



SUPPLEMENTAL SITE CHARACTERIZATION REPORT

Troutdale Riverfront Redevelopment Site

Troutdale, Oregon

Prepared for:

City of Troutdale

104 SE Kibling Avenue
Troutdale, Oregon 97060

Prepared by:

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November 2012

Project No. 2-61M-125850



November 20, 2012

Project No. 2-61M-125850

Mr. Rich Faith
City of Troutdale
104 SE Kibling Avenue
Troutdale, Oregon 97060

Dear Mr. Faith:

**Re: Supplemental Site Characterization Report
Troutdale Riverfront Redevelopment Site
Troutdale, Oregon**

AMEC Environment & Infrastructure, Inc. (AMEC) is pleased to present this Supplemental Site Characterization Report for the Troutdale Riverfront Redevelopment Site (Site) in Troutdale, Oregon. The attached report documents the results of soil, soil vapor, and groundwater sampling conducted at the Site in June, July, and August of 2012.

We appreciate the opportunity to serve you on this project. If you have any questions or desire further information, please feel free to contact undersigned at (503) 639-3400.

Sincerely,

AMEC Environment & Infrastructure, Inc.

A handwritten signature in black ink, appearing to read "Leonard C. Farr, Jr." with a stylized flourish at the end.

Leonard C. Farr, Jr., R.G.
Senior Associate/Geologist

Attachments

DS/cw



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SUPPLEMENTAL SITE CHARACTERIZATION REPORT

Troutdale Riverfront Redevelopment Site

Troutdale, Oregon

1.0 INTRODUCTION

This report documents the results of focused supplemental environmental site characterization activities conducted by AMEC Environment & Infrastructure, Inc. (AMEC) on behalf of the City of Troutdale (City) at the Troutdale Riverfront Redevelopment Property (Site). The work was funded through a grant received from the Oregon Brownfields Redevelopment Fund.

The purpose of supplemental site characterization activities was to: 1) confirm the nature and extent of hazardous substances located at the Site that were identified by the Oregon Department of Environmental Quality (DEQ) as data gaps in prior site assessments, and 2) collect additional data that will aid in evaluating whether hazardous substances present at the Site may pose risk to human or ecological receptors, and in evaluating whether corrective action may be warranted at the Site to comply with regulatory requirements and protect human health and the environment. Previously collected assessment data were reviewed, and data gaps identified. The scope of supplemental site characterization activities are intended to close the data gaps identified.

2.0 PROJECT BACKGROUND

2.1 SITE DESCRIPTION AND HISTORY

The Site is comprised of two properties. The City owns the northwest portion of the Site with an address of 410 NW 257th Way. The City parcel is comprised of Tax Lot 400 on Tax Map 1N3E25BD. The City parcel is 10.86 acres in size. The City parcel contains the structures of a former wastewater treatment plant that closed in 2001. Since 2001, no wastewater treatment activities have been conducted at the Site and the City property generally has been vacant. Currently, the northern portion of the City property is being utilized for Oregon Department of Transportation (ODOT) construction staging by a contractor building a new Interstate 84 (I-84) bridge across the Sandy River.

The southeast portion of the Site is owned by Eastwind Development, LLC (Eastwind), a private party not related to the City or the City-owned parcel. The southeast parcel has an address of 302 NW 257th Way, and is comprised of tax lots 100, 500, 600 on Tax Map 1N3E25BD. The total acreage of the southeast parcel is 8.73 acres. Various animal processing facilities

(slaughterhouse, rendering plant, and sheep hide processing) operated on the southeast parcel from the late 1890s until the late 1960s. From approximately 1972 until the present, operations included primarily cabinet making and other wood working activities. Eastwind acquired the parcel in 1999. Currently, Eastwind leases the smaller of two warehouses on the property to a wood working shop, Lavivrus Woodworking. The Site is bordered by Union Pacific Railroad tracks to the south, the Sandy River to the east, I-84 to the north, and the Columbia Gorge Factory Outlet Mall to the west.

2.1.1 Projected Redevelopment

Eastwind is interested in redeveloping the Site. Plans for redevelopment of the Site include a mixed use commercial community comprised of a hotel, conference center, and retail uses.

2.2 PREVIOUS INVESTIGATIONS

Building on previous site investigations conducted for the City of Troutdale, in July 2011, Ecology and Environment, Inc. (E&E) completed a Targeted Brownfields Assessment (TBA) at the Site on behalf of the United States Environmental Protection Agency (EPA). The TBA assessment completed a very thorough investigation of the Site, including the analysis of 86 soil and groundwater samples. Samples were analyzed for a very comprehensive suite of analytical parameters including:

- Target analyte list (TAL) metals (78 samples);
- Semi-volatile organic compounds ([SVOCs] 78 samples);
- Volatile organic compounds ([VOCs] 86 samples);
- Pesticides and polychlorinated biphenyls ([PCBs] 77 samples);
- Diesel- and oil-range organics (77 samples); and
- Gasoline-range organics (69 samples).

Analytes detected at concentrations exceeding criteria values for soil included the following:

- Arsenic in nine soil samples;
- Naphthalene at a concentration of 110 milligrams per kilogram (mg/kg) in one soil sample from TP06;
- VOCs in two soil samples (borings NW02 and NW12); and
- Pesticides in one soil sample from NW12.

Analytes detected in one or more of the three groundwater samples at concentrations exceeding criteria values included the following:

- Various TAL metals in all three samples;
- Bis(2-ethylhexyl)phthalate in two samples; and
- Trichloroethene in one sample.

The assessment work completed by the EPA allows supplemental sampling to focus on those analytes identified as potential contaminants of concern in the TBA.

2.3 SCOPE OF WORK - IDENTIFICATION AND CLOSURE OF DATA GAPS

The DEQ approved scope of work for supplemental site characterization activities is described below. The work scope description is organized according to identified data gaps. Each data gap is described, followed by a description of the scope of work proposed to resolve it. Deviations to the originally proposed scope of work as described in the Work Plan are discussed in the Field Methodology section of this report.

Animal Material Area on Eastwind Parcel - During the TBA, a material of unknown origin light grey in color, with the consistency of pudding, emitting a foul odor, and containing some animal hide and hair was identified in three borings/test pits (EW04, EW07, and TP06) on the Eastwind parcel. This material is hereafter referred to in this report as “animal material”. These three borings were located in close proximity to and east of the former slaughterhouse building on the Eastwind parcel (Figure 2). A single sample of the animal material collected from test pit TP06 was submitted for laboratory testing. Arsenic and naphthalene concentrations detected in the animal material sample exceeded criteria values.

Supplemental site characterization activities in the animal material area included:

- a series of trenches excavated to evaluate the lateral extent of the animal material;
- soil and animal material sampling in three direct-push borings (CT-03 through CT-05) to evaluate hazardous substance concentrations within the animal material, if any, and its vertical extent; and
- soil vapor sampling in two direct-push borings (CT-06 and CT-07) located on the margins of the animal material area to evaluate whether hazardous substances, if any, are migrating via the volatilization to indoor/outdoor air exposure pathway.



Southwest Corner of Eastwind Parcel: The DEQ noted the absence of soil borings in the southwest corner of the Eastwind parcel. AMEC collected surface and subsurface soil samples in two soil borings (CT-01 and CT-02) located in this area.

Surface Soil Exposure within Sandy River Greenway: The DEQ queried whether the potential for surface soils at the Site may present a risk to ecological receptors. Redevelopment of the Site is planned, and is expected to result in surface capping or revegetation and soil placement of the vast majority of the Site. A greenway encompassing an approximately 50-foot-wide strip of land adjacent to the Sandy River is planned. Much of this area will remain in its natural state with potential restoration and revegetation within the area, potentially allowing limited exposure to surface soils.

At the request of DEQ, AMEC modified the original scope of the investigation and added incremental sampling in this area, including the collection of two incremental soil samples; one to represent the City parcel greenway area and a second to represent the Eastwind parcel greenway area. Each sample consisted of 30 subsample locations selected randomly within each decision unit (Figure 3). In addition, a duplicate incremental sample was collected in the Eastwind parcel greenway area for quality assurance/quality control (QA/QC) purposes.

Surface Soil Exposure on the City and Eastwind Parcels: Also at the request of DEQ, AMEC modified the original scope of the investigation to include surface soil samples collected at boring locations CT-01 through CT-05 to aid in characterizing the condition of surface soils at the Site.

Groundwater to Surface Water Migration Pathway: Future groundwater use is not planned for the Site, and is prohibited by City ordinance (12.03.025). Therefore, the only transport/exposure issue related to groundwater at the Site is the groundwater to surface water (Sandy River) migration pathway. AMEC installed two monitoring wells: one in the northeast corner of the Eastwind parcel (MW-01) and a second well (MW-02) located downgradient of the animal material area (Figure 3). As discussed later in this report, the type and magnitude of constituents detected in groundwater samples collected from these monitoring wells are unlikely to adversely impact surface water quality in the nearby Sandy River.

3.0 FIELD METHODOLOGY

3.1 PRELIMINARY ACTIVITIES

On April 23, 2012, Stratus Corporation notified the Oregon Utility Notification Center (UNC) of the intent to excavate on the Site (Ticket Number 12068377) and requested marking of underground

utilities. AMEC personnel performed a site reconnaissance to evaluate site access and logistics for the proposed field activities on April 25, 2012.

On June 25, 2102, AMEC notified the UNC of the intent to advance direct-push soil borings on the Site (Ticket Number 12116952). AMEC initiated a second utility locate with the UNC prior to installing monitoring wells on the Site (Ticket Number 12141168).

A Health and Safety Plan, as required by the Oregon Occupational Safety and Health Administration Safety (OR-OSHA), was prepared to describe field safety protocol for AMEC employees active on the job (AMEC, 2012).

3.1.1 Exploratory Trenching

Exploratory trenching was conducted on Thursday April 26, 2012 using a Bobcat 337 mini track hoe equipped with 12-inch-wide bucket. The track hoe and operator were provided by Stratus Corporation of Gaston, Oregon. The primary purpose of the exploratory trenching was to demarcate the lateral boundaries of suspected animal material previously noted by the EPA. In general, excavations were started in areas where animal material was not anticipated and advanced towards areas where animal material was previously noted or was inferred. Trenching activities were terminated immediately upon encountering animal material.

Prior to intrusive activities, AMEC met with Mr. Ken Strickland with Eastwind onsite to walk the site and evaluate access. Thirteen (13) exploratory trenches were excavated with lengths ranging from 7 feet to 70 feet, average depths of 5 to 6 feet below ground surface (bgs), and maximum depth of 10 feet bgs to establish the lateral boundaries of animal material occurrence (Figure 2). Animal material was observed in five of the trenches (T2, T3, T8, T11, and T12). The approximate trench locations are depicted on Figure 2. Descriptive logs of the exploratory trenches are provided in Appendix A.

AMEC monitored ambient air during excavation activities using a multi-gas meter. Readings remained constant throughout the field work, with hydrogen sulfide and photoionization detector (PID) readings at zero parts per million (ppm), lower explosive limit (LEL) at 0 percent, and oxygen content at 20.9 percent. Following excavation and subsurface soil logging, each trench was immediately backfilled with the excavated materials. Care was taken to assure that any animal material excavated was returned to the depth from which it originated. Trench ends were marked in the field with wooden stakes, and the staked locations were recorded using a global positioning system (GPS) device. Based upon the trenching conducted, the approximate extent of animal material has been defined, as illustrated in Figure 2.

3.1.2 Sandy River Greenway Surface Soil Sampling

AMEC conducted incremental surface soil sampling on July 26, 2012 following a series of discussions with DEQ to prepare and refine the scope of the incremental sampling activities. The surface soil sampling was conducted in accordance with the guidance document Incremental Sampling Methodology prepared by the Interstate Technology & Regulatory Council (ITRC), dated February 2012. The sampling processing protocol was designed to reduce data variability and provide a reasonable unbiased estimate of the mean contaminant concentration. One incremental soil sample was collected from each of the two decision units (DUs) consisting of the greenway on the City parcel and the greenway on the Eastwind parcel. The two composite samples were each derived from 30 increments of soil that were combined, processed, and subsampled following ITRC guidelines. The locations for each of the 30 increment surface soil samples within the two DUs are depicted in Figure 3. The locations were selected randomly using a Geographical Information System (GIS) algorithm that generated random coordinates within the geographic boundaries of each DU.

The locations for the incremental surface subsamples were located in the field using a hand-held GPS device. One duplicate was collected from the Eastwind parcel greenway DU. The duplicate increment soil sample aliquots were collected 2 feet north of each of the 30 sampling locations within the DU.

Each increment surface soil sample aliquot was collected in the depth interval 0 to 0.5 feet bgs using a stainless steel soil probe with a 3/4-inch diameter core barrel. The soil samples were placed in a soil sample container provided by the contract laboratory. The soil sampling probe was decontaminated after the incremental surface soil sampling was completed for each DU. Each incremental soil sample was processed and combined by the TestAmerica, Tacoma, Washington laboratory following the TestAmerica incremental sampling standard operating procedure.

Variations from the Work Plan

At three IS-01 subsample locations, the ground surface was covered by a dense 2-foot-thick gravel layer. To obtain representative surface soil samples, alternate sampling locations were selected for these three locations. The IS-01-01 subsample was moved 5 feet north of the proposed location and the IS-01-02 and IS-01-03 subsamples were moved 10 feet south of their proposed locations.

3.1.3 Direct-Push Drilling Investigation

The subsurface soil sampling proposed for the animal material area and the southwest corner of the Eastwind parcel was conducted using direct-push soil sampling methodology on June 27, 2012. Borings in the animal material area (CT-03 through CT-05) were advanced to just beneath

the deepest animal material layer, or a maximum depth of 20 feet bgs. Borings on the southwest portion of the Eastwind property (CT-01 and CT 02) were advanced to 20 feet in depth. Soil samples were collected continuously in 5-foot intervals from each boring and classified according to the Unified Soil Classification System (USCS). All soil samples were field screened for the presence of VOCs using a PID. An AMEC scientist logged the character of the soil encountered in addition to any other observations (i.e., visual impacts, animal material presence, olfactory indications of impact, and headspace readings). The approximate sampling locations are depicted on Figure 2 and Figure 3. Descriptive logs of the borings are provided in Appendix A.

In the animal material area, samples were collected for laboratory analysis from the animal material layer (no hide or bones were included with the sample) and the soil beneath the animal material. Soil samples in borings CT-01 and CT-02, located in the southwest corner of the Eastwind parcel, were collected from the total depth of the boring, as no evidence of impact was observed in subsurface soil encountered in the borings.

3.1.4 Monitoring Well Installation and Sampling

AMEC installed groundwater monitoring wells at two down-gradient locations near the Sandy River: 1) on the northeast portion of the Eastwind parcel downgradient of the former slaughterhouse building (MW-01), and 2) downgradient of the animal material area (MW-02). The approximate locations of the monitoring wells are depicted in Figure 3.

Monitoring well installation was conducted on August 13 and 14, 2012 using a Geoprobe 8140LS track-mounted sonic drilling rig equipped with a 4-inch diameter core sample barrel and 6-inch diameter temporary casing. The rig and Oregon-licensed driller were provided by Major Drilling of Sherwood, Oregon.

Soil borings were advanced to approximately 35 to 40 feet bgs. Soil samples were collected continuously in 5-foot intervals from each boring and logged according to the USCS. The soil samples were field screened for the presence of VOCs using a PID. An AMEC geologist logged the character of the soils encountered in addition to other observations (e.g., visual staining, olfactory indications of impact, and headspace readings). Two soil samples were collected from each boring and retained for potential analysis. Some animal material was observed in soil cuttings obtained from the depth interval 16 to 21 feet bgs in boring MW-02. Soil cuttings from each boring were placed into a separate 55-gallon capacity steel drum, labeled, and staged on-Site. Descriptive logs of the borings are provided in Appendix A.

Monitoring wells were constructed within each borehole using 2-inch diameter schedule 40 polyvinylchloride (PVC) casing and 15 feet of 0.010-inch slotted PVC well screen. Filter packs

were constructed using 10/20 Colorado Silica Sand. The well seal installed above the filter pack consisted of 3/8-inch Hole-plug bentonite chips. The wells were completed with an above ground monument set in concrete with three protective posts painted yellow so that the wells can be located if they are overgrown by brush in the future. Well completion diagrams are provided in Appendix A.

Following 24 hours after installation of the monitoring wells, the wells were developed to remove clay, silt, and other fine particles from the filter packs and to ensure that the wells are in communication with the surrounding formation. The monitoring wells were developed by a combination of surging and removing groundwater using a submersible pump.

Groundwater samples were collected on August 21, 2012 using low-flow purging and sampling methodologies. Low-flow purging minimizes stress to the aquifer by using low pumping rates to minimize water level drawdown and turbulence. A flow-through cell equipped with electronic sensors was used to monitor water quality indicator parameters (temperature, specific conductance, pH, dissolved oxygen, and oxidation-reduction potential) at approximately 3- to 5-minute intervals throughout purging. Well purging activities were continued in each of the monitoring wells until three successive readings of the indicator parameters stabilized to within standard variability limits. Turbidity of the water was measured using field instruments prior to sample collection.

Variations from the Work Plan

During the TBA, groundwater sampling was attempted using the direct-push drilling method with only very limited success. Therefore, AMEC originally proposed using a hollow-stem auger rig to install the monitoring wells. In lieu of the hollow-stem auger method, which may have encountered difficulty when drilling dense gravels and cobbles present in the subsurface at the Site, AMEC chose to use the sonic drilling method. The sonic (rotary-vibratory) method uses high frequency resonate energy to advance a core barrel or casing into the geologic formation. The technique maintains numerous advantages over other drilling methods including the ability to drill through a wide range of geologic materials, the ability to capture a relatively undisturbed continuous lithologic core, and minimal borehole wall disturbance. At the Site, a 4-inch diameter core sample barrel was first advanced through a 5-foot depth interval, and then a 6-inch diameter temporary casing was advanced over the core barrel. The core barrel was then withdrawn, leaving the casing to temporarily support the borehole. Next, the core sample was removed and encapsulated in a long plastic bag for storage and inspection. This process was repeated to advance the depth of the borehole.

Monitoring wells were completed with 15-foot long screened intervals instead of the proposed 10-foot long screens to accommodate anticipated seasonal fluctuations in the water table at these locations in close proximity to the Sandy River.

3.1.5 Soil Vapor Sampling

Soil vapor sampling was conducted on June 27, 2012 using direct-push methodologies. Two soil vapor samples were collected at the edge of the animal material area (CT-06 and CT-07). A soil core was collected from 0 to 5 feet bgs from the soil vapor point boring using a direct-push sampler to characterize the soil and observe any occurrence of animal material layers. A temporary soil vapor point was installed at 5 feet bgs in the boring using 0.25-inch outside diameter Teflon tubing attached to 2-inch-long Teflon vapor point screen. The boring annular space surrounding the vapor point screen was filled with silica sand from approximately 4 to 5 feet bgs and the remainder of the annular space was sealed with hydrated granular bentonite. A low-flow air pump was used to purge each temporary vapor point by drawing at least three volumes of air through the vapor point. After purging the vapor point, the vapor sample was collected using a 6 liter, evacuated, internally-passivated, stainless steel, Summa® canister under approximately 30 inches of mercury (in-Hg) vacuum with a ½-hour duration flow controller provided by the contract laboratory. Sample collection was terminated when approximately 2 to 7 in-Hg vacuum remained within the Summa® canister. The tracer compound helium was released beneath a plastic shroud placed around the vapor point at the surface to verify the integrity of the annular seal of the temporary vapor point. Soil gas samples were labeled and transported under chain-of-custody procedures to the contract laboratory for chemical analysis. The contract laboratory analyzed for helium in the vapor sample in addition to the target analytes.

3.1.6 Investigation Derived Waste

Investigation derived wastes (IDW) consisting of decontamination fluids, soil, and groundwater generated during drilling and sampling activities were containerized in 55-gallon steel drums, labeled, and staged at the Site for characterization and disposal. One drum of soil cuttings and one drum of decontamination rinsate were generated during direct-push soil sampling activities. Two drums of soil cuttings and one drum of decontamination rinsate were generated during monitoring well installation and development activities. Soil laboratory testing data will be utilized to complete a waste determination for all IDW generated. AMEC will coordinate, on behalf of the City, the disposal of IDW.

