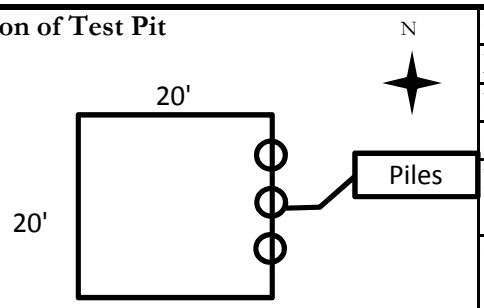

| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Excavation of hot spot DP-21 |
| **Sampling/Screening:** | PID Screening, Samples for As, Pb, Cu, Ni |
| **Start Date/Time:** | 11/10/2010, 10:00 |
| **End Date/Time:** | 11/10/2010, 12:00 |

**Site Conditions:** Temperature in the 40s, cloudy, bare soil at ground surface

| North | East | South | West | Notes | Depth | Sample Information |
|---|---|---|---|---|---|---|
| Well-graded sand and gravel (SW-GW) | | | | | 1 | |
| | | | | | | CNF-2-5-1.75 (N), CNF-2-12-1.5 (S) |
| | | | | | 2 | CNF-2-8-1.75 (W) (Dup CNF-2-9-1.75) |
| | | | | | | CNF-2-15-1.75 (E) |
| | | | | | 3 | |
| Silt (ML) | | | | | 4 | |
| | | | | | 5 | CNF-2-3-5 (N) (Dup CNF-2-4-5), CNF-2-7-5 (W) |
| | | | | | | CNF-2-11-5 (S), CNF-2-14-5 (E) |
| | | | | | 6 | |
| Wood (hog fuel) | | | | | 7 | CNF-2-2-7 (N), CNF-2-6-7 (W) |
| | | | | | | CNF-2-10-7 (S), CNF-2-12-7 (E) |
| | | | | | 8 | |
| | | | | | 9 | |
| | | | | | 10 | CNF-2-1-10 (bottom center) |
| | | | | | 11 | |
| | | | | | 12 | |
| | | | | | 13 | |
| | | | | | 14 | |
| | | | | | 15 | |

Brown AND Caldwell

**Location of Test Pit**




| | |
|---|---|
| **Client:** | City of Olympia |
| **Location:** | HOCM |
| **Project Name:** | Parcel 4 and 5 |
| **Contractor:** | Cecanti |
| **Purpose:** | Expanded Excavation of hot spot DP-21 |
| **Sampling/Screening:** | PID Screening, Samples for As, Pb, Cu, Ni |
| **Start Date/Time:** | 01/21/2011, 10:00 |
| **End Date/Time:** | 01/21/2011, 13:00 |

**Site Conditions:** Temperature in the 40s, cloudy, light rain, bare soil at ground surface

| North | East | South | West | Notes | Depth | Sample Information |
|---|---|---|---|---|---|---|
| Well-graded sand and gravel (SW-GW) | | | | | 1 | |
| | | | | | | CNF-2-3a-1.75 (E) (Dup) |
| | | | | | 2 | CNF-2-2a-1.75 (N), CNF-2-1a-2 (W) |
| | | | | | 3 | |
| | | | | | 4 | |
| Silt (ML) | | | | | 5 | CNF-2-6a-5(N), CNF-2-8a-5(W), CNF-2-10a-5(E) |
| | | | | | 6 | |
| | | | | | 7 | |
| Wood (hog fuel) | | | | | 8 | |
| | | | | | 9 | CNF-2-5a-9 (N), CNF-2-7a-9 (W) |
| | | | | | | CNF-2-9a-9.5 (E) |
| | | | | | 10 | CNF-2-4a-10 (bottom center) |
| | | | | | 11 | |
| | | | | | 12 | |
| | | | | | 13 | |
| | | | | | 14 | |
| | | | | | 15 | |

Brown AND Caldwell

# **Appendix I:** Site Photos



Use of contents on this sheet is subject to the limitations specified at the beginning of this document.

Parcel 4 Site Prep, looking South

Parcel 4 Softscape area excavation and liner placement, looking west.

Parcel 4 utility trenching, looking southwest.

Parcel 4 Softscape area excavation and liner placement, looking west.

Parcel 4 stockpile containment, looking east.

Parcel 4 backfilling softscape area, looking southeast

Parcel 4 softscape area excavation, looking east

Parcel 4 softscape area excavation, looking southeast

CNF-3/3A Excavation, looking south

CNF-3 Excavation, looking east

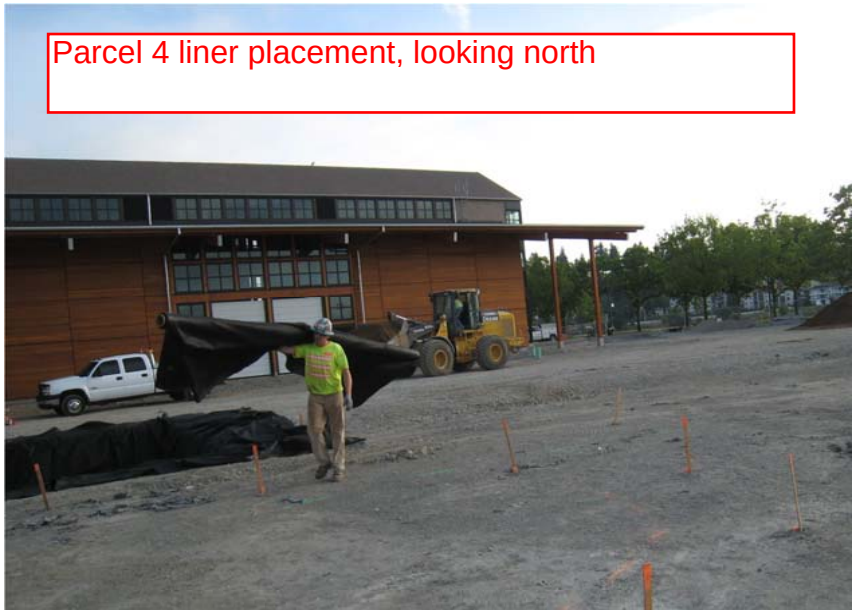
CNF-4 Excavation, looking south

CNF-4 Excavation, looking down at west edge

Wood pole in CNF3A south end

Parcel 4 softscape area excavation, looking southeast

Parcel 4 softscape area excavation, looking southeast



Parcel 4 liner placement, looking north

Parcel 4 liner placement, looking north

Parcel 4 softscape area excavation, looking east

Parcel 4 softscape area backfill, looking east

Parcel 4 softscape area further delineation looking east

Parcel 4 softscape area backfill, looking northwest

Softscape area, looking east