4.0 LABORATORY TESTING

Incremental surface soil samples (IS-01 and IS-02) were placed in laboratory-supplied glass jars, immediately capped and labeled, placed in an insulated cooler with ice, and shipped via overnight delivery to the laboratory following chain-of-custody procedures. Two primary soil samples and one field duplicate soil sample were analyzed for polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270C (selected ion monitoring (SIM) and for the metals arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver by EPA 6000/7000 series methods.

Discrete soil samples collected from direct-push borings (CT-01 through CT-05) were placed in laboratory-supplied glass jars, labeled, placed in an insulated cooler with ice, and transported to the contract laboratory following chain-of-custody procedures. The following direct-push soil samples collected from borings CT-01 through CT-05 were analyzed.

- Eight subsurface soil samples (one each from CT-01 and CT-02 and two each from CT-03 through CT05) were analyzed for VOCs by EPA Method 8260B, PAHs by EPA Method 8270C (SIM), and the metals arsenic, barium, cadmium, chromium, iron, lead, mercury, selenium, silver, and vanadium by EPA 6000/7000 series methods.
- Five surface soil samples (one each from CT-01 through CT-05) were analyzed for organochlorine pesticides by EPA Method 8081B, PAHs by EPA Method 8270C (SIM), and for the metals arsenic, barium, cadmium, chromium, iron, lead, mercury, selenium, silver, and vanadium by EPA 6000/7000 series methods.

Groundwater samples collected from monitoring wells (MW-01 and MW-02) were placed in appropriate laboratory-supplied jars, immediately labeled, placed in an insulated cooler with ice, and transported to the laboratory following chain-of-custody procedures. Groundwater samples were analyzed for VOCs by EPA Method 8260B, PAHs by EPA Method 8270 SIM, the metals arsenic, barium, cadmium, chromium, iron, lead, mercury, selenium, silver, and manganese by EPA 6000/7000 series methods, for total plate count bacteria, and for various general chemistry parameters.

Soil gas samples (CT-06 and CT-07) were collected within laboratory-supplied 6-liter capacity Summa® canisters, immediately labeled, and shipped via overnight delivery to the laboratory following chain-of-custody procedures. Two soil gas samples were analyzed for VOCs by EPA Compendium Method Toxic Organic 15 (TO-15).

Sample laboratory analyses are summarized in Tables 1 through 9. Chemical analysis for the incremental surface soil samples and soil vapor samples were performed by TestAmerica using a



standard 10 business day turn-around time. Analysis of subsurface soil, animal material, and groundwater was conducted by Apex Laboratories in Tigard, Oregon. Where practical the method detection limits meet the screening levels outlined below.

Area of Concern	Proposed Screening Levels
Surface soil within greenway	DEQ 2001, Guidance for ecological risk assessment, Level II screening values - terrestrial receptors ^a DEQ guidance for assessing bioaccumulative chemicals of concern in sediment ¹ (can be applied to soil as a conservative screening level) ^b . DEQ urban residential ² risk-based concentrations (RBCs) for ingestion, dermal contact, and inhalation ³
Animal Material Area	Toxicity Characteristic Leaching Procedure (TCLP) regulatory levels (40 CFR 261.24), and ignitability, corrosivity, and reactivity DEQ urban residential RBCs for ingestion, dermal contact, and inhalation ^c
Groundwater	National Recommended Water Quality Criteria DEQ urban residential RBCs for volatilization to indoor air ³
Soil Vapor	DEQ urban residential RBCs for vapor intrusion into buildings ² (39 micrograms per cubic meter for naphthalene)

^a DEQ, April 1998, Guidance for Ecological Risk Assessment: Levels I, II, III, IV (updated December 2001)

^b DEQ, 2007, Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediments.

^c DEQ, November 15, 2011, Risk-Based Concentrations for Individual Chemicals

In the animal material area, a single animal material sample was analyzed for ignitability, corrosivity, reactivity, and toxicity in accordance with 40 Code of Federal Regulations (CFR) 261.31-261.33 to evaluate options for off-site disposal of the animal material.

4.1 SOIL SAMPLES ANALYTICAL RESULTS

Analytical results for soil samples are summarized in Tables 1 through 5 and discussed below. These discussions include a comparison of detected analyte concentrations to various screening levels. These comparisons are made to demonstrate the absence of previous data gaps and for initial data screening purposes only, and should not be interpreted as an indication of whether or not mitigation may be necessary at the Site. According to Eastwind representatives, Eastwind does not anticipate proposing residential uses for the Site.

¹ The use of sediment screening values for upland soil has been deemed inappropriate by AMEC and therefore screening of upland soil using DEQ screening level values is not included in this report.

² Representatives of Eastwind have informed AMEC that Eastwind has determined that it will not develop the site for future residential use.

4.1.1 Subsurface Soil Samples: Direct-Push & Sonic Borings

VOCs

VOCs were not detected in subsurface soil samples collected from borings CT-01 CT-02, or MW-01 (Table 1). VOC compounds detected in soil and/or animal material samples collected from borings CT-03 through CT-05 and MW-02 included acetone, 1,4-dichlorobenzene, naphthalene, and toluene. Three animal material samples (one each collected from borings CT-03 through CT-05) yielded the highest concentrations of these VOCs. Concentrations of naphthalene detected in the animal material sample collected from CT-05 exceeded both urban residential and occupational direct contact and vapor intrusion RBCs. Concentrations of 1,4-dichlorobenzene detected in CT-05 exceeded both urban residential and occupation vapor intrusion RBCs, but not direct contact RBCs. Concentrations of naphthalene, but not 1,4-dichlorobenzene, detected in the animal material sample collected from CT-04 exceeded both urban residential and occupational direct contact RBCs, and its urban residential vapor intrusion RBC. Naphthalene in the CT-03 animal material sample exceeded only its urban residential vapor intrusion RBC. No VOC concentrations detected in soil samples exceeded any urban residential or occupational RBCs.

PAHs

PAHs were not detected in subsurface soil samples collected from borings CT-01 or CT-02 (Table 2). Only naphthalene was detected in soil or animal material samples collected from borings CT-03 and CT-04. The naphthalene concentration detected in the animal material sample collected from CT-04 exceeded both urban residential and occupational direct contact and vapor intrusion RBCs. Method reporting limits were elevated for other PAHs due to matrix interference in all animal material samples. PAHs were not detected above a reporting limit of 192 mg/kg in the animal material sample from boring CT-05, but a low level of naphthalene (0.094 mg/kg) was detected from the soil sample collected beneath the animal material. Eight PAHs were detected in the subsurface soil sample collected from boring MW-2 (Table 2). This soil sample was collected from fill material that included disseminated animal materials. Four PAHs were detected in the soil sample at concentrations exceeding urban residential RBCs, and the benzo(a)pyrene concentration detected in the sample exceeded both urban residential and occupational direct contact RBCs.

Metals

One or more of six metals were detected in each of the 10 subsurface soil samples collected from direct-push or sonic borings at the Site (Table 3). Only the arsenic concentration (8.41 mg/kg) detected in the animal material sample collected from boring CT-04 slightly exceeded its typical background concentration for metals in soil of 7 mg/kg.

4.1.2 Surface Soil Samples: Direct-Push & Sonic Borings

Organochlorine Pesticides

Organochlorine pesticides were not detected in surface soil samples collected from direct-push borings CT-01 or CT-05 (Table 4). 4,4-DDE and/or chlordane were detected in surface soil samples collected at boring locations CT-02 through CT-04, but at concentrations below both urban residential and occupational RBCs.

PAHs

Four or more PAH compounds were detected in each of the five surface soil samples analyzed (Table 2). Benzo(a)pyrene was detected at a concentration slightly exceeding its urban residential direct contact RBC, but not exceeding its occupational direct contact RBC, in each of the five samples analyzed. No other PAHs were detected at concentrations exceeding urban residential or occupational RBCs.

Metals

Five or more of seven metals were detected in each of the five surface soil samples collected from direct-push borings at the Site. Arsenic in the CT-03 and CT-04 surface soil samples exceeded urban residential and occupational direct contact RBCs and typical background concentrations for metals in soil. Lead in the CT-05 surface soil sample exceeded its urban residential (but not occupational) direct contact RBC and typical background concentrations for metals in soil.

4.1.3 Incremental Surface Soil Samples: Sandy River Greenway

PAHs

A review of the analytical results indicates that 16 to 18 PAHs were detected in each of the two primary and one duplicate soil samples analyzed (Table 5). Low level detections reported for naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, and flourene were “J-flagged”, because the concentrations detected were less than the laboratory reporting limit but greater than the method detection limit. Detections for fluoranthene, pyrene, benzo(a,h)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and indeno(1,2,3-cd)pyrene were “B-flagged” because these compounds were detected in the laboratory blank. However, blank detections were less than 10-times the concentrations detected in the samples, so the low-level detections in the blank do not affect the usability of the data.

All PAH concentrations detected were below occupational direct contact RBCs. With the exception of benzo(a)pyrene, the reported PAH concentrations also were less than urban residential direct contact RBCs. The anticipated future use for the greenway area is a park. DEQ has not published RBCs for park land use. However, site-specific park user RBCs have been developed for other

projects in Oregon, and have been approved by the DEQ. For the Fields Neighborhood Park project located in Portland, Oregon, a site-specific park user RBC for benzo(a)pyrene of 210 micrograms per kilogram ($\mu\text{g}/\text{kg}$) was calculated and approved by the DEQ. The maximum benzo(a)pyrene concentration detected in the three incremental samples ($64 \mu\text{g}/\text{kg}$) does not exceed this park user RBC.

A comparison of detected PAH concentrations to Level II screening level values for terrestrial mammals indicates no exceedances.

Metals

Four or more of eight metals were detected in each of the incremental soil samples collected in the Sandy River Greenway area (Table 3). The metal concentrations detected did not exceed either urban residential or occupational direct contact RBCs. Lead in IS-02 did slightly exceed its SLV protective of freshwater fish.

A comparison of detected metal concentrations to typical background concentrations and Level II screening level values for terrestrial mammals indicates no detections that exceed both of these screening criteria.

4.1.4 Animal Material Disposal Evaluation

Sample CT-05-5-6, obtained from within the animal material, was subjected to additional testing by Apex and Keystone Laboratories to evaluate options for disposal of the material. The laboratory report is provided in Appendix B. A review of laboratory data pertinent to the animal material indicates the following.

- Detected concentration of metals, chlorinated herbicides, VOCs, and SVOCs listed in 40-CFR 261.24 in the animal material sample collected from boring CT-05 are below their respective 20X rule values indicating that the animal material is not a toxic characteristic hazardous waste.
- A flashpoint of >181 degrees Fahrenheit ($^{\circ}\text{F}$) was measured for the CT-05 animal material sample, which does not exceed the standard for ignitable waste of 140°F . Therefore, it appears that the animal material is not an ignitable characteristic hazardous waste.
- A pH of 7.94 was measured for the CT-05 animal material sample. In order to be a corrosive characteristic waste, the pH of the animal material would need to be <2 or >12.5 . Therefore, it appears that the animal material is not a corrosive characteristic hazardous waste.

- The animal material sample collected from boring CT-05 appears stable under “normal” conditions. Sulfide was detected in the CT-05 animal material sample at a concentration of 176 mg/kg, which falls below the old withdrawn EPA standard of 500 mg/kg reactive sulfide. Therefore, it appears that the animal material is not a reactive characteristic hazardous waste.

Based upon these testing results, it appears that the animal material is not hazardous by characteristic. AMEC has reviewed 40 Code of Federal Regulations (CFR) 261.31 to evaluate whether the animal material may be a listed hazardous waste. Since the material is not included in F and K waste codes, it does not appear to be a listed hazardous waste. A formal waste determination would need to be completed in consultation with nearby solid and hazardous waste disposal facility operators to make a final determination of disposal options and costs associated with the animal material.

4.1.5 Groundwater Analytical Results

Analytical results for groundwater samples are summarized in Tables 6 and Table 7 and discussed below.

VOCs

Two VOCs were detected in the groundwater sample obtained from monitoring well MW-1, but at concentrations less than potentially applicable RBCs and ecological screening values (Table 6). Other VOCs were not reported at concentrations greater than the laboratory method detection limits in the groundwater samples analyzed.

- 1,2-dichloroethane was reported at a concentration of 3.80 micrograms per liter ($\mu\text{g/L}$) in MW-1. The reported concentration is less than urban residential and occupational vapor intrusion RBCs.
- Trichloroethene (TCE) was reported at a concentration of 0.850 $\mu\text{g/L}$ in MW-1. The reported concentration is less than urban residential and occupational vapor intrusion RBCs.

PAHs

PAHs were not reported at concentrations greater than the laboratory method detection limit in the groundwater samples analyzed.

Metals

Seven or more metals were detected in each of the two groundwater samples analyzed. All reported metals concentrations were consistent with typical background concentrations for metals

in groundwater, and were below groundwater in excavation construction and excavation worker RBCs (Table 7).

Groundwater General Chemistry Analyses

Two groundwater samples (MW1-082112 and MW2-082112) were submitted to Apex Labs for analyses of general chemistry parameters. General chemistry analytical results are summarized in Table 8 and are discussed below. The analytical laboratory reports are provided in Appendix B.

Concentrations of miscellaneous general chemistry parameters in the sample collected from MW-2 were generally consistent with typical background levels of these parameters in groundwater. Concentrations of metals and general chemistry parameters, including ammonia and Total Kjeldahl Nitrogen ([TKN] a measure of organically-bound nitrogen from biological sources) in the sample from MW-1 were somewhat elevated in comparison to concentrations of the same parameters in the sample from MW-2. The reason for the somewhat higher concentrations of certain parameters in the sample from MW-2 is not apparent. The type and magnitude of these detections are unlikely to adversely impact surface water quality in the nearby Sandy River.

4.1.6 Soil Gas Analytical Results

A total of 9 to 13 VOCs were detected in each of the two soil gas samples analyzed (Table 9). A comparison of detected VOC concentrations indicates no exceedances of either urban residential or occupational RBCs for vapor intrusion into buildings. Each soil vapor also was tested for methane, which is generated during the anaerobic degradation of organic matter. Methane was not detected in either soil vapor sample.

The tracer gas helium was not reported at concentrations greater than the laboratory method detection limit of 65,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in either soil gas sample, suggesting that the sampling apparatus functioned as intended and the soil gas samples are likely representative of actual subsurface conditions at these locations.

5.0 SUMMARY AND CONCLUSIONS

AMEC conducted focused supplemental site characterization activities at the Troutdale Riverfront Redevelopment property in an attempt to eliminate several data gaps identified following the completion of a TBA at the Site in 2010 by the EPA. Significant findings of the supplemental site characterization activities include the following.

- Animal material occurs in the subsurface over an area of approximately 15,000 square feet. The typical thickness of the animal material is less than 5 feet. Based upon the occurrence

of animal material indicated by the limited number of trenches excavated at the Site, its estimated volume is approximately 3,500 cubic yards. Testing of the animal material has indicated that it is not a characteristic hazardous waste. The completion of a formal waste determination and discussions with local waste disposal providers is recommended to determine estimated costs and options for the off-site disposal of the animal material.

- Concentrations of naphthalene detected in the animal material exceed both urban residential and occupational direct contact RBCs. Therefore, naphthalene in the animal material is considered a potential constituent of concern.
- Soil vapor sampling conducted in the animal material area identified no significantly elevated VOC concentrations in soil gas. Based upon these sampling results, it appears that volatile constituents in the animal material do not present an unacceptable risk to human receptors via the volatilization to indoor or outdoor air exposure pathways despite the fact that both 1,4-dichlorobenzene and naphthalene were detected at concentrations in soil/animal material exceeding both urban residential and occupational vapor intrusion RBCs.
- Five surface soil samples were collected on the Eastwind parcel. All five samples yielded benzo(a)pyrene concentrations exceeding urban residential, but not occupational direct contact RBCs. However, as discussed in Section 4.1 above, Eastwind has indicated that it does not intend to propose residential uses at the Site.
- Subsurface soil sample collected in the southwest portion of the Eastwind parcel identified no evidence of a hazardous substance release.
- Only trace concentrations of 1,1-dichloroethane and TCE were detected in groundwater samples collected from two monitoring wells installed near the Sandy River at the Site. Based upon these testing results, it appears that no hazardous substance migration via the groundwater to surface water migration pathway is occurring at the Site. Furthermore, no evidence of leaching of nutrients from animal material was observed.
- Incremental surface soil sampling conducted in the Sandy River greenway area identified only slightly elevated concentrations of lead and benzo(a)pyrene. It is considered unlikely given the land use planned for the Site that these analytes pose a risk to human health or the environment.



We appreciate the opportunity to be of service to the City of Troutdale on this project. Please contact the undersigned if you have any questions or comments regarding this report.

Sincerely,

AMEC Environment & Infrastructure, Inc.

Reviewed by:

A handwritten signature in black ink, appearing to read "Dennis M. Sullivan".

Dennis M. Sullivan, P.G.
Senior Geologist

A handwritten signature in black ink, appearing to read "Leonard C. Farr, Jr.".

Leonard C. Farr, Jr., R.G.
Senior Associate/Geologist



REFERENCES

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LIMITATIONS

This report was prepared exclusively for the City of Troutdale in coordination with Eastwind by AMEC Environment & Infrastructure, Inc. (AMEC). The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in AMEC services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions and qualifications set forth in this report. This Supplemental Site Characterization Report is intended to be used by the City of Troutdale and Eastwind for the Troutdale Riverfront Redevelopment Site in Troutdale, Oregon only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any other third party is at that party's sole risk.

AMEC services have been performed in accordance with the normal and reasonable standard of care exercised by similar professionals performing services under similar conditions and geographic locations. Except for our stated standard of care, no other warranties or guarantees are offered as part of AMEC's contracted services.

The purpose of an environmental site assessment is to reasonably evaluate the potential for adverse impact from past practices at a given property or neighboring properties. In performing an environmental site assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. The professional opinions in this report are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at unsampled locations.

Finally, it should be noted that no subsurface exploration can be thorough enough to exclude the possible presence of hazardous materials or wastes at a given site. In cases where contaminants have not been discovered through exploration, this should not be construed as a guarantee that contaminants do not exist. At a given site, environmental conditions may exist that cannot be identified by visual observation. Where sample collection and testing have been performed, AMEC's professional opinions are based in part on the interpretation of data from discrete sampling locations that may not represent conditions at unsampled locations.

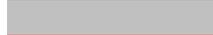
TABLES

TABLE 1
Soil Analytical Results - VOCs
Troutdale Riverfront Property

				VOCs - EPA 8260B			
				Acetone	1,4-Dichlorobenzene	Naphthalene	Toluene
Location ID	Sample Date	Start Depth (ft)	End Depth (ft)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)				--	62,000	25,000	1,200,000
Soil Ingestion, Dermal Contact, and Inhalation (Occupational)				--	63,000	23,000	77,000,000
Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)				--	1,200,000	580,000	24,000,000
Vapor Intrusion Into Buildings (Urban Residential)				--	3,000	18,000	>Csat
Vapor Intrusion Into Buildings (Occupational)				--	17,000	99,000	>Csat
CT-01	6/27/2012	0	0.5	--	--	--	--
CT-01	6/27/2012	12	13	1,100 U	27.4 U	110 U	54.9 U
CT-02	6/27/2012	0	0.5	--	--	--	--
CT-02	6/27/2012	13.5	14	1,390 U	34.8 U	139 U	69.7 U
CT-03	6/27/2012	0	0.5	--	--	--	--
CT-03	6/27/2012	5	6	21,700 U	650 U	22,700	1,080 U
CT-03	6/27/2012	9	10	1,930	26.6 U	106 U	53.2 U
CT-04	6/27/2012	0	0.5	--	--	--	--
CT-04	6/27/2012	5	6	18700 U	1,050	36,600	1,970
CT-04	6/27/2012	6	7	1,720	25.9 U	264	51.8 U
CT-05	6/27/2012	0	0.5	--	--	--	--
CT-05	6/27/2012	5	6	34,800 U	29,400	244,000	1740 U
CT-05	6/27/2012	11	12	1,260	30.6 U	267	61.2 U
MW01-19	8/14/2012	18.5	19	1,030 U	25.8 U	103 U	51.5 U
MW-02-17	8/13/2012	16.5	17	1,200 U	30.0 U	219	59.9 U

Notes: **Bold** = Detected

###U = Not detected and number represents method detection limit

 Concentration exceeds most conservative potentially applicable RBC

 Concentration exceeds multiple potentially applicable RBCs

-- Not tested or not available

TABLE 2
Soil Analytical Results - PAHs
Troutdale Riverfront Property

				PAHs - EPA 8270D SIM											
Location ID	Sample Date	Start Depth (ft)	End Depth (ft)	Acenaphthylene (µg/kg)	Benzo(a)anthracene (µg/kg)	Benzo(a)pyrene (µg/kg)	Benzo(b+k)fluoranthene(s) (µg/kg)	Benzo(g,h,i)perylene (µg/kg)	Chrysene (µg/kg)	Fluoranthene (µg/kg)	Indeno(1,2,3-cd)pyrene (µg/kg)	Naphthalene (µg/kg)	Phenanthrene (µg/kg)	Pyrene (µg/kg)	Phenol (µg/kg)
Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)				--	340	34	340	--	32,000	4,600,000	340	25,000	--	3,400,000	--
Soil Ingestion, Dermal Contact, and Inhalation (Occupational)				--	2,700	270	2,700	--	250,000	29,000,000	2,700	23,000	--	21,000,000	--
Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)				--	21,000	2,100	21,000	--	2,100,000	8,900,000	21,000	580,000	--	6,700,000	--
Vapor Intrusion Into Buildings (Urban Residential)				--	NV	NV	NV	--	>Csat	>Max	NV	18,000	--	>Max	--
Vapor Intrusion Into Buildings (Occupational)				--	NV	NV	NV	--	>Csat	>Max	NV	99,000	--	>Max	--
CT-01	6/27/2012	0	0.5	49.3 U	49.3 U	67.4	98.6 U	90.1	55.9	58.1	79.5	129	98.8	63.7	--
CT-01	6/27/2012	12	13	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	10.9 U	--
CT-02	6/27/2012	0	0.5	10.9	18.1	36.5	49.7	41.8	32.4	33.0	31.3	8.86 U	16.5	45.4	--
CT-02	6/27/2012	13.5	14	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	11.5 U	--
CT-03	6/27/2012	0	0.5	48.4 U	77.7	96.9	132	69.9	83.3	108	64.5	48.4 U	61.5	111	--
CT-03	6/27/2012	5	6	3,880 U	3,880 U	3,880 U	3,880 U	3,880 U	3,880 U	3,880 U	3,880 U	16,200	3,880 U	3,880 U	--
CT-03	6/27/2012	9	10	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	9.90 U	--
CT-04	6/27/2012	0	0.5	42.8 U	42.8 U	54.6	85.6 U	42.8 U	47.8	54.6	42.8 U	42.8 U	42.8 U	64.0	--
CT-04	6/27/2012	5	6	3,250 U	3,250 U	3,250 U	3,250 U	3,250 U	3,250 U	3,250 U	3,250 U	25,500	3,250 U	3,250 U	--
CT-04	6/27/2012	6	7	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U	10.5 U	94.0	10.5 U	10.5 U	--
CT-05	6/27/2012	0	0.5	26.1 U	80.3	121	170	110	104	159	94.3	26.1 U	64.1	186	--
CT-05 ¹	6/27/2012	5	6	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	192,000 U	327,000
CT-05	6/27/2012	11	12	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U	11.4 U	246	11.4 U	11.4 U	--
MW01-19	8/14/2012	18.5	19	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	--
MW02-17	8/13/2012	16.5	17	551 U	1,020	738	1,800	551 U	1,580	3,310	650	551 U	2,320	2,750	--

Notes: **Bold** = Detected
 ###U = Not detected and number represents method detection limit
 1. CT-05-5-6 analyzed for semi-volatile organic compounds by EPA 8270D.
 Concentration exceeds most conservative potentially applicable RBC
 Concentration exceeds multiple potentially applicable RBCs
 -- Not tested or not available

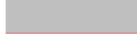
TABLE 3
Soil Analytical Results - Metals
Troutdale Riverfront Property

Total Metals - EPA 6020													
Location ID	Sample Date	Start Depth (ft)	End Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Vanadium (mg/kg)
Background Soil Concentration				7	537	1	42	--	17	0.07	2	1	160
Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)				1.0	31,000	78	230,000	--	400	47	--	780	--
Soil Ingestion, Dermal Contact, and Inhalation (Occupational)				1.7	190,000	510	>Max	--	800	310	--	5,100	--
Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)				13	60,000	150	460,000	--	800	93	--	1,500	--
Level II SLVs for Terrestrial Receptors (Mammals) ¹				29	638	125	340,000	--	4,000	73	25	--	25
CT-01	6/27/2012	0	0.5	5.17	602	0.928 U	6.41	13,300	78.6	0.0742 U	1.86 U	0.928 U	46.4
CT-01	6/27/2012	12	13	2.36 U	237	1.18 U	15.8	--	4.62	0.0943 U	2.36 U	1.18 U	--
CT-02	6/27/2012	0	0.5	4.11	457	1.02 U	2.67	4,130	23.3	0.0813 U	2.03 U	1.02 U	28.1
CT-02	6/27/2012	13.5	14	4.00	135	1.24 U	14.6	--	5.40	0.0988 U	2.47 U	1.24 U	--
CT-03	6/27/2012	0	0.5	26.1	44.8	0.933 U	6.45	5,910	48.7	0.130	1.87 U	0.933 U	13.3
CT-03	6/27/2012	5	6	2.64	21.8	1.07 U	2.13 U	1,300	5.97	0.0853 U	2.13 U	1.07 U	16.0
CT-03	6/27/2012	9	10	2.02 U	12.3	1.01 U	2.94	5,110	1.01 U	0.0809 U	2.02 U	1.01 U	12.4
CT-04	6/27/2012	0	0.5	12.8	67.3	1.06 U	10.0	13,400	35.1	0.0898	2.12 U	1.06 U	34.3
CT-04	6/27/2012	5	6	8.41	43.1	1.07 U	3.37	5,220	16.5	0.0855 U	2.14 U	1.07 U	9.23
CT-04	6/27/2012	6	7	2.05 U	9.03	1.03 U	2.95	6,610	1.19	0.0822 U	2.05 U	1.03 U	15.6
CT-05	6/27/2012	0	0.5	2.50 U	162	1.25 U	39.8	5,610	594	0.100 U	2.50 U	1.25 U	12.8
CT-05	6/27/2012	5	6	2.72	13.9	0.929 U	1.86 U	1,460	5.78	0.0743 U	1.86 U	0.929 U	4.75
CT-05	6/27/2012	11	12	2.26 U	15.5	1.13 U	2.40	5,130	1.13 U	0.0902 U	2.26 U	1.13 U	17.9
MW01-19	8/14/2012	18.5	19	2.39	128	1.17 U	18.9	17,000	7.21	0.0938 U	2.34 U	1.17 U	53.8
MW-02-17	8/13/2012	16.5	17	8.25	120	1.33 U	15.2	25,900	27.2	0.106 U	2.66 U	1.33 U	74.3
IS-01	7/26/2012	0	0.5	0.64 U	40	0.4 U	0.78 U	--	21	0.025	1.7 J	1.1 U	--
IS-02	7/26/2012	0	0.5	0.97 J	56	0.43 U	14	--	13	0.046	1.6 J	1.2 U	--
DUP	7/26/2012	0	0.5	1.0 J	52	0.42 U	14	--	15	0.048	1.7 J	1.2 U	--

Notes: **Bold** = Detected

###U = Not detected and number represents method detection limit

###J = Result is less than the reporting limit but greater than the method detection limit. The concentration is an approximate value.

 Concentration exceeds background

 Concentration exceeds background and potentially applicable RBC

-- Not tested or not available

mg/kg = milligrams per kilogram

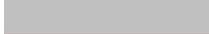
¹ DEQ, April 1998, Guidance for Ecological Risk Assessment: Levels I, II, III, IV (updated December 2001)

TABLE 4
Soil Analytical Results - Organochlorine Pesticides
Troutdale Riverfront Property

				Organochlorine Pesticides - EPA 8081B			
				cis-Chlordane	trans-Chlordane	4,4-DDE	Chlordane (Technical)
Location ID	Sample Date	Start Depth (ft)	End Depth (ft)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)				--	--	4,500	4,200
Soil Ingestion, Dermal Contact, and Inhalation (Occupational)				--	--	7,600	7,000
Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)				--	--	58,000	55,000
Vapor Intrusion Into Buildings (Urban Residential)				--	--	>Max	>Csat
Vapor Intrusion Into Buildings (Occupational)				--	--	>Max	>Csat
CT-01	6/27/2012	0	0.5	9.42 U	9.42 U	9.42 U	113 U
CT-01	6/27/2012	12	13	--	--	--	--
CT-02	6/27/2012	0	0.5	10.9	11.8	9.26 U	111 U
CT-02	6/27/2012	13.5	14	--	--	--	--
CT-03	6/27/2012	0	0.5	42.7	26.2	41.1	427
CT-03	6/27/2012	5	6	--	--	--	--
CT-03	6/27/2012	9	10	--	--	--	--
CT-04	6/27/2012	0	0.5	36.2	23.7 U	24.1	366
CT-04	6/27/2012	5	6	--	--	--	--
CT-04	6/27/2012	6	7	--	--	--	--
CT-05	6/27/2012	0	0.5	20.7 U	20.7 U	20.7 U	248 U
CT-05	6/27/2012	5	6	--	--	--	--
CT-05	6/27/2012	11	12	--	--	--	--

Notes: **Bold** = Detected

###U = Not detected and number represents method detection limit

 Concentration exceeds most conservative potentially applicable RBC

 Concentration exceeds multiple potentially applicable RBCs

-- Not tested or not available

TABLE 5
Incremental Soil Sample Analytical Results - PAHs
Troutdale Riverfront Property

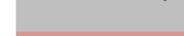
				PAHs - EPA 8270C SIM																		
Location ID	Sample Date	Start Depth (ft)	End Depth (ft)	Naphthalene (µg/kg)	2-Methylnaphthalene (µg/kg)	1-Methylnaphthalene (µg/kg)	Acenaphthylene (µg/kg)	Acenaphthene (µg/kg)	Fluorene (µg/kg)	Phenanthrene (µg/kg)	Anthracene (µg/kg)	Fluoranthene (µg/kg)	Pyrene (µg/kg)	Benzo(a)anthracene (µg/kg)	Chrysene (µg/kg)	Benzo(b)fluoranthene (µg/kg)	Benzo(k)fluoranthene (µg/kg)	Benzo(a)pyrene (µg/kg)	Ideno(1,2,3-cd)pyrene (µg/kg)	Dibenz(a,h)anthracene (µg/kg)	Benzo(g,h,i)perylene (µg/kg)	
Soil Ingestion, Dermal Contact, and Inhalation (Urban Residential)				25,000	--	--	--	9,400,000	6,300,000	--	47,000,000	4,600,000	3,400,000	340	32,000	340	3,400.0	34	340	34	--	--
Soil Ingestion, Dermal Contact, and Inhalation (Occupational)				23,000	--	--	--	61,000,000	41,000,000	--	310,000,000	29,000,000	21,000,000	2,700	250,000	2,700	27,000	270	2,700	270	--	--
Soil Ingestion, Dermal Contact, and Inhalation (Construction Worker)				580,000	--	--	--	19,000,000	12,000,000	--	93,000,000	8,900,000	6,700,000	21,000	2,100,000	21,000	210,000	2,100	21,000	2,100	--	--
Vapor Intrusion Into Buildings (Urban Residential)				18,000	--	--	--	>Max	>Max	--	>Max	>Max	--	NV	>Csat	>Csat	NV	NV	NV	NV	--	--
Vapor Intrusion Into Buildings (Occupational)				99,000	--	--	--	>Max	>Max	--	>Max	>Max	--	NV	>Csat	>Csat	NV	NV	NV	NV	--	--
Level II SLVs for Terrestrial Receptors (Mammals) ¹				3,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	125	--	--	--
IS-01	7/26/2012	0	0.5	1.4 J	0.86 J	0.60 J	2.2	1.2 J	1.8 J	11	3.6	50 B	53 B	37 B	42 B	56 B	21 B	44 B	32 B	8.5	28 B	
IS-02	7/26/2012	0	0.5	2.0 J	1.4 J	1.1 J	7.4	2.0 J	2.1	30	12	87 B	91 B	56 B	63 B	90 B	34 B	64 B	46 B	11	40 B	
DUP	7/26/2012	0	0.5	2.4	1.5 J	1.1 J	4.8	1.1 J	1.5 J	14	4.3	39 B	44 B	2.12 U	2.2 U	34 B	11 B	24 B	23 B	3.6	23 B	

Notes: **Bold** = Detected

###U = Not detected and number represents method detection limit

###J = Result is less than the reporting limit but greater than the method detection limit. The concentration is an approximate value.

###B = Compound was found in the blank and the sample.

 Concentration exceeds most conservative potentially applicable RBC

 Concentration exceeds multiple potentially applicable RBCs

-- Not tested or not available

µg/kg = micrograms per kilogram

ft = feet below existing ground surface

>Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg. Therefore, this substance is deemed not to pose risks in this scenario.

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning.

NV = This chemical is considered "nonvolatile" for purposes of the exposure calculations.

¹DEQ, April 1998, Guidance for Ecological Risk Assessment: Levels I, II, III, IV (updated December 2001)

²DEQ, 2007, Guidance for Assessing Bioaccumulative Chemicals of Concern in Sediments.

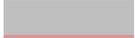
TABLE 6
Groundwater Analytical Results - VOCs
Troutdale Riverfront Property

		VOCs - EPA 8260B	
		1,1-Dichloroethane	Trichloroethene (TCE)
Location ID	Sample Date	(µg/L)	(µg/L)
Volatilization to Outdoor Air (urban residential)		40,000	6,600
Volatilization to Outdoor Air (occupational)		73,000	19,000
Vapor Intrusion into Buildings (urban residential)		2,900	380
Vapor Intrusion into Buildings (occupational)		16,000	3,300
National Recommended Water Quality Criteria - Freshwater (acute)		--	--
National Recommended Water Quality Criteria - Freshwater (chronic)		--	--
MW-1	8/21/2012	3.80	0.850
MW-2	8/21/2012	0.500 U	0.500 U

Notes:

Bold = Detected

###U = Not detected and number represents method detection limit

 Concentration exceeds most conservative potentially applicable RBC

 Concentration exceeds multiple potentially applicable RBCs

µg/L = micrograms per liter

TABLE 7
Groundwater Analytical Results - Metals
Troutdale Riverfront Property

		Total Metals - EPA 6020												
Location ID	Sample Date	Arsenic (µg/L)	Barium (µg/L)	Cadmium (µg/L)	Calcium µg/L	Chromium (µg/L)	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Potassium µg/L	Selenium (µg/L)	Silver (µg/L)	Sodium (µg/L)
Groundwater in Excavation (construction & excavation worker)		5,800	25,000,000	57,000	--	8,700	--	>S	3,000,000	>S	--	--	1,000,000	--
National Recommended Water Quality Criteria - Freshwater (acute)		340	--	2.0	--	570	--	65	--	1.4	--	--	3.2	--
National Recommended Water Quality Criteria - Freshwater (chronic)		150	--	0.25	--	74	1,000	2.5	--	0.77	--	5.0	--	--
MW-1	8/21/2012	11.50	222	1.00 U	35,700	14.0	46,300	4.62	18,400	0.080 U	8,510	2.00 U	1.00 U	77,100
MW-2	8/21/2012	9.40	34.4	1.00 U	20,600	2.00 U	4,890	1.00 U	862	0.080 U	4,460	2.00 U	1.00 U	27,100

Notes: **Bold** = Detected

###U = Not detected and number represents method detection limit

###J = Result is less than the reporting limit but greater than the method detection limit. The concentration is an approximate value.

 Concentration exceeds most conservative potentially applicable RBC

 Concentration exceeds multiple potentially applicable RBCs

-- Not tested or not available

µg/L = micrograms per liter

>S = This groundwater RBC exceeds the solubility limit.

TABLE 8
Groundwater Analytical Results - General Chemistry
Troutdale Riverfront Property

		General Chemistry																	
Location ID	Sample Date	Sulfate (mg/L)	Total Sulfide (mg/L)	Nitrate-Nitrogen (mg/L)	Nitrite-Nitrogen (mg/L)	Total Kjeldaul Nitrogen (mg/L)	Ammonia as Nitrogen (mg/L)	Orthophosphate Phosphorous (mg/L)	Phosphorus (mg/L)	Total Alkalinity (mg CaCO ₃ /L)	Bicarbonate Alkalinity (mg/L)	Carbonate Alkalinity (mg/L)	Hydroxide Alkalinity (mg/L)	Hardness (mg CaCO ₃ /L)	Chemical Oxygen Demand (COD) (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (TSS) (mg/L)	Total Dissolved Solids (TDS) (mg/L)	Conductivity µmhos/cm
MW-1	8/21/2012	40.5	0.10 U	0.250 U	0.250 U	4.6	4.50	0.020 U	1.10	251	251	20 U	20 U	89.1	10.0 U	6.17	276	391	618
MW-2	8/21/2012	15.5	0.10 U	0.754	0.250 U	0.87	0.880	0.020 U	0.108	110	110	20 U	20 U	82.2	10.0 U	2.49	12.0	204	292

Notes: **Bold** = Detected
 ###U = Not detected and number represents method detection limit
 ###J = Result is less than the reporting limit but greater than the method detection limit. The concentration is an approximate value.
 mg/L = milligrams per liter
 mg/CaCO₃/L = milligrams calcium carbonate per liter

TABLE 9
Soil Vapor Analytical Results - VOCs
Troutdale Riverfront Property

VOCs - TO-15																
Location ID	Sample Date	Start Depth (ft)	End Depth (ft)	Acetone (µg/m3)	Benzene (µg/m3)	2-Butanone (MEK) (µg/m3)	Carbon disulfide (µg/m3)	Chloromethane (µg/m3)	Dichlorodifluoromethane (µg/m3)	Ethylbenzene (µg/m3)	4-Ethyltoluene (µg/m3)	Styrene (µg/m3)	Toluene (µg/m3)	1,3,5-Trimethylbenzene (µg/m3)	m,p-Xylene (µg/m3)	o-Xylene (µg/m3)
Vapor Intrusion into Buildings (Urban Residential)				--	170	--	--	19,000	--	530	--	210,000	1,000,000	>Pv	21,000*	21,000*
Vapor Intrusion into Buildings (Occupational)				--	1,600	--	--	390,000	--	4,900	--	4,400,000	22,000,000	>Pv	440,000*	440,000*
CT-06	6/27/2012	4.5	5.0	32	0.96 U	7.3	2.9	1.7 U	4.5	1.7 U	5.9	1.7 U	4.5	2.0	6.4	2.4
CT-07	6/27/2012	4.5	5.0	110	6.4	25	11	2.8	2.3	3.6	7.2	2.8	19	2.1	11	4.1

Notes: **Bold** = Detected

###U = Not detected and number represents method detection limit

 Concentration exceeds most conservative potentially applicable RBC

 Concentration exceeds multiple potentially applicable RBCs

-- Not tested or not available

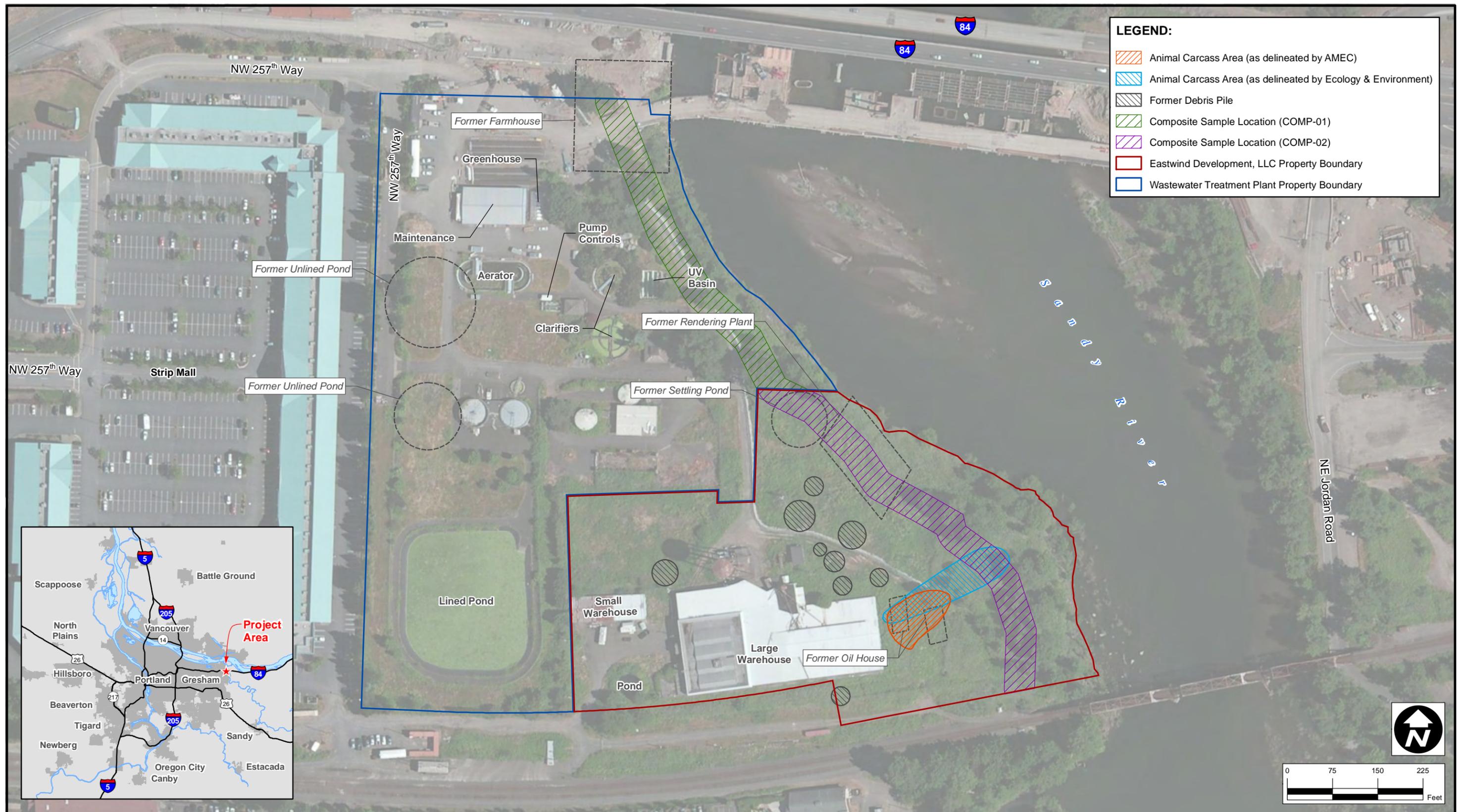
µg/m3 = micrograms per cubic meter

ft = feet below existing ground surface

>Pv = The air concentration reported for the RBC exceeds the vapor pressure of the pure chemical. It can be assumed that this constituent cannot create an unacceptable risk by this pathway.

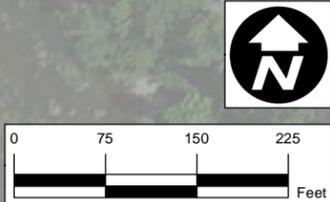
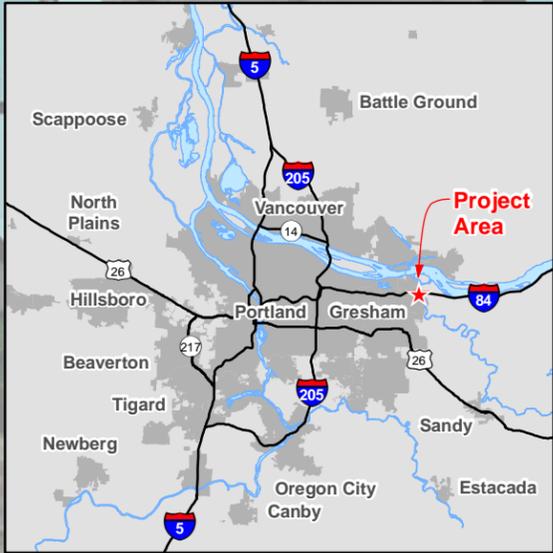
* = RBC for total xylenes

FIGURES



LEGEND:

- Animal Carcass Area (as delineated by AMEC)
- Animal Carcass Area (as delineated by Ecology & Environment)
- Former Debris Pile
- Composite Sample Location (COMP-01)
- Composite Sample Location (COMP-02)
- Eastwind Development, LLC Property Boundary
- Wastewater Treatment Plant Property Boundary



NOTE: Sample, Test Pit, Former Features and Former Debris Pile locations obtained from Ecology & Environment Inc., Figure_3_1rev1.mxd, 02/24/2011.
 Animal Carcass Area obtained from Ecology & Environment Inc., Figure4-1.mxd, 04/04/2011.

<p>CLIENT:</p> <p>CITY OF TROUTDALE</p>	<p>DWN BY: SD</p> <p>CHK'D BY: JF</p> <p>DATUM: NAD83</p> <p>PROJECTION: OR HARN SP N Ft.</p> <p>SCALE: 1 inch = 150 feet</p>
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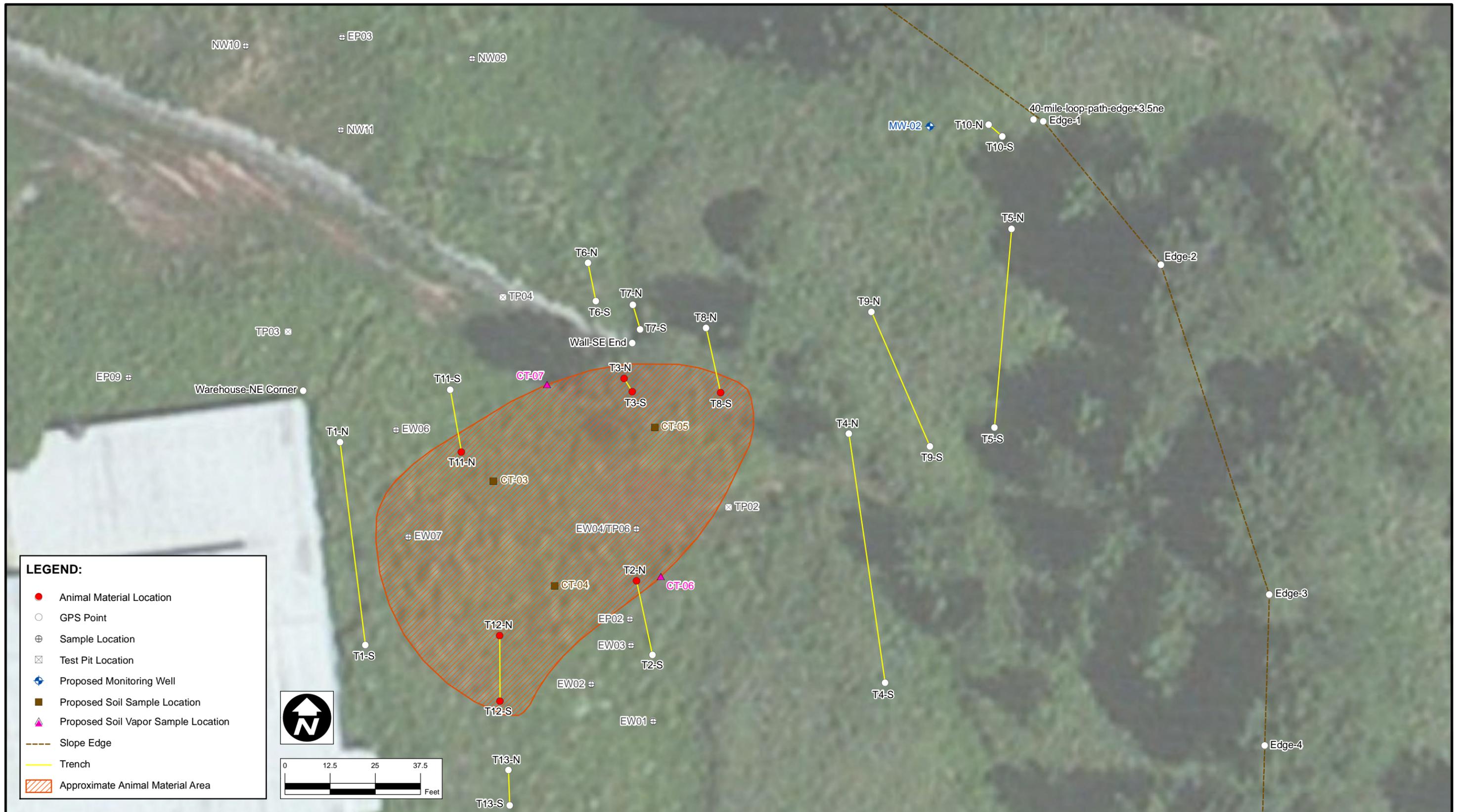
<p>PROJECT:</p> <p>TROUTDALE RIVERFRONT REDEVELOPMENT SITE</p>	<p>DATE: SEPTEMBER 2012</p> <p>PROJECT NO.: 2-61M-12585-0</p> <p>REV. NO.: -</p> <p>FIGURE NO.: FIGURE 1</p>
---	--

AMEC
 7376 SW Durham Road
 Portland, OR, U.S.A. 97224



TITLE:

SITE PLAN



LEGEND:

- Animal Material Location
- GPS Point
- ⊕ Sample Location
- ⊗ Test Pit Location
- ⊕ Proposed Monitoring Well
- Proposed Soil Sample Location
- ▲ Proposed Soil Vapor Sample Location
- - - Slope Edge
- Trench
- ▨ Approximate Animal Material Area

NOTE: Sample & Test Pit locations obtained from Ecology & Environment Inc.

CLIENT:

CITY OF TROUTDALE

AMEC
7376 SW Durham Road
Portland, OR, U.S.A. 97224



DWN BY: PM/SD
CHK'D BY: JF
DATUM: NAD83
PROJECTION: OR HARN SP N Ft.
SCALE: 1 inch = 25 feet

PROJECT: **TROUTDALE RIVERFRONT REDEVELOPMENT SITE**

TITLE: **ANIMAL MATERIAL AREA INVESTIGATION**

DATE: **SEPTEMBER 2012**
PROJECT NO.: 2-61M-12585-0
REV. NO.: -
FIGURE NO.: 2



	CLIENT: CITY OF TROUTDALE	DWN BY: SD	PROJECT: TROUTDALE RIVERFRONT REDEVELOPMENT SITE	DATE: SEPTEMBER 2012
		CHK'D BY: JF		PROJECT NO.: 2-61M-12585-0
AMEC 7376 SW Durham Road Portland, OR, U.S.A. 97224		DATUM: NAD83	TITLE: INCREMENTAL, SOUTHWEST AREA, AND MONITORING WELL LOCATIONS	REV. NO.: -
		PROJECTION: OR HARN SP N Ft.		FIGURE NO.: FIGURE 3
		SCALE: 1 inch = 150 feet		



APPENDIX A

Exploratory Trench Logs, Boring Logs, and Well Completion Diagrams

DIRECT PUSH BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/17/12

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM	Asphalt (2 inches). Loose, dark brown, silty fine SAND with some gravel; moist.						CT-02-0-0.5'
		SP	Loose, light brown, fine SAND, trace silt, poorly graded; moist.		0.0				
5		ML	Medium stiff, brown, sandy SILT, non-plastic; moist.		0.4				
			Low plasticity at 8 feet bgs. Sandy layer (approximately 6 inches thick) at 8.5 feet bgs.		0.0				
10					0.0				
		SM	Medium dense, brown, silty fine SAND; wet.		0.0				
			End of boring at 14 feet bgs due to refusal in dense gravel.		0.6				
15					0.9				CT-02-13.5-14'
					0.4				

BORING METHOD: Direct Push BOREHOLE DIAMETER: 1.75 (in) DRILL RIG: Geoprobe 7822 CONTRACTOR: Stratus LOGGED BY: J. Fassio	ELEVATION REFERENCE: NA GROUND SURFACE ELEVATION: NA START CARD/TAG ID: NA DRILLING DATES: 6/27/2012 - 6/27/2012	REMARKS: No groundwater detected in boring.
--	---	---

City of Troutdale - Eastwind Property 2-61M-125850	AMEC Environment & Infrastructure, Inc. 7376 SW Durham Road Portland, Oregon USA 97224 Tel (503) 639-3400 Fax (503) 620-7892		LOG OF BORING CT-02 PAGE 1 OF 1
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DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0									CT-04-0-0.5'
5			Concrete and asphalt debris. (Fill) Low sample recovery.		0.2				
			Soft, dark gray, animal waste layer, some hair from 5 to 5.5 feet bgs. Strong odor.		3.8				CT-04-5-6'
		SP	Medium dense, black, fine to medium SAND.		71				CT-04-6-7'
10					6.1				
		ML	Medium stiff, gray SILT with some fine sand, trace clay, low plasticity.		3.0				
15					2.0				
					1.1				
20			End of boring at 20 feet bgs.		0.7				
25									
30									

BORING METHOD: Direct Push **ELEVATION REFERENCE:** NA
BOREHOLE DIAMETER: 1.75 (in)
DRILL RIG: Geoprobe 7822 **GROUND SURFACE ELEVATION:** NA
CONTRACTOR: Stratus **START CARD/TAG ID:** NA
LOGGED BY: J. Fassio **DRILLING DATES:** 6/27/2012 - 6/27/2012

REMARKS:
 Surface sample collected with hand auger.

DIRECT PUSH BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/17/12

City of Troutdale - Eastwind Property
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LOG OF BORING
CT-04
 PAGE 1 OF 1

DIRECT PUSH BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/17/12

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	VOLATILE READING (ppm)	GROUNDWATER	GW SCREENED INTERVAL	FIELD TESTING	TESTING AND LABORATORY DATA
0		SM							CT-05-0-0.5'
5			Loose, brown, fine to medium SAND with some silt; moist. Light gray, animal waste layer at 4.8 to 7 feet bgs. Strong odor.		1.8				CT-05-5-6'
		SP	Soft probing at 5 to 7 feet bgs. Dense, black, fine to medium SAND. Low recovery.						
10		ML	Medium stiff, black SILT with trace sand, clay; moist.						
		SP	Dense, black, fine to medium SAND; wet.						
		ML	Medium stiff, black SILT with some clay, low plasticity.		0.5 26				CT-05-11-12'
15			Becomes gray at 17 feet bgs.		4.1				
20			End of boring at 20 feet bgs.		2.1 1.2				
25									
30									
BORING METHOD: Direct Push ELEVATION REFERENCE: NA BOREHOLE DIAMETER: 1.75 (in) DRILL RIG: Geoprobe 7822 GROUND SURFACE ELEVATION: NA CONTRACTOR: Stratus START CARD/TAG ID: NA LOGGED BY: J. Fassio DRILLING DATES: 6/27/2012 - 6/27/2012						REMARKS: Surface sample collected with hand auger.			

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DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
0		SM	Loose, light brown, silty, fine to medium SAND, some coarse sand and fine gravel (10%); moist. (Fill) Becomes grayish-brown, with subrounded to subangular coarse gravel (10%) and localized particle board fragments. (Fill)			0.0			
5		SM	Loose, brown, silty, fine SAND; moist. (Alluvium)						
		SM	Loose, brown, silty, fine to coarse SAND with some fine gravel (< 10%), trace mica; moist.			1.1			
10			Moisture increases at 10.5 feet bgs. Becomes wet at 12 feet bgs.			4.1			
15						3.8			
		ML	Soft, brown SILT with organics (roots), low plasticity; wet.						
		ML	Hard, gray SILT, trace clay, trace mica, low plasticity; moist.			1.7	▼	MW-01-19'	10/20 Colorado Silica Sand
20		SM	Loose to medium dense, olive-gray, silty, fine SAND, micaceous; wet.			3.7		MW-01-22'	Well Screen (Schedule 40 PVC, 2.0-inch i.d. with 0.010-inch slots)
25						2.7			
			Grain-size increases slightly at 28.5 feet bgs.			3.9			
30		SM	Silty, fine to medium SAND with subangular to subrounded fine to coarse gravel (30-35%); wet.						

BORING METHOD: Sonic	ELEVATION REFERENCE: NA
BOREHOLE DIAMETER: 6.0 (in)	GROUND SURFACE ELEVATION: NA
DRILL RIG: Geoprobe 8140 LS	CASING ELEVATION: NA
CONTRACTOR: Major Drilling	START CARD/TAG ID: 1017358/L108925
LOGGED BY: D. Sullivan	DRILLING DATES: 8/14/2012 - 8/14/2012

REMARKS:

ENVR+WELL-BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/30/12

City of Troutdale - Eastwind
Property

2-61M-125850

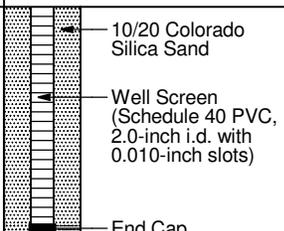
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LOG OF BORING
MW-01

PAGE 1 OF 2

ENVR+WELL-BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/30/12

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		GM	Silty, fine to coarse GRAVEL (75%) with fine to coarse sand (10%), fines (15%), some subangular to subrounded cobbles (to 5-inch diameter); moist. (Troutdale Formation) Drilling difficulty increased at 30 feet bgs. Sample hot from drilling process.			4.6			
35			End of boring at 35 feet bgs.						
40									
45									
50									
55									
60									

BORING METHOD: Sonic BOREHOLE DIAMETER: 6.0 (in) DRILL RIG: Geoprobe 8140 LS CONTRACTOR: Major Drilling LOGGED BY: D. Sullivan	ELEVATION REFERENCE: NA GROUND SURFACE ELEVATION: NA CASING ELEVATION: NA START CARD/TAG ID: 1017358/L108925 DRILLING DATES: 8/14/2012 - 8/14/2012	REMARKS:
---	---	-----------------

City of Troutdale - Eastwind Property 2-61M-125850	AMEC Environment & Infrastructure, Inc. 7376 SW Durham Road Portland, Oregon USA 97224 Tel (503) 639-3400 Fax (503) 620-7892		LOG OF BORING MW-01 PAGE 2 OF 2
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DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
0		SC	Brown, clayey, fine to medium SAND with trace angular fine gravel, low plasticity; moist. (Fill)						Above-ground Monument (30") with Locking Cap
		SM	Grayish-brown, silty, fine to medium SAND with trace coarse sand; moist. (Fill)			0.4			Concrete
									Bentonite (3/8-inch)
									Casing (Schedule 40 PVC, 2.0-inch i.d.)
5		SC	Brown, clayey, fine to coarse SAND with angular to subrounded fine gravel (30-40%), low plasticity, micaceous; moist. (Fill)			0.8			
10		SM	Brown, silty, fine to medium SAND with rounded to subangular fine to medium gravel (30-40%), trace coarse sand, micaceous; moist. (Fill)			1.8			
15		SM	Organics (tree roots) and some carbonaceous material at 14 to 15 feet bgs. (Fill) Olive-gray to dark grayish-brown, silty, fine SAND with subangular to subrounded fine to medium gravel (10-20%), organics (wood fragments), non-plastic, micaceous; moist. (Fill) Some fibrous animal waste at 16 to 18 feet bgs. Increased moisture at 17 feet bgs.			7.0			MW-02-17'
20			Some fibrous animal waste at 20 to 21 feet bgs.			1.2			
25		GM	Drilling difficulty increases at approximately 22 to 23 feet bgs. (Troutdale Formation) Dark grayish-brown, silty, angular to subrounded fine to coarse GRAVEL (70%) with fine to coarse sand, some clay; moist. (Troutdale Formation) Dark brown, clayey, subangular to subrounded fine to coarse GRAVEL (70%) with fine to coarse sand, low plasticity fines, matrix-supported; moist. (Troutdale Formation) Sample is hot from drilling action.			43			MW-02-28'
30						4.2			10/20 Colorado Silica Sand
									Well Screen (Schedule 40 PVC, 2.0-inch i.d. with 0.010-inch slots)

BORING METHOD: Sonic
BOREHOLE DIAMETER: 6.0 (in)
DRILL RIG: Geoprobe 8140 LS
CONTRACTOR: Major Drilling
LOGGED BY: D. Sullivan

ELEVATION REFERENCE: NA
GROUND SURFACE ELEVATION: NA
CASING ELEVATION: NA
START CARD/TAG ID: 1017357/L108908
DRILLING DATES: 8/13/2012 - 8/13/2012

REMARKS:

ENVR+WELL-BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/30/12

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2-61M-125850

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LOG OF BORING MW-02
 PAGE 1 OF 2

ENVR+WELL-BORING 2-61M-125850.GPJ AMEC PORTLAND.GDT 8/30/12

DEPTH (ft bgs)	GRAPHIC LOG	USCS SYMBOL	SOIL DESCRIPTION	SAMPLE	BLOW COUNT SPT N VALUE	VOLATILE READING (ppm)	GROUNDWATER	FIELD AND LABORATORY TESTING	WELL SCHEMATIC
30		GC	Brown, clayey, rounded to subangular, fine to coarse GRAVEL (80%) with fine to coarse sand (10%), low plasticity fines; wet. (Troutdale Formation)					△ MW-02-GW	
35			Olive-gray, clayey GRAVEL (70-80%) with fine to coarse sand (10%), matrix-supported; wet. (Troutdale Formation)						
40			End of boring at 40 feet bgs.						
45									
50									
55									
60									

BORING METHOD: Sonic BOREHOLE DIAMETER: 6.0 (in) DRILL RIG: Geoprobe 8140 LS CONTRACTOR: Major Drilling LOGGED BY: D. Sullivan	ELEVATION REFERENCE: NA GROUND SURFACE ELEVATION: NA CASING ELEVATION: NA START CARD/TAG ID: 1017357/L108908 DRILLING DATES: 8/13/2012 - 8/13/2012	REMARKS:
---	---	-----------------

City of Troutdale - Eastwind Property 2-61M-125850	AMEC Environment & Infrastructure, Inc. 7376 SW Durham Road Portland, Oregon USA 97224 Tel (503) 639-3400 Fax (503) 620-7892		LOG OF BORING MW-02 PAGE 2 OF 2
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APPENDIX B

Analytical Results and Chain-of-Custody Documentation

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Tuesday, July 31, 2012

Leonard Farr
Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

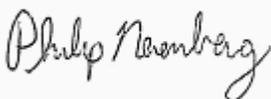
RE: Troutdale Riverfront / 261M125850

Enclosed are the results of analyses for work order A12F492, which was received by the laboratory on 6/28/2012 at 11:55:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnereberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CT-01-0-0.5	A12F492-01	Soil	06/27/12 10:05	06/28/12 11:55
CT-01-12-13	A12F492-02	Soil	06/27/12 10:20	06/28/12 11:55
CT-02-0-0.5	A12F492-03	Soil	06/27/12 09:30	06/28/12 11:55
CT-02-13.5-14	A12F492-04	Soil	06/27/12 10:00	06/28/12 11:55
CT-03-0-0.5	A12F492-05	Soil	06/27/12 14:10	06/28/12 11:55
CT-03-5-6	A12F492-06	Soil	06/27/12 11:30	06/28/12 11:55
CT-03-9-10	A12F492-07	Soil	06/27/12 12:00	06/28/12 11:55
CT-04-0-0.5	A12F492-09	Soil	06/27/12 14:00	06/28/12 11:55
CT-04-6-7	A12F492-10	Soil	06/27/12 12:45	06/28/12 11:55
CT-05-0-0.5	A12F492-11	Soil	06/27/12 14:05	06/28/12 11:55
CT-05-5-6	A12F492-12	Soil	06/27/12 13:15	06/28/12 11:55
CT-05-11-12	A12F492-13	Soil	06/27/12 13:22	06/28/12 11:55
CT-04-5-6	A12F492-14	Soil	06/27/12 12:30	06/28/12 11:55

Apex Laboratories



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 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

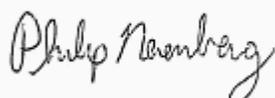
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-01-12-13 (A12F492-02)			Matrix: Soil		Batch: 1206599			V-06
Acetone	ND	---	1100	ug/kg dry	50	06/29/12 12:47	5035/8260B	
Benzene	ND	---	13.7	"	"	"	"	
Bromobenzene	ND	---	27.4	"	"	"	"	
Bromochloromethane	ND	---	27.4	"	"	"	"	
Bromodichloromethane	ND	---	27.4	"	"	"	"	
Bromoform	ND	---	54.9	"	"	"	"	
Bromomethane	ND	---	549	"	"	"	"	
2-Butanone (MEK)	ND	---	549	"	"	"	"	
n-Butylbenzene	ND	---	54.9	"	"	"	"	
sec-Butylbenzene	ND	---	54.9	"	"	"	"	
tert-Butylbenzene	ND	---	54.9	"	"	"	"	
Carbon tetrachloride	ND	---	27.4	"	"	"	"	
Chlorobenzene	ND	---	27.4	"	"	"	"	
Chloroethane	ND	---	549	"	"	"	"	
Chloroform	ND	---	54.9	"	"	"	"	
Chloromethane	ND	---	274	"	"	"	"	
2-Chlorotoluene	ND	---	54.9	"	"	"	"	
4-Chlorotoluene	ND	---	54.9	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	274	"	"	"	"	
Dibromochloromethane	ND	---	110	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	27.4	"	"	"	"	
Dibromomethane	ND	---	54.9	"	"	"	"	
1,2-Dichlorobenzene	ND	---	27.4	"	"	"	"	
1,3-Dichlorobenzene	ND	---	27.4	"	"	"	"	
1,4-Dichlorobenzene	ND	---	27.4	"	"	"	"	
Dichlorodifluoromethane	ND	---	110	"	"	"	"	
1,1-Dichloroethane	ND	---	27.4	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	27.4	"	"	"	"	
1,1-Dichloroethene	ND	---	27.4	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	27.4	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	27.4	"	"	"	"	
1,2-Dichloropropane	ND	---	27.4	"	"	"	"	
1,3-Dichloropropane	ND	---	27.4	"	"	"	"	
2,2-Dichloropropane	ND	---	54.9	"	"	"	"	
1,1-Dichloropropene	ND	---	54.9	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

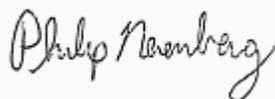
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-01-12-13 (A12F492-02)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	54.9	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	54.9	"	"	"	"	
Ethylbenzene	ND	---	27.4	"	"	"	"	
Hexachlorobutadiene	ND	---	110	"	"	"	"	
2-Hexanone	ND	---	549	"	"	"	"	
Isopropylbenzene	ND	---	54.9	"	"	"	"	
4-Isopropyltoluene	ND	---	54.9	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	549	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	54.9	"	"	"	"	
Methylene chloride	ND	---	274	"	"	"	"	
Naphthalene	ND	---	110	"	"	"	"	
n-Propylbenzene	ND	---	27.4	"	"	"	"	
Styrene	ND	---	54.9	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	54.9	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	27.4	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	27.4	"	"	"	"	
Toluene	ND	---	54.9	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	274	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	274	"	"	"	"	
1,1,1-Trichloroethane	ND	---	27.4	"	"	"	"	
1,1,2-Trichloroethane	ND	---	27.4	"	"	"	"	
Trichloroethene (TCE)	ND	---	27.4	"	"	"	"	
Trichlorofluoromethane	ND	---	274	"	"	"	"	
1,2,3-Trichloropropane	ND	---	54.9	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	54.9	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	54.9	"	"	"	"	
Vinyl chloride	ND	---	27.4	"	"	"	"	
m,p-Xylene	ND	---	54.9	"	"	"	"	
o-Xylene	ND	---	27.4	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 93 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>109 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>108 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

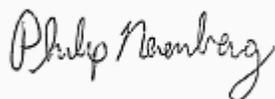
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-02-13.5-14 (A12F492-04)			Matrix: Soil		Batch: 1206599			V-06
Acetone	ND	---	1390	ug/kg dry	50	06/29/12 13:13	5035/8260B	
Benzene	ND	---	17.4	"	"	"	"	
Bromobenzene	ND	---	34.8	"	"	"	"	
Bromochloromethane	ND	---	34.8	"	"	"	"	
Bromodichloromethane	ND	---	34.8	"	"	"	"	
Bromoform	ND	---	69.7	"	"	"	"	
Bromomethane	ND	---	697	"	"	"	"	
2-Butanone (MEK)	ND	---	697	"	"	"	"	
n-Butylbenzene	ND	---	69.7	"	"	"	"	
sec-Butylbenzene	ND	---	69.7	"	"	"	"	
tert-Butylbenzene	ND	---	69.7	"	"	"	"	
Carbon tetrachloride	ND	---	34.8	"	"	"	"	
Chlorobenzene	ND	---	34.8	"	"	"	"	
Chloroethane	ND	---	697	"	"	"	"	
Chloroform	ND	---	69.7	"	"	"	"	
Chloromethane	ND	---	348	"	"	"	"	
2-Chlorotoluene	ND	---	69.7	"	"	"	"	
4-Chlorotoluene	ND	---	69.7	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	348	"	"	"	"	
Dibromochloromethane	ND	---	139	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	34.8	"	"	"	"	
Dibromomethane	ND	---	69.7	"	"	"	"	
1,2-Dichlorobenzene	ND	---	34.8	"	"	"	"	
1,3-Dichlorobenzene	ND	---	34.8	"	"	"	"	
1,4-Dichlorobenzene	ND	---	34.8	"	"	"	"	
Dichlorodifluoromethane	ND	---	139	"	"	"	"	
1,1-Dichloroethane	ND	---	34.8	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	34.8	"	"	"	"	
1,1-Dichloroethene	ND	---	34.8	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	34.8	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	34.8	"	"	"	"	
1,2-Dichloropropane	ND	---	34.8	"	"	"	"	
1,3-Dichloropropane	ND	---	34.8	"	"	"	"	
2,2-Dichloropropane	ND	---	69.7	"	"	"	"	
1,1-Dichloropropene	ND	---	69.7	"	"	"	"	

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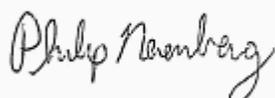
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-02-13.5-14 (A12F492-04)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	69.7	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	69.7	"	"	"	"	
Ethylbenzene	ND	---	34.8	"	"	"	"	
Hexachlorobutadiene	ND	---	139	"	"	"	"	
2-Hexanone	ND	---	697	"	"	"	"	
Isopropylbenzene	ND	---	69.7	"	"	"	"	
4-Isopropyltoluene	ND	---	69.7	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	697	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	69.7	"	"	"	"	
Methylene chloride	ND	---	348	"	"	"	"	
Naphthalene	ND	---	139	"	"	"	"	
n-Propylbenzene	ND	---	34.8	"	"	"	"	
Styrene	ND	---	69.7	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	69.7	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	34.8	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	34.8	"	"	"	"	
Toluene	ND	---	69.7	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	348	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	348	"	"	"	"	
1,1,1-Trichloroethane	ND	---	34.8	"	"	"	"	
1,1,2-Trichloroethane	ND	---	34.8	"	"	"	"	
Trichloroethene (TCE)	ND	---	34.8	"	"	"	"	
Trichlorofluoromethane	ND	---	348	"	"	"	"	
1,2,3-Trichloropropane	ND	---	69.7	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	69.7	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	69.7	"	"	"	"	
Vinyl chloride	ND	---	34.8	"	"	"	"	
m,p-Xylene	ND	---	69.7	"	"	"	"	
o-Xylene	ND	---	34.8	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 97 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>112 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>104 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Project Number: 261M125850
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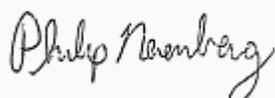
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-5-6 (A12F492-06)			Matrix: Soil		Batch: 1206599			V-06
Acetone	ND	---	21700	ug/kg wet	500	06/29/12 14:05	5035/8260B	
Benzene	ND	---	271	"	"	"	"	
Bromobenzene	ND	---	542	"	"	"	"	
Bromochloromethane	ND	---	542	"	"	"	"	
Bromodichloromethane	ND	---	542	"	"	"	"	
Bromoform	ND	---	1080	"	"	"	"	
Bromomethane	ND	---	10800	"	"	"	"	
2-Butanone (MEK)	ND	---	10800	"	"	"	"	
n-Butylbenzene	ND	---	1080	"	"	"	"	
sec-Butylbenzene	ND	---	1080	"	"	"	"	
tert-Butylbenzene	ND	---	1080	"	"	"	"	
Carbon tetrachloride	ND	---	542	"	"	"	"	
Chlorobenzene	ND	---	542	"	"	"	"	
Chloroethane	ND	---	10800	"	"	"	"	
Chloroform	ND	---	1080	"	"	"	"	
Chloromethane	ND	---	5420	"	"	"	"	
2-Chlorotoluene	ND	---	1080	"	"	"	"	
4-Chlorotoluene	ND	---	1080	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5420	"	"	"	"	
Dibromochloromethane	ND	---	2170	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	542	"	"	"	"	
Dibromomethane	ND	---	1080	"	"	"	"	
1,2-Dichlorobenzene	ND	---	542	"	"	"	"	
1,3-Dichlorobenzene	ND	---	542	"	"	"	"	
1,4-Dichlorobenzene	ND	---	650	"	"	"	"	R-01
Dichlorodifluoromethane	ND	---	2170	"	"	"	"	
1,1-Dichloroethane	ND	---	542	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	542	"	"	"	"	
1,1-Dichloroethene	ND	---	542	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	542	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	542	"	"	"	"	
1,2-Dichloropropane	ND	---	542	"	"	"	"	
1,3-Dichloropropane	ND	---	542	"	"	"	"	
2,2-Dichloropropane	ND	---	1080	"	"	"	"	
1,1-Dichloropropene	ND	---	1080	"	"	"	"	

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Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
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Reported:
07/31/12 17:05

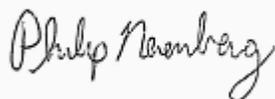
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-5-6 (A12F492-06)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	1080	ug/kg wet	500	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	1080	"	"	"	"	
Ethylbenzene	ND	---	542	"	"	"	"	
Hexachlorobutadiene	ND	---	2170	"	"	"	"	
2-Hexanone	ND	---	10800	"	"	"	"	
Isopropylbenzene	ND	---	1080	"	"	"	"	
4-Isopropyltoluene	ND	---	1080	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10800	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1080	"	"	"	"	
Methylene chloride	ND	---	5420	"	"	"	"	
Naphthalene	22700	---	2170	"	"	"	"	
n-Propylbenzene	ND	---	542	"	"	"	"	
Styrene	ND	---	1080	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1080	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	542	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	542	"	"	"	"	
Toluene	ND	---	1080	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5420	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5420	"	"	"	"	
1,1,1-Trichloroethane	ND	---	542	"	"	"	"	
1,1,2-Trichloroethane	ND	---	542	"	"	"	"	
Trichloroethene (TCE)	ND	---	542	"	"	"	"	
Trichlorofluoromethane	ND	---	5420	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1080	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1080	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1080	"	"	"	"	
Vinyl chloride	ND	---	542	"	"	"	"	
m,p-Xylene	ND	---	1080	"	"	"	"	
o-Xylene	ND	---	542	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>107 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>105 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

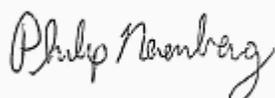
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-9-10 (A12F492-07)			Matrix: Soil		Batch: 1206599			V-06
Acetone	1930	---	1060	ug/kg dry	50	06/29/12 13:39	5035/8260B	
Benzene	ND	---	13.3	"	"	"	"	
Bromobenzene	ND	---	26.6	"	"	"	"	
Bromochloromethane	ND	---	26.6	"	"	"	"	
Bromodichloromethane	ND	---	26.6	"	"	"	"	
Bromoform	ND	---	53.2	"	"	"	"	
Bromomethane	ND	---	532	"	"	"	"	
2-Butanone (MEK)	ND	---	532	"	"	"	"	
n-Butylbenzene	ND	---	53.2	"	"	"	"	
sec-Butylbenzene	ND	---	53.2	"	"	"	"	
tert-Butylbenzene	ND	---	53.2	"	"	"	"	
Carbon tetrachloride	ND	---	26.6	"	"	"	"	
Chlorobenzene	ND	---	26.6	"	"	"	"	
Chloroethane	ND	---	532	"	"	"	"	
Chloroform	ND	---	53.2	"	"	"	"	
Chloromethane	ND	---	266	"	"	"	"	
2-Chlorotoluene	ND	---	53.2	"	"	"	"	
4-Chlorotoluene	ND	---	53.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	266	"	"	"	"	
Dibromochloromethane	ND	---	106	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	26.6	"	"	"	"	
Dibromomethane	ND	---	53.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	26.6	"	"	"	"	
1,3-Dichlorobenzene	ND	---	26.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	26.6	"	"	"	"	
Dichlorodifluoromethane	ND	---	106	"	"	"	"	
1,1-Dichloroethane	ND	---	26.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	26.6	"	"	"	"	
1,1-Dichloroethene	ND	---	26.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	26.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	26.6	"	"	"	"	
1,2-Dichloropropane	ND	---	26.6	"	"	"	"	
1,3-Dichloropropane	ND	---	26.6	"	"	"	"	
2,2-Dichloropropane	ND	---	53.2	"	"	"	"	
1,1-Dichloropropene	ND	---	53.2	"	"	"	"	

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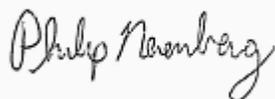
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-9-10 (A12F492-07)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	53.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	53.2	"	"	"	"	
Ethylbenzene	ND	---	26.6	"	"	"	"	
Hexachlorobutadiene	ND	---	106	"	"	"	"	
2-Hexanone	ND	---	532	"	"	"	"	
Isopropylbenzene	ND	---	53.2	"	"	"	"	
4-Isopropyltoluene	ND	---	53.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	532	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	53.2	"	"	"	"	
Methylene chloride	ND	---	266	"	"	"	"	
Naphthalene	ND	---	106	"	"	"	"	
n-Propylbenzene	ND	---	26.6	"	"	"	"	
Styrene	ND	---	53.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	53.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	26.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	26.6	"	"	"	"	
Toluene	ND	---	53.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	266	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	266	"	"	"	"	
1,1,1-Trichloroethane	ND	---	26.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	26.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	26.6	"	"	"	"	
Trichlorofluoromethane	ND	---	266	"	"	"	"	
1,2,3-Trichloropropane	ND	---	53.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	53.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	53.2	"	"	"	"	
Vinyl chloride	ND	---	26.6	"	"	"	"	
m,p-Xylene	ND	---	53.2	"	"	"	"	
o-Xylene	ND	---	26.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>107 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>108 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Project Number: 261M125850
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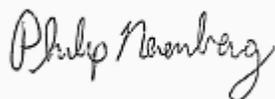
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-6-7 (A12F492-10RE1)			Matrix: Soil		Batch: 1206599			V-06
Acetone	1720	---	1040	ug/kg dry	50	06/29/12 18:00	5035/8260B	
Benzene	ND	---	13.0	"	"	"	"	
Bromobenzene	ND	---	25.9	"	"	"	"	
Bromochloromethane	ND	---	25.9	"	"	"	"	
Bromodichloromethane	ND	---	25.9	"	"	"	"	
Bromoform	ND	---	51.8	"	"	"	"	
Bromomethane	ND	---	51.8	"	"	"	"	
2-Butanone (MEK)	ND	---	51.8	"	"	"	"	
n-Butylbenzene	ND	---	51.8	"	"	"	"	
sec-Butylbenzene	ND	---	51.8	"	"	"	"	
tert-Butylbenzene	ND	---	51.8	"	"	"	"	
Carbon tetrachloride	ND	---	25.9	"	"	"	"	
Chlorobenzene	ND	---	25.9	"	"	"	"	
Chloroethane	ND	---	51.8	"	"	"	"	
Chloroform	ND	---	51.8	"	"	"	"	
Chloromethane	ND	---	25.9	"	"	"	"	
2-Chlorotoluene	ND	---	51.8	"	"	"	"	
4-Chlorotoluene	ND	---	51.8	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	25.9	"	"	"	"	
Dibromochloromethane	ND	---	104	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.9	"	"	"	"	
Dibromomethane	ND	---	51.8	"	"	"	"	
1,2-Dichlorobenzene	ND	---	25.9	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.9	"	"	"	"	
1,4-Dichlorobenzene	ND	---	25.9	"	"	"	"	
Dichlorodifluoromethane	ND	---	104	"	"	"	"	
1,1-Dichloroethane	ND	---	25.9	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.9	"	"	"	"	
1,1-Dichloroethene	ND	---	25.9	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.9	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.9	"	"	"	"	
1,2-Dichloropropane	ND	---	25.9	"	"	"	"	
1,3-Dichloropropane	ND	---	25.9	"	"	"	"	
2,2-Dichloropropane	ND	---	51.8	"	"	"	"	
1,1-Dichloropropene	ND	---	51.8	"	"	"	"	

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Project Number: 261M125850
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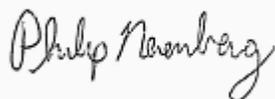
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-6-7 (A12F492-10RE1)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	51.8	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	51.8	"	"	"	"	
Ethylbenzene	ND	---	25.9	"	"	"	"	
Hexachlorobutadiene	ND	---	104	"	"	"	"	
2-Hexanone	ND	---	518	"	"	"	"	
Isopropylbenzene	ND	---	51.8	"	"	"	"	
4-Isopropyltoluene	ND	---	51.8	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	518	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	51.8	"	"	"	"	
Methylene chloride	ND	---	259	"	"	"	"	
Naphthalene	264	---	104	"	"	"	"	
n-Propylbenzene	ND	---	25.9	"	"	"	"	
Styrene	ND	---	51.8	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	51.8	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.9	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.9	"	"	"	"	
Toluene	ND	---	51.8	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	259	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	259	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.9	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.9	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.9	"	"	"	"	
Trichlorofluoromethane	ND	---	259	"	"	"	"	
1,2,3-Trichloropropane	ND	---	51.8	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	51.8	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	51.8	"	"	"	"	
Vinyl chloride	ND	---	25.9	"	"	"	"	
m,p-Xylene	ND	---	51.8	"	"	"	"	
o-Xylene	ND	---	25.9	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 92 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>109 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>106 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

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 07/31/12 17:05

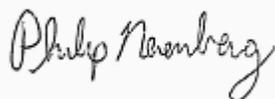
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-5-6 (A12F492-12)			Matrix: Soil		Batch: 1206599			V-06
Acetone	ND	---	34800	ug/kg wet	500	06/29/12 14:31	5035/8260B	
Benzene	ND	---	435	"	"	"	"	
Bromobenzene	ND	---	870	"	"	"	"	
Bromochloromethane	ND	---	870	"	"	"	"	
Bromodichloromethane	ND	---	870	"	"	"	"	
Bromoform	ND	---	1740	"	"	"	"	
Bromomethane	ND	---	17400	"	"	"	"	
2-Butanone (MEK)	ND	---	17400	"	"	"	"	
n-Butylbenzene	ND	---	1740	"	"	"	"	
sec-Butylbenzene	ND	---	1740	"	"	"	"	
tert-Butylbenzene	ND	---	1740	"	"	"	"	
Carbon tetrachloride	ND	---	870	"	"	"	"	
Chlorobenzene	ND	---	870	"	"	"	"	
Chloroethane	ND	---	17400	"	"	"	"	
Chloroform	ND	---	1740	"	"	"	"	
Chloromethane	ND	---	8700	"	"	"	"	
2-Chlorotoluene	ND	---	1740	"	"	"	"	
4-Chlorotoluene	ND	---	1740	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	8700	"	"	"	"	
Dibromochloromethane	ND	---	3480	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	870	"	"	"	"	
Dibromomethane	ND	---	1740	"	"	"	"	
1,2-Dichlorobenzene	ND	---	870	"	"	"	"	
1,3-Dichlorobenzene	ND	---	870	"	"	"	"	
1,4-Dichlorobenzene	29400	---	870	"	"	"	"	
Dichlorodifluoromethane	ND	---	3480	"	"	"	"	
1,1-Dichloroethane	ND	---	870	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	870	"	"	"	"	
1,1-Dichloroethene	ND	---	870	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	870	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	870	"	"	"	"	
1,2-Dichloropropane	ND	---	870	"	"	"	"	
1,3-Dichloropropane	ND	---	870	"	"	"	"	
2,2-Dichloropropane	ND	---	1740	"	"	"	"	
1,1-Dichloropropene	ND	---	1740	"	"	"	"	

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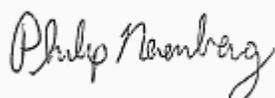
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-5-6 (A12F492-12)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	1740	ug/kg wet	500	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	1740	"	"	"	"	
Ethylbenzene	ND	---	870	"	"	"	"	
Hexachlorobutadiene	ND	---	3480	"	"	"	"	
2-Hexanone	ND	---	17400	"	"	"	"	
Isopropylbenzene	ND	---	1740	"	"	"	"	
4-Isopropyltoluene	ND	---	1740	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	17400	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1740	"	"	"	"	
Methylene chloride	ND	---	8700	"	"	"	"	
Naphthalene	244000	---	3480	"	"	"	"	
n-Propylbenzene	ND	---	870	"	"	"	"	
Styrene	ND	---	1740	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	1740	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	870	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	870	"	"	"	"	
Toluene	ND	---	1740	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	8700	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	8700	"	"	"	"	
1,1,1-Trichloroethane	ND	---	870	"	"	"	"	
1,1,2-Trichloroethane	ND	---	870	"	"	"	"	
Trichloroethene (TCE)	ND	---	870	"	"	"	"	
Trichlorofluoromethane	ND	---	8700	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1740	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1740	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1740	"	"	"	"	
Vinyl chloride	ND	---	870	"	"	"	"	
m,p-Xylene	ND	---	1740	"	"	"	"	
o-Xylene	ND	---	870	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>110 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>104 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

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 07/31/12 17:05

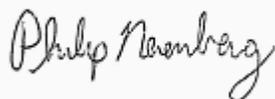
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-11-12 (A12F492-13RE1)			Matrix: Soil		Batch: 1206599			V-06
Acetone	1260	---	1220	ug/kg dry	50	06/29/12 18:26	5035/8260B	
Benzene	ND	---	15.3	"	"	"	"	
Bromobenzene	ND	---	30.6	"	"	"	"	
Bromochloromethane	ND	---	30.6	"	"	"	"	
Bromodichloromethane	ND	---	30.6	"	"	"	"	
Bromoform	ND	---	61.2	"	"	"	"	
Bromomethane	ND	---	612	"	"	"	"	
2-Butanone (MEK)	ND	---	612	"	"	"	"	
n-Butylbenzene	ND	---	61.2	"	"	"	"	
sec-Butylbenzene	ND	---	61.2	"	"	"	"	
tert-Butylbenzene	ND	---	61.2	"	"	"	"	
Carbon tetrachloride	ND	---	30.6	"	"	"	"	
Chlorobenzene	ND	---	30.6	"	"	"	"	
Chloroethane	ND	---	612	"	"	"	"	
Chloroform	ND	---	61.2	"	"	"	"	
Chloromethane	ND	---	306	"	"	"	"	
2-Chlorotoluene	ND	---	61.2	"	"	"	"	
4-Chlorotoluene	ND	---	61.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	306	"	"	"	"	
Dibromochloromethane	ND	---	122	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	30.6	"	"	"	"	
Dibromomethane	ND	---	61.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	30.6	"	"	"	"	
1,3-Dichlorobenzene	ND	---	30.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	30.6	"	"	"	"	
Dichlorodifluoromethane	ND	---	122	"	"	"	"	
1,1-Dichloroethane	ND	---	30.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	30.6	"	"	"	"	
1,1-Dichloroethene	ND	---	30.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	30.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	30.6	"	"	"	"	
1,2-Dichloropropane	ND	---	30.6	"	"	"	"	
1,3-Dichloropropane	ND	---	30.6	"	"	"	"	
2,2-Dichloropropane	ND	---	61.2	"	"	"	"	
1,1-Dichloropropene	ND	---	61.2	"	"	"	"	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

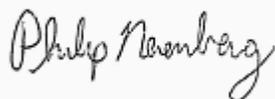
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-11-12 (A12F492-13RE1)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	61.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	61.2	"	"	"	"	
Ethylbenzene	ND	---	30.6	"	"	"	"	
Hexachlorobutadiene	ND	---	122	"	"	"	"	
2-Hexanone	ND	---	612	"	"	"	"	
Isopropylbenzene	ND	---	61.2	"	"	"	"	
4-Isopropyltoluene	ND	---	61.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	612	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	61.2	"	"	"	"	
Methylene chloride	ND	---	306	"	"	"	"	
Naphthalene	267	---	122	"	"	"	"	
n-Propylbenzene	ND	---	30.6	"	"	"	"	
Styrene	ND	---	61.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	61.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	30.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	30.6	"	"	"	"	
Toluene	ND	---	61.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	306	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	306	"	"	"	"	
1,1,1-Trichloroethane	ND	---	30.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	30.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	30.6	"	"	"	"	
Trichlorofluoromethane	ND	---	306	"	"	"	"	
1,2,3-Trichloropropane	ND	---	61.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	61.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	61.2	"	"	"	"	
Vinyl chloride	ND	---	30.6	"	"	"	"	
m,p-Xylene	ND	---	61.2	"	"	"	"	
o-Xylene	ND	---	30.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>100 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>110 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>106 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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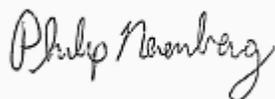
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-5-6 (A12F492-14)			Matrix: Soil		Batch: 1206599			V-06
Acetone	ND	---	18700	ug/kg wet	500	06/29/12 15:02	5035/8260B	
Benzene	ND	---	233	"	"	"	"	
Bromobenzene	ND	---	467	"	"	"	"	
Bromochloromethane	ND	---	467	"	"	"	"	
Bromodichloromethane	ND	---	467	"	"	"	"	
Bromoform	ND	---	933	"	"	"	"	
Bromomethane	ND	---	9330	"	"	"	"	
2-Butanone (MEK)	ND	---	9330	"	"	"	"	
n-Butylbenzene	ND	---	933	"	"	"	"	
sec-Butylbenzene	ND	---	933	"	"	"	"	
tert-Butylbenzene	ND	---	933	"	"	"	"	
Carbon tetrachloride	ND	---	467	"	"	"	"	
Chlorobenzene	ND	---	467	"	"	"	"	
Chloroethane	ND	---	9330	"	"	"	"	
Chloroform	ND	---	933	"	"	"	"	
Chloromethane	ND	---	4670	"	"	"	"	
2-Chlorotoluene	ND	---	933	"	"	"	"	
4-Chlorotoluene	ND	---	933	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	4670	"	"	"	"	
Dibromochloromethane	ND	---	1870	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	467	"	"	"	"	
Dibromomethane	ND	---	933	"	"	"	"	
1,2-Dichlorobenzene	ND	---	467	"	"	"	"	
1,3-Dichlorobenzene	ND	---	467	"	"	"	"	
1,4-Dichlorobenzene	1050	---	467	"	"	"	"	
Dichlorodifluoromethane	ND	---	1870	"	"	"	"	
1,1-Dichloroethane	ND	---	467	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	467	"	"	"	"	
1,1-Dichloroethene	ND	---	467	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	467	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	467	"	"	"	"	
1,2-Dichloropropane	ND	---	467	"	"	"	"	
1,3-Dichloropropane	ND	---	467	"	"	"	"	
2,2-Dichloropropane	ND	---	933	"	"	"	"	
1,1-Dichloropropene	ND	---	933	"	"	"	"	

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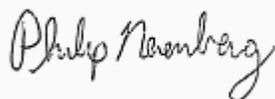
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-5-6 (A12F492-14)			Matrix: Soil		Batch: 1206599			V-06
cis-1,3-Dichloropropene	ND	---	933	ug/kg wet	500	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	933	"	"	"	"	
Ethylbenzene	ND	---	467	"	"	"	"	
Hexachlorobutadiene	ND	---	1870	"	"	"	"	
2-Hexanone	ND	---	9330	"	"	"	"	
Isopropylbenzene	ND	---	933	"	"	"	"	
4-Isopropyltoluene	ND	---	933	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	9330	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	933	"	"	"	"	
Methylene chloride	ND	---	4670	"	"	"	"	
Naphthalene	36600	---	1870	"	"	"	"	
n-Propylbenzene	ND	---	467	"	"	"	"	
Styrene	ND	---	933	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	933	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	467	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	467	"	"	"	"	
Toluene	1970	---	933	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	4670	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	4670	"	"	"	"	
1,1,1-Trichloroethane	ND	---	467	"	"	"	"	
1,1,2-Trichloroethane	ND	---	467	"	"	"	"	
Trichloroethene (TCE)	ND	---	467	"	"	"	"	
Trichlorofluoromethane	ND	---	4670	"	"	"	"	
1,2,3-Trichloropropane	ND	---	933	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	933	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	933	"	"	"	"	
Vinyl chloride	ND	---	467	"	"	"	"	
m,p-Xylene	ND	---	933	"	"	"	"	
o-Xylene	ND	---	467	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>110 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>105 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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 Project Number: 261M125850
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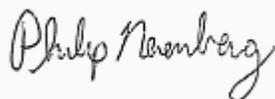
ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-01-0-0.5 (A12F492-01RE1)			Matrix: Soil		Batch: 1207517		C-05, H-06, R-04	
Aldrin	ND	---	9.42	ug/kg	1	07/27/12 16:42	EPA 8081B	
alpha-BHC	ND	---	9.42	"	"	"	"	
beta-BHC	ND	---	9.42	"	"	"	"	
delta-BHC	ND	---	9.42	"	"	"	"	
gamma-BHC (Lindane)	ND	---	9.42	"	"	"	"	
cis-Chlordane	ND	---	9.42	"	"	"	"	
trans-Chlordane	ND	---	9.42	"	"	"	"	
4,4'-DDD	ND	---	9.42	"	"	"	"	
4,4'-DDE	ND	---	9.42	"	"	"	"	
4,4'-DDT	ND	---	9.42	"	"	"	"	
Dieldrin	ND	---	9.42	"	"	"	"	
Endosulfan I	ND	---	9.42	"	"	"	"	
Endosulfan II	ND	---	9.42	"	"	"	"	
Endosulfan sulfate	ND	---	9.42	"	"	"	"	
Endrin	ND	---	9.42	"	"	"	"	
Endrin Aldehyde	ND	---	9.42	"	"	"	"	
Endrin ketone	ND	---	9.42	"	"	"	"	
Heptachlor	ND	---	9.42	"	"	"	"	
Heptachlor epoxide	ND	---	9.42	"	"	"	"	
Methoxychlor	ND	---	18.8	"	"	"	"	
Chlordane (Technical)	ND	---	113	"	"	"	"	
Toxaphene (Total)	ND	---	113	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 70 %</i>	<i>Limits: 50-125 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>83 %</i>	<i>Limits: 55-130 %</i>	"	"	"	

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Project Number: 261M125850
Project Manager: Leonard Farr

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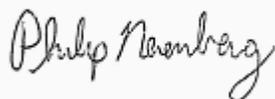
ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-02-0-0.5 (A12F492-03RE1)			Matrix: Soil		Batch: 1207189			C-05
Aldrin	ND	---	9.26	ug/kg wet	1	07/12/12 16:19	EPA 8081B	
alpha-BHC	ND	---	9.26	"	"	"	"	
beta-BHC	ND	---	9.26	"	"	"	"	
delta-BHC	ND	---	9.26	"	"	"	"	
gamma-BHC (Lindane)	ND	---	9.26	"	"	"	"	
cis-Chlordane	10.9	---	9.26	"	"	"	"	
trans-Chlordane	11.8	---	9.26	"	"	"	"	
4,4'-DDD	ND	---	9.26	"	"	"	"	
4,4'-DDE	ND	---	9.26	"	"	"	"	
4,4'-DDT	ND	---	9.26	"	"	"	"	
Dieldrin	ND	---	9.26	"	"	"	"	
Endosulfan I	ND	---	9.26	"	"	"	"	
Endosulfan II	ND	---	9.26	"	"	"	"	
Endosulfan sulfate	ND	---	9.26	"	"	"	"	
Endrin	ND	---	9.26	"	"	"	"	
Endrin Aldehyde	ND	---	9.26	"	"	"	"	
Endrin ketone	ND	---	9.26	"	"	"	"	
Heptachlor	ND	---	9.26	"	"	"	"	
Heptachlor epoxide	ND	---	9.26	"	"	"	"	
Methoxychlor	ND	---	18.5	"	"	"	"	
Chlordane (Technical)	ND	---	111	"	"	"	"	P-04
Toxaphene (Total)	ND	---	111	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 50-125 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>97 %</i>	<i>Limits: 55-130 %</i>	"	"	"	

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Project: Troutdale Riverfront
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 07/31/12 17:05

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-0-0.5 (A12F492-05RE1)			Matrix: Soil		Batch: 1207189			C-05
Aldrin	ND	---	22.9	ug/kg wet	1	07/12/12 16:55	EPA 8081B	
alpha-BHC	ND	---	22.9	"	"	"	"	
beta-BHC	ND	---	22.9	"	"	"	"	
delta-BHC	ND	---	22.9	"	"	"	"	
gamma-BHC (Lindane)	ND	---	22.9	"	"	"	"	
cis-Chlordane	42.7	---	22.9	"	"	"	"	
trans-Chlordane	26.2	---	22.9	"	"	"	"	
4,4'-DDD	ND	---	22.9	"	"	"	"	
4,4'-DDE	41.1	---	22.9	"	"	"	"	
4,4'-DDT	ND	---	22.9	"	"	"	"	
Dieldrin	ND	---	22.9	"	"	"	"	
Endosulfan I	ND	---	22.9	"	"	"	"	
Endosulfan II	ND	---	22.9	"	"	"	"	
Endosulfan sulfate	ND	---	22.9	"	"	"	"	
Endrin	ND	---	22.9	"	"	"	"	
Endrin Aldehyde	ND	---	22.9	"	"	"	"	
Endrin ketone	ND	---	22.9	"	"	"	"	
Heptachlor	ND	---	22.9	"	"	"	"	
Heptachlor epoxide	ND	---	22.9	"	"	"	"	
Methoxychlor	ND	---	45.7	"	"	"	"	
Chlordane (Technical)	427	---	274	"	"	"	"	P-04
Toxaphene (Total)	ND	---	274	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 84 %</i>	<i>Limits: 50-125 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>99 %</i>	<i>Limits: 55-130 %</i>	"	"	"	

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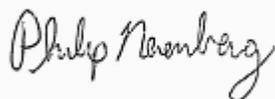
ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-0-0.5 (A12F492-09RE1)			Matrix: Soil		Batch: 1207189			C-05
Aldrin	ND	---	23.7	ug/kg wet	1	07/12/12 17:31	EPA 8081B	
alpha-BHC	ND	---	23.7	"	"	"	"	
beta-BHC	ND	---	23.7	"	"	"	"	
delta-BHC	ND	---	23.7	"	"	"	"	
gamma-BHC (Lindane)	ND	---	23.7	"	"	"	"	
cis-Chlordane	36.2	---	23.7	"	"	"	"	
trans-Chlordane	ND	---	23.7	"	"	"	"	
4,4'-DDD	ND	---	23.7	"	"	"	"	
4,4'-DDE	24.1	---	23.7	"	"	"	"	
4,4'-DDT	ND	---	23.7	"	"	"	"	
Dieldrin	ND	---	23.7	"	"	"	"	
Endosulfan I	ND	---	23.7	"	"	"	"	
Endosulfan II	ND	---	23.7	"	"	"	"	
Endosulfan sulfate	ND	---	23.7	"	"	"	"	
Endrin	ND	---	23.7	"	"	"	"	
Endrin Aldehyde	ND	---	23.7	"	"	"	"	
Endrin ketone	ND	---	23.7	"	"	"	"	
Heptachlor	ND	---	23.7	"	"	"	"	
Heptachlor epoxide	ND	---	23.7	"	"	"	"	
Methoxychlor	ND	---	47.3	"	"	"	"	
Chlordane (Technical)	366	---	284	"	"	"	"	P-04
Toxaphene (Total)	ND	---	284	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 54 %</i>	<i>Limits: 50-125 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>79 %</i>	<i>Limits: 55-130 %</i>	"	"	"	

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Reported:
 07/31/12 17:05

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-0-0.5 (A12F492-11RE1)			Matrix: Soil		Batch: 1207517		C-05, H-06, R-04	
Aldrin	ND	---	20.7	ug/kg	1	07/27/12 17:17	EPA 8081B	
alpha-BHC	ND	---	20.7	"	"	"	"	
beta-BHC	ND	---	20.7	"	"	"	"	
delta-BHC	ND	---	20.7	"	"	"	"	
gamma-BHC (Lindane)	ND	---	20.7	"	"	"	"	
cis-Chlordane	ND	---	20.7	"	"	"	"	
trans-Chlordane	ND	---	20.7	"	"	"	"	
4,4'-DDD	ND	---	20.7	"	"	"	"	
4,4'-DDE	ND	---	20.7	"	"	"	"	
4,4'-DDT	ND	---	20.7	"	"	"	"	
Dieldrin	ND	---	20.7	"	"	"	"	
Endosulfan I	ND	---	20.7	"	"	"	"	
Endosulfan II	ND	---	20.7	"	"	"	"	
Endosulfan sulfate	ND	---	20.7	"	"	"	"	
Endrin	ND	---	20.7	"	"	"	"	
Endrin Aldehyde	ND	---	20.7	"	"	"	"	
Endrin ketone	ND	---	20.7	"	"	"	"	
Heptachlor	ND	---	20.7	"	"	"	"	
Heptachlor epoxide	ND	---	20.7	"	"	"	"	
Methoxychlor	ND	---	41.3	"	"	"	"	
Chlordane (Technical)	ND	---	248	"	"	"	"	
Toxaphene (Total)	ND	---	248	"	"	"	"	
<i>Surrogate: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 91 %</i>	<i>Limits: 50-125 %</i>	"	"	"	
<i>Decachlorobiphenyl (Surr)</i>			<i>87 %</i>	<i>Limits: 55-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
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Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-5-6 (A12F492-12)			Matrix: Soil		Batch: 1207164			
Acenaphthene	ND	---	192000	ug/kg	40	07/11/12 11:31	EPA 8270D	
Acenaphthylene	ND	---	192000	"	"	"	"	
Aniline	ND	---	192000	"	"	"	"	
Anthracene	ND	---	192000	"	"	"	"	
Azobenzene (1,2-DPH)	ND	---	192000	"	"	"	"	
Benz(a)anthracene	ND	---	192000	"	"	"	"	
Benzo(a)pyrene	ND	---	192000	"	"	"	"	
Benzo(b)fluoranthene	ND	---	192000	"	"	"	"	
Benzo(k)fluoranthene	ND	---	192000	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	192000	"	"	"	"	
Benzoic acid	ND	---	962000	"	"	"	"	
Benzyl alcohol	ND	---	192000	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	---	192000	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	---	192000	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	---	192000	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	---	192000	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	---	192000	"	"	"	"	
4-Bromophenyl phenyl ether	ND	---	192000	"	"	"	"	
Butyl benzyl phthalate	ND	---	192000	"	"	"	"	
Carbazole	ND	---	192000	"	"	"	"	
4-Chloroaniline	ND	---	192000	"	"	"	"	
4-Chloro-3-methylphenol	ND	---	192000	"	"	"	"	
2-Chloronaphthalene	ND	---	192000	"	"	"	"	
2-Chlorophenol	ND	---	192000	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	---	192000	"	"	"	"	
Chrysene	ND	---	192000	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	192000	"	"	"	"	
Dibenzofuran	ND	---	192000	"	"	"	"	
1,2-Dichlorobenzene	ND	---	192000	"	"	"	"	
1,3-Dichlorobenzene	ND	---	192000	"	"	"	"	
1,4-Dichlorobenzene	ND	---	192000	"	"	"	"	
2,4-Dichlorophenol	ND	---	192000	"	"	"	"	
Di-n-butylphthalate	ND	---	192000	"	"	"	"	
Diethylphthalate	ND	---	192000	"	"	"	"	
Dimethylphthalate	ND	---	192000	"	"	"	"	

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Project Number: 261M125850
Project Manager: Leonard Farr

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07/31/12 17:05

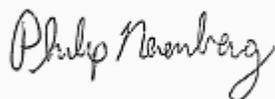
ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-5-6 (A12F492-12)			Matrix: Soil		Batch: 1207164			
2,4-Dimethylphenol	ND	---	192000	ug/kg	40	"	EPA 8270D	
1,2-Dinitrobenzene	ND	---	192000	"	"	"	"	
1,3-Dinitrobenzene	ND	---	192000	"	"	"	"	
1,4-Dinitrobenzene	ND	---	192000	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	---	462000	"	"	"	"	
2,4-Dinitrophenol	ND	---	192000	"	"	"	"	
2,4-Dinitrotoluene	ND	---	192000	"	"	"	"	
2,6-Dinitrotoluene	ND	---	192000	"	"	"	"	
Di-n-octyl phthalate	ND	---	192000	"	"	"	"	
Fluoranthene	ND	---	192000	"	"	"	"	
Fluorene	ND	---	192000	"	"	"	"	
Hexachlorobenzene	ND	---	192000	"	"	"	"	
Hexachlorobutadiene	ND	---	192000	"	"	"	"	
Hexachlorocyclopentadiene	ND	---	192000	"	"	"	"	
Hexachloroethane	ND	---	192000	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	192000	"	"	"	"	
Isophorone	ND	---	192000	"	"	"	"	
1-Methylnaphthalene	ND	---	192000	"	"	"	"	
2-Methylnaphthalene	ND	---	192000	"	"	"	"	
2-Methylphenol	ND	---	192000	"	"	"	"	
3+4-Methylphenol(s)	ND	---	192000	"	"	"	"	
Naphthalene	ND	---	192000	"	"	"	"	
2-Nitroaniline	ND	---	192000	"	"	"	"	
3-Nitroaniline	ND	---	192000	"	"	"	"	
4-Nitroaniline	ND	---	192000	"	"	"	"	
Nitrobenzene	ND	---	192000	"	"	"	"	
2-Nitrophenol	ND	---	192000	"	"	"	"	
4-Nitrophenol	ND	---	192000	"	"	"	"	
N-Nitrosodimethylamine	ND	---	192000	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	---	192000	"	"	"	"	
N-Nitrosodiphenylamine	ND	---	192000	"	"	"	"	
Pentachlorophenol (PCP)	ND	---	192000	"	"	"	"	
Phenanthrene	ND	---	192000	"	"	"	"	
Phenol	327000	---	192000	"	"	"	"	
Pyrene	ND	---	192000	"	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-5-6 (A12F492-12)			Matrix: Soil		Batch: 1207164			
Pyridine	ND	---	385000	ug/kg	40	"	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	---	192000	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	---	192000	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	192000	"	"	"	"	
2,4,5-Trichlorophenol	ND	---	192000	"	"	"	"	
2,4,6-Trichlorophenol	ND	---	192000	"	"	"	"	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 60 %</i>	<i>Limits: 35-120 %</i>	"	"	"	<i>S-05</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>66 %</i>	<i>Limits: 45-120 %</i>	"	"	"	<i>S-05</i>
<i>Phenol-d6 (Surr)</i>			<i>65 %</i>	<i>Limits: 40-120 %</i>	"	"	"	<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>	<i>Limits: 30-125 %</i>	"	"	"	<i>S-05</i>
<i>2-Fluorophenol (Surr)</i>			<i>54 %</i>	<i>Limits: 35-120 %</i>	"	"	"	<i>S-05</i>
<i>2,4,6-Tribromophenol (Surr)</i>			<i>186 %</i>	<i>Limits: 35-125 %</i>	"	"	"	<i>S-05</i>

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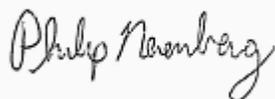
ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-01-0-0.5 (A12F492-01)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	49.3	ug/kg wet	5	07/10/12 14:49	EPA 8270D (SIM)	
Acenaphthylene	ND	---	49.3	"	"	"	"	
Anthracene	ND	---	49.3	"	"	"	"	
Benz(a)anthracene	ND	---	49.3	"	"	"	"	
Benzo(a)pyrene	67.4	---	49.3	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	98.6	"	"	"	"	Q-26
Benzo(g,h,i)perylene	90.1	---	49.3	"	"	"	"	
Chrysene	55.9	---	49.3	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	49.3	"	"	"	"	
Fluoranthene	58.1	---	49.3	"	"	"	"	
Fluorene	ND	---	49.3	"	"	"	"	
Indeno(1,2,3-cd)pyrene	79.5	---	49.3	"	"	"	"	
Naphthalene	129	---	49.3	"	"	"	"	
Phenanthrene	98.8	---	49.3	"	"	"	"	
Pyrene	63.7	---	49.3	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 82 %</i>		<i>Limits: 45-120 %</i>		<i>"</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>84 %</i>		<i>Limits: 30-120 %</i>		<i>"</i>	
CT-01-12-13 (A12F492-02)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	10.9	ug/kg dry	1	07/10/12 15:45	EPA 8270D (SIM)	
Acenaphthylene	ND	---	10.9	"	"	"	"	
Anthracene	ND	---	10.9	"	"	"	"	
Benz(a)anthracene	ND	---	10.9	"	"	"	"	
Benzo(a)pyrene	ND	---	10.9	"	"	"	"	
Benzo(b)fluoranthene	ND	---	10.9	"	"	"	"	
Benzo(k)fluoranthene	ND	---	10.9	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	10.9	"	"	"	"	
Chrysene	ND	---	10.9	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	10.9	"	"	"	"	
Fluoranthene	ND	---	10.9	"	"	"	"	
Fluorene	ND	---	10.9	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	10.9	"	"	"	"	
Naphthalene	ND	---	10.9	"	"	"	"	
Phenanthrene	ND	---	10.9	"	"	"	"	
Pyrene	ND	---	10.9	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 78 %</i>		<i>Limits: 45-120 %</i>		<i>"</i>	

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Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-01-12-13 (A12F492-02)			Matrix: Soil		Batch: 1207120			
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 30-120 %</i>	1	"	EPA 8270D (SIM)	
CT-02-0-0.5 (A12F492-03RE1)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	8.86	ug/kg wet	1	07/11/12 12:17	EPA 8270D (SIM)	
Acenaphthylene	10.9	---	8.86	"	"	"	"	
Anthracene	ND	---	8.86	"	"	"	"	
Benz(a)anthracene	18.1	---	8.86	"	"	"	"	
Benzo(a)pyrene	36.5	---	8.86	"	"	"	"	
Benzo(b+k)fluoranthene(s)	49.7	---	17.7	"	"	"	"	Q-26
Benzo(g,h,i)perylene	41.8	---	8.86	"	"	"	"	
Chrysene	32.4	---	8.86	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	8.86	"	"	"	"	
Fluoranthene	33.0	---	8.86	"	"	"	"	
Fluorene	ND	---	8.86	"	"	"	"	
Indeno(1,2,3-cd)pyrene	31.3	---	8.86	"	"	"	"	
Naphthalene	ND	---	8.86	"	"	"	"	
Phenanthrene	16.5	---	8.86	"	"	"	"	
Pyrene	45.4	---	8.86	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 75 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>89 %</i>	<i>Limits: 30-120 %</i>	"	"	"	
CT-02-13.5-14 (A12F492-04)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	11.5	ug/kg dry	1	07/10/12 16:41	EPA 8270D (SIM)	
Acenaphthylene	ND	---	11.5	"	"	"	"	
Anthracene	ND	---	11.5	"	"	"	"	
Benz(a)anthracene	ND	---	11.5	"	"	"	"	
Benzo(a)pyrene	ND	---	11.5	"	"	"	"	
Benzo(b)fluoranthene	ND	---	11.5	"	"	"	"	
Benzo(k)fluoranthene	ND	---	11.5	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	11.5	"	"	"	"	
Chrysene	ND	---	11.5	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	11.5	"	"	"	"	
Fluoranthene	ND	---	11.5	"	"	"	"	
Fluorene	ND	---	11.5	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	11.5	"	"	"	"	
Naphthalene	ND	---	11.5	"	"	"	"	
Phenanthrene	ND	---	11.5	"	"	"	"	

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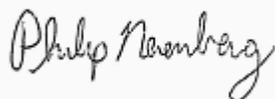
ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-02-13.5-14 (A12F492-04)			Matrix: Soil		Batch: 1207120			
Pyrene	ND	---	11.5	ug/kg dry	1	"	EPA 8270D (SIM)	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			Recovery: 73 %		Limits: 45-120 %		"	
<i>p-Terphenyl-d14 (Surr)</i>			92 %		Limits: 30-120 %		"	
CT-03-0-0.5 (A12F492-05)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	48.4	ug/kg wet	5	07/10/12 17:09	EPA 8270D (SIM)	
Acenaphthylene	ND	---	48.4	"	"	"	"	
Anthracene	ND	---	48.4	"	"	"	"	
Benz(a)anthracene	77.7	---	48.4	"	"	"	"	
Benzo(a)pyrene	96.9	---	48.4	"	"	"	"	
Benzo(b+k)fluoranthene(s)	132	---	96.9	"	"	"	"	Q-26
Benzo(g,h,i)perylene	69.6	---	48.4	"	"	"	"	
Chrysene	83.3	---	48.4	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	48.4	"	"	"	"	
Fluoranthene	108	---	48.4	"	"	"	"	
Fluorene	ND	---	48.4	"	"	"	"	
Indeno(1,2,3-cd)pyrene	64.5	---	48.4	"	"	"	"	
Naphthalene	ND	---	48.4	"	"	"	"	
Phenanthrene	61.5	---	48.4	"	"	"	"	
Pyrene	111	---	48.4	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			Recovery: 83 %		Limits: 45-120 %		"	
<i>p-Terphenyl-d14 (Surr)</i>			97 %		Limits: 30-120 %		"	
CT-03-5-6 (A12F492-06)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	3880	ug/kg wet	20	07/10/12 17:37	EPA 8270D (SIM)	
Acenaphthylene	ND	---	3880	"	"	"	"	
Anthracene	ND	---	3880	"	"	"	"	
Benz(a)anthracene	ND	---	3880	"	"	"	"	
Benzo(a)pyrene	ND	---	3880	"	"	"	"	
Benzo(b)fluoranthene	ND	---	3880	"	"	"	"	
Benzo(k)fluoranthene	ND	---	3880	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	3880	"	"	"	"	
Chrysene	ND	---	3880	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	3880	"	"	"	"	
Fluoranthene	ND	---	3880	"	"	"	"	
Fluorene	ND	---	3880	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	3880	"	"	"	"	

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Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-5-6 (A12F492-06)			Matrix: Soil		Batch: 1207120			
Naphthalene	16200	---	3880	ug/kg wet	20	"	EPA 8270D (SIM)	
Phenanthrene	ND	---	3880	"	"	"	"	
Pyrene	ND	---	3880	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			Recovery: 73 %		Limits: 45-120 %	"	"	"
<i>p-Terphenyl-d14 (Surr)</i>			91 %		Limits: 30-120 %	"	"	"
CT-03-9-10 (A12F492-07)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	9.90	ug/kg dry	1	07/10/12 18:05	EPA 8270D (SIM)	
Acenaphthylene	ND	---	9.90	"	"	"	"	
Anthracene	ND	---	9.90	"	"	"	"	
Benz(a)anthracene	ND	---	9.90	"	"	"	"	
Benzo(a)pyrene	ND	---	9.90	"	"	"	"	
Benzo(b)fluoranthene	ND	---	9.90	"	"	"	"	
Benzo(k)fluoranthene	ND	---	9.90	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	9.90	"	"	"	"	
Chrysene	ND	---	9.90	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	9.90	"	"	"	"	
Fluoranthene	ND	---	9.90	"	"	"	"	
Fluorene	ND	---	9.90	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	9.90	"	"	"	"	
Naphthalene	ND	---	9.90	"	"	"	"	
Phenanthrene	ND	---	9.90	"	"	"	"	
Pyrene	ND	---	9.90	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			Recovery: 74 %		Limits: 45-120 %	"	"	"
<i>p-Terphenyl-d14 (Surr)</i>			94 %		Limits: 30-120 %	"	"	"

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

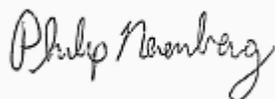
ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-0-0.5 (A12F492-09)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	42.8	ug/kg wet	5	07/10/12 18:34	EPA 8270D (SIM)	
Acenaphthylene	ND	---	42.8	"	"	"	"	
Anthracene	ND	---	42.8	"	"	"	"	
Benz(a)anthracene	ND	---	42.8	"	"	"	"	
Benzo(a)pyrene	54.6	---	42.8	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	85.6	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	42.8	"	"	"	"	
Chrysene	47.8	---	42.8	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	42.8	"	"	"	"	
Fluoranthene	54.6	---	42.8	"	"	"	"	
Fluorene	ND	---	42.8	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	42.8	"	"	"	"	
Naphthalene	ND	---	42.8	"	"	"	"	
Phenanthrene	ND	---	42.8	"	"	"	"	
Pyrene	64.0	---	42.8	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 84 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>98 %</i>	<i>Limits: 30-120 %</i>	"	"	"	
CT-04-6-7 (A12F492-10)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	10.5	ug/kg dry	1	07/10/12 19:02	EPA 8270D (SIM)	
Acenaphthylene	ND	---	10.5	"	"	"	"	
Anthracene	ND	---	10.5	"	"	"	"	
Benz(a)anthracene	ND	---	10.5	"	"	"	"	
Benzo(a)pyrene	ND	---	10.5	"	"	"	"	
Benzo(b)fluoranthene	ND	---	10.5	"	"	"	"	
Benzo(k)fluoranthene	ND	---	10.5	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	10.5	"	"	"	"	
Chrysene	ND	---	10.5	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	10.5	"	"	"	"	
Fluoranthene	ND	---	10.5	"	"	"	"	
Fluorene	ND	---	10.5	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	10.5	"	"	"	"	
Naphthalene	94.0	---	10.5	"	"	"	"	
Phenanthrene	ND	---	10.5	"	"	"	"	
Pyrene	ND	---	10.5	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 75 %</i>	<i>Limits: 45-120 %</i>	"	"	"	

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

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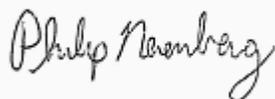
ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-04-6-7 (A12F492-10)			Matrix: Soil		Batch: 1207120			
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 30-120 %</i>	1	"	EPA 8270D (SIM)	
CT-05-0-0.5 (A12F492-11RE1)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	26.1	ug/kg dry	2	07/11/12 12:45	EPA 8270D (SIM)	
Acenaphthylene	ND	---	26.1	"	"	"	"	
Anthracene	ND	---	26.1	"	"	"	"	
Benz(a)anthracene	80.3	---	26.1	"	"	"	"	
Benzo(a)pyrene	121	---	26.1	"	"	"	"	
Benzo(b+k)fluoranthene(s)	170	---	52.3	"	"	"	"	Q-26
Benzo(g,h,i)perylene	110	---	26.1	"	"	"	"	
Chrysene	104	---	26.1	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	26.1	"	"	"	"	
Fluoranthene	159	---	26.1	"	"	"	"	
Fluorene	ND	---	26.1	"	"	"	"	
Indeno(1,2,3-cd)pyrene	94.3	---	26.1	"	"	"	"	
Naphthalene	ND	---	26.1	"	"	"	"	
Phenanthrene	64.1	---	26.1	"	"	"	"	
Pyrene	186	---	26.1	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>87 %</i>	<i>Limits: 30-120 %</i>	"	"	"	
CT-05-11-12 (A12F492-13)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	11.4	ug/kg dry	1	07/10/12 19:58	EPA 8270D (SIM)	
Acenaphthylene	ND	---	11.4	"	"	"	"	
Anthracene	ND	---	11.4	"	"	"	"	
Benz(a)anthracene	ND	---	11.4	"	"	"	"	
Benzo(a)pyrene	ND	---	11.4	"	"	"	"	
Benzo(b)fluoranthene	ND	---	11.4	"	"	"	"	
Benzo(k)fluoranthene	ND	---	11.4	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	11.4	"	"	"	"	
Chrysene	ND	---	11.4	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	11.4	"	"	"	"	
Fluoranthene	ND	---	11.4	"	"	"	"	
Fluorene	ND	---	11.4	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	11.4	"	"	"	"	
Naphthalene	246	---	11.4	"	"	"	"	
Phenanthrene	ND	---	11.4	"	"	"	"	

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 Project Number: 261M125850
 Project Manager: Leonard Farr

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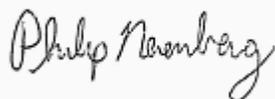
ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-05-11-12 (A12F492-13)			Matrix: Soil		Batch: 1207120			
Pyrene	ND	---	11.4	ug/kg dry	1	"	EPA 8270D (SIM)	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			Recovery: 72 %		Limits: 45-120 %	"	"	"
<i>p-Terphenyl-d14 (Surr)</i>			94 %		Limits: 30-120 %	"	"	"
CT-04-5-6 (A12F492-14)			Matrix: Soil		Batch: 1207120			
Acenaphthene	ND	---	3250	ug/kg wet	20	07/10/12 20:26	EPA 8270D (SIM)	
Acenaphthylene	ND	---	3250	"	"	"	"	
Anthracene	ND	---	3250	"	"	"	"	
Benz(a)anthracene	ND	---	3250	"	"	"	"	
Benzo(a)pyrene	ND	---	3250	"	"	"	"	
Benzo(b)fluoranthene	ND	---	3250	"	"	"	"	
Benzo(k)fluoranthene	ND	---	3250	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	3250	"	"	"	"	
Chrysene	ND	---	3250	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	3250	"	"	"	"	
Fluoranthene	ND	---	3250	"	"	"	"	
Fluorene	ND	---	3250	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	3250	"	"	"	"	
Naphthalene	25500	---	3250	"	"	"	"	
Phenanthrene	ND	---	3250	"	"	"	"	
Pyrene	ND	---	3250	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			Recovery: 72 %		Limits: 45-120 %	"	"	"
<i>p-Terphenyl-d14 (Surr)</i>			93 %		Limits: 30-120 %	"	"	"

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Project Number: 261M125850
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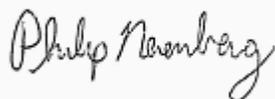
ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
CT-01-0-0.5 (A12F492-01) Matrix: Soil								
Batch: 1207158								
Arsenic	5.17	---	1.86	mg/kg wet	10	07/11/12 17:51	EPA 6020	
Barium	602	---	0.928	"	"	"	"	
Cadmium	ND	---	0.928	"	"	"	"	
Chromium	6.41	---	1.86	"	"	"	"	
Iron	13300	---	46.4	"	"	"	"	
Lead	78.6	---	0.928	"	"	"	"	
Mercury	ND	---	0.0742	"	"	"	"	
Selenium	ND	---	1.86	"	"	"	"	
Silver	ND	---	0.928	"	"	"	"	
Vanadium	46.6	---	1.86	"	"	"	"	
CT-01-12-13 (A12F492-02) Matrix: Soil								
Batch: 1207158								
Arsenic	ND	---	2.36	mg/kg dry	10	07/11/12 17:53	EPA 6020	
Barium	237	---	1.18	"	"	"	"	
Cadmium	ND	---	1.18	"	"	"	"	
Chromium	15.8	---	2.36	"	"	"	"	
Lead	4.62	---	1.18	"	"	"	"	
Mercury	ND	---	0.0943	"	"	"	"	
Selenium	ND	---	2.36	"	"	"	"	
Silver	ND	---	1.18	"	"	"	"	
CT-02-0-0.5 (A12F492-03) Matrix: Soil								
Batch: 1207158								
Arsenic	4.11	---	2.03	mg/kg wet	10	07/11/12 17:56	EPA 6020	
Barium	457	---	1.02	"	"	"	"	
Cadmium	ND	---	1.02	"	"	"	"	
Chromium	2.67	---	2.03	"	"	"	"	
Iron	4130	---	50.8	"	"	"	"	
Lead	23.3	---	1.02	"	"	"	"	
Mercury	ND	---	0.0813	"	"	"	"	
Selenium	ND	---	2.03	"	"	"	"	
Silver	ND	---	1.02	"	"	"	"	
Vanadium	28.1	---	2.03	"	"	"	"	
CT-02-13.5-14 (A12F492-04) Matrix: Soil								
Batch: 1207158								

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 Portland, OR 97224

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 Project Number: 261M125850
 Project Manager: Leonard Farr

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 07/31/12 17:05

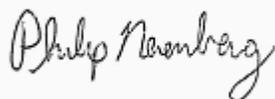
ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-02-13.5-14 (A12F492-04)			Matrix: Soil					
Arsenic	4.00	---	2.47	mg/kg dry	10	07/11/12 17:59	EPA 6020	
Barium	135	---	1.24	"	"	"	"	
Cadmium	ND	---	1.24	"	"	"	"	
Chromium	14.6	---	2.47	"	"	"	"	
Lead	5.40	---	1.24	"	"	"	"	
Mercury	ND	---	0.0988	"	"	"	"	
Selenium	ND	---	2.47	"	"	"	"	
Silver	ND	---	1.24	"	"	"	"	
CT-03-0-0.5 (A12F492-05)			Matrix: Soil					
Batch: 1207158								
Arsenic	26.1	---	1.87	mg/kg wet	10	07/11/12 18:08	EPA 6020	
Barium	44.8	---	0.933	"	"	"	"	
Cadmium	ND	---	0.933	"	"	"	"	
Chromium	6.45	---	1.87	"	"	"	"	
Iron	5910	---	46.6	"	"	"	"	
Lead	48.7	---	0.933	"	"	"	"	
Mercury	0.130	---	0.0746	"	"	"	"	
Selenium	ND	---	1.87	"	"	"	"	
Silver	ND	---	0.933	"	"	"	"	
Vanadium	13.3	---	1.87	"	"	"	"	
CT-03-5-6 (A12F492-06)			Matrix: Soil					
Batch: 1207158								
Arsenic	2.64	---	2.13	mg/kg wet	10	07/11/12 18:17	EPA 6020	
Barium	21.8	---	1.07	"	"	"	"	
Cadmium	ND	---	1.07	"	"	"	"	
Chromium	ND	---	2.13	"	"	"	"	
Iron	1300	---	53.3	"	"	"	"	
Lead	5.97	---	1.07	"	"	"	"	
Mercury	ND	---	0.0853	"	"	"	"	
Selenium	ND	---	2.13	"	"	"	"	
Silver	ND	---	1.07	"	"	"	"	
Vanadium	16.0	---	2.13	"	"	"	"	
CT-03-9-10 (A12F492-07)			Matrix: Soil					
Batch: 1207158								
Arsenic	ND	---	2.02	mg/kg dry	10	07/12/12 11:21	EPA 6020	

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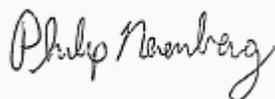
ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
CT-03-9-10 (A12F492-07)			Matrix: Soil					
Barium	12.3	---	1.01	mg/kg dry	10	"	EPA 6020	
Cadmium	ND	---	1.01	"	"	"	"	
Chromium	2.94	---	2.02	"	"	"	"	
Iron	5110	---	50.6	"	"	"	"	
Lead	ND	---	1.01	"	"	"	"	
Mercury	ND	---	0.0809	"	"	"	"	
Selenium	ND	---	2.02	"	"	"	"	
Silver	ND	---	1.01	"	"	"	"	
Vanadium	12.4	---	2.02	"	"	"	"	
CT-04-0-0.5 (A12F492-09)			Matrix: Soil					
Batch: 1207158								
Arsenic	12.8	---	2.12	mg/kg wet	10	07/11/12 18:23	EPA 6020	
Barium	67.3	---	1.06	"	"	"	"	
Cadmium	ND	---	1.06	"	"	"	"	
Chromium	10.0	---	2.12	"	"	"	"	
Iron	13400	---	53.0	"	"	"	"	
Lead	35.1	---	1.06	"	"	"	"	
Mercury	0.0898	---	0.0847	"	"	"	"	
Selenium	ND	---	2.12	"	"	"	"	
Silver	ND	---	1.06	"	"	"	"	
Vanadium	34.3	---	2.12	"	"	"	"	
CT-04-6-7 (A12F492-10)			Matrix: Soil					
Batch: 1207158								
Arsenic	ND	---	2.05	mg/kg dry	10	07/11/12 18:26	EPA 6020	
Barium	9.03	---	1.03	"	"	"	"	
Cadmium	ND	---	1.03	"	"	"	"	
Chromium	2.95	---	2.05	"	"	"	"	
Iron	6610	---	51.4	"	"	"	"	
Lead	1.19	---	1.03	"	"	"	"	
Mercury	ND	---	0.0822	"	"	"	"	
Selenium	ND	---	2.05	"	"	"	"	
Silver	ND	---	1.03	"	"	"	"	
Vanadium	15.6	---	2.05	"	"	"	"	
CT-05-0-0.5 (A12F492-11)			Matrix: Soil					
Batch: 1207158								

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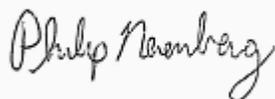
ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
CT-05-0-0.5 (A12F492-11)			Matrix: Soil					
Arsenic	ND	---	2.50	mg/kg dry	10	07/11/12 18:29	EPA 6020	
Barium	162	---	1.25	"	"	"	"	
Cadmium	ND	---	1.25	"	"	"	"	
Chromium	39.8	---	2.50	"	"	"	"	
Iron	5610	---	62.6	"	"	"	"	
Lead	594	---	1.25	"	"	"	"	
Mercury	ND	---	0.100	"	"	"	"	
Selenium	ND	---	2.50	"	"	"	"	
Silver	ND	---	1.25	"	"	"	"	
Vanadium	12.8	---	2.50	"	"	"	"	
CT-05-5-6 (A12F492-12)			Matrix: Soil					
Batch: 1207158								
Arsenic	2.72	---	1.86	mg/kg wet	10	07/11/12 18:31	EPA 6020	
Barium	13.9	---	0.929	"	"	"	"	
Cadmium	ND	---	0.929	"	"	"	"	
Chromium	ND	---	1.86	"	"	"	"	
Iron	1460	---	46.5	"	"	"	"	
Lead	5.78	---	0.929	"	"	"	"	
Mercury	ND	---	0.0743	"	"	"	"	
Selenium	ND	---	1.86	"	"	"	"	
Silver	ND	---	0.929	"	"	"	"	
Vanadium	4.75	---	1.86	"	"	"	"	
CT-05-11-12 (A12F492-13)			Matrix: Soil					
Batch: 1207158								
Arsenic	ND	---	2.26	mg/kg dry	10	07/11/12 18:34	EPA 6020	
Barium	15.5	---	1.13	"	"	"	"	
Cadmium	ND	---	1.13	"	"	"	"	
Chromium	2.40	---	2.26	"	"	"	"	
Iron	5130	---	56.4	"	"	"	"	
Lead	ND	---	1.13	"	"	"	"	
Mercury	ND	---	0.0902	"	"	"	"	
Selenium	ND	---	2.26	"	"	"	"	
Silver	ND	---	1.13	"	"	"	"	
Vanadium	17.9	---	2.26	"	"	"	"	
CT-04-5-6 (A12F492-14)			Matrix: Soil					

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
CT-04-5-6 (A12F492-14)			Matrix: Soil					
Batch: 1207158								
Arsenic	8.41	---	2.14	mg/kg wet	10	07/11/12 18:37	EPA 6020	
Barium	43.1	---	1.07	"	"	"	"	
Cadmium	ND	---	1.07	"	"	"	"	
Chromium	3.37	---	2.14	"	"	"	"	
Iron	5220	---	53.4	"	"	"	"	
Lead	16.5	---	1.07	"	"	"	"	
Mercury	ND	---	0.0855	"	"	"	"	
Selenium	ND	---	2.14	"	"	"	"	
Silver	ND	---	1.07	"	"	"	"	
Vanadium	9.23	---	2.14	"	"	"	"	

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Philip Nerenberg, Lab Director

AmeC Environment & Infrastructure, Inc 7376 SW Durham Road Portland, OR 97224	Project: Troutdale Riverfront Project Number: 261M125850 Project Manager: Leonard Farr	Reported: 07/31/12 17:05
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ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
CT-05-5-6 (A12F492-12)			Matrix: Soil					
Batch: 1206612								
Soil pH (measured in H2O)	7.94	---		pH Units	1	06/29/12 13:10	EPA 9045D	
pH Temperature (deg C)	24.0	---		"	"	"	"	

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 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

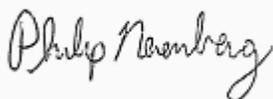
ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
CT-01-12-13 (A12F492-02)			Matrix: Soil		Batch: 1207022			
% Solids	88.7	---	1.00	% by Weight	1	07/03/12 10:19	Apex SOP	
CT-02-13.5-14 (A12F492-04)			Matrix: Soil		Batch: 1207022			
% Solids	79.5	---	1.00	% by Weight	1	07/03/12 10:19	Apex SOP	
CT-03-9-10 (A12F492-07)			Matrix: Soil		Batch: 1207022			
% Solids	90.7	---	1.00	% by Weight	1	07/03/12 10:19	Apex SOP	
CT-04-6-7 (A12F492-10)			Matrix: Soil		Batch: 1207022			
% Solids	89.8	---	1.00	% by Weight	1	07/03/12 10:19	Apex SOP	
CT-05-0-0.5 (A12F492-11)			Matrix: Soil		Batch: 1207022			
% Solids	75.1	---	1.00	% by Weight	1	07/03/12 10:19	Apex SOP	
CT-05-11-12 (A12F492-13)			Matrix: Soil		Batch: 1207022			
% Solids	85.6	---	1.00	% by Weight	1	07/03/12 10:19	Apex SOP	

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 7376 SW Durham Road
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Project: Troutdale Riverfront
 Project Number: 261M125850
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Reported:
 07/31/12 17:05

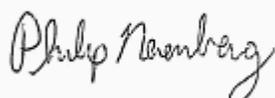
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206599 - EPA 5035A						Soil						
Blank (1206599-BLK1)						Prepared: 06/29/12 09:00 Analyzed: 06/29/12 11:30						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	---
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromochloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	---
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	---
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	---
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	---
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	---
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	---
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	---

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206599 - EPA 5035A						Soil						
Blank (1206599-BLK1)						Prepared: 06/29/12 09:00 Analyzed: 06/29/12 11:30						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	167	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

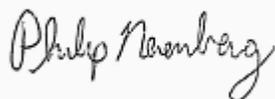
Surr: Dibromofluoromethane (Surr)	Recovery: 98 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	105 %	70-130 %	"
Toluene-d8 (Surr)	109 %	70-130 %	"
4-Bromofluorobenzene (Surr)	107 %	70-130 %	"

LCS (1206599-BS1)

Prepared: 06/29/12 09:00 Analyzed: 06/29/12 10:39

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

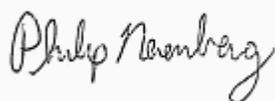
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206599 - EPA 5035A						Soil						
LCS (1206599-BS1)						Prepared: 06/29/12 09:00 Analyzed: 06/29/12 10:39						
5035/8260B												
Acetone	1540	---	1000	ug/kg wet	50	2000	---	77	65-135%	---	---	
Benzene	1080	---	12.5	"	"	1000	---	108	"	---	---	
Bromobenzene	1040	---	25.0	"	"	"	---	104	"	---	---	
Bromochloromethane	1120	---	25.0	"	"	"	---	112	"	---	---	
Bromodichloromethane	914	---	25.0	"	"	"	---	91	"	---	---	
Bromoform	772	---	50.0	"	"	"	---	77	"	---	---	
Bromomethane	764	---	500	"	"	"	---	76	"	---	---	
2-Butanone (MEK)	1690	---	500	"	"	2000	---	85	"	---	---	
n-Butylbenzene	1150	---	50.0	"	"	1000	---	115	"	---	---	
sec-Butylbenzene	1100	---	50.0	"	"	"	---	110	"	---	---	
tert-Butylbenzene	1010	---	50.0	"	"	"	---	101	"	---	---	
Carbon tetrachloride	835	---	25.0	"	"	"	---	84	"	---	---	
Chlorobenzene	1060	---	25.0	"	"	"	---	106	"	---	---	
Chloroethane	2320	---	500	"	"	"	---	232	"	---	---	EST
Chloroform	987	---	50.0	"	"	"	---	99	"	---	---	
Chloromethane	1160	---	250	"	"	"	---	116	"	---	---	
2-Chlorotoluene	1080	---	50.0	"	"	"	---	108	"	---	---	
4-Chlorotoluene	1110	---	50.0	"	"	"	---	111	"	---	---	
1,2-Dibromo-3-chloropropane	990	---	250	"	"	"	---	99	"	---	---	
Dibromochloromethane	876	---	100	"	"	"	---	88	"	---	---	
1,2-Dibromoethane (EDB)	1090	---	25.0	"	"	"	---	109	"	---	---	
Dibromomethane	961	---	50.0	"	"	"	---	96	"	---	---	
1,2-Dichlorobenzene	1160	---	25.0	"	"	"	---	116	"	---	---	
1,3-Dichlorobenzene	1090	---	25.0	"	"	"	---	109	"	---	---	
1,4-Dichlorobenzene	1010	---	25.0	"	"	"	---	101	"	---	---	
Dichlorodifluoromethane	1060	---	100	"	"	"	---	106	"	---	---	
1,1-Dichloroethane	1070	---	25.0	"	"	"	---	107	"	---	---	
1,2-Dichloroethane (EDC)	1000	---	25.0	"	"	"	---	100	"	---	---	
1,1-Dichloroethene	1070	---	25.0	"	"	"	---	107	"	---	---	
cis-1,2-Dichloroethene	1060	---	25.0	"	"	"	---	106	"	---	---	
trans-1,2-Dichloroethene	1060	---	25.0	"	"	"	---	106	"	---	---	
1,2-Dichloropropane	1090	---	25.0	"	"	"	---	109	"	---	---	
1,3-Dichloropropane	1140	---	25.0	"	"	"	---	114	"	---	---	
2,2-Dichloropropane	940	---	50.0	"	"	"	---	94	"	---	---	

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Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206599 - EPA 5035A						Soil						
LCS (1206599-BS1)						Prepared: 06/29/12 09:00 Analyzed: 06/29/12 10:39						
1,1-Dichloropropene	966	---	50.0	ug/kg wet	"	"	---	97	"	---	---	
cis-1,3-Dichloropropene	960	---	50.0	"	"	"	---	96	"	---	---	
trans-1,3-Dichloropropene	1040	---	50.0	"	"	"	---	104	"	---	---	
Ethylbenzene	1070	---	25.0	"	"	"	---	107	"	---	---	
Hexachlorobutadiene	1060	---	100	"	"	"	---	106	"	---	---	
2-Hexanone	1660	---	500	"	"	2000	---	83	"	---	---	
Isopropylbenzene	1060	---	50.0	"	"	1000	---	106	"	---	---	
4-Isopropyltoluene	1130	---	50.0	"	"	"	---	113	"	---	---	
4-Methyl-2-pentanone (MiBK)	2160	---	500	"	"	2000	---	108	"	---	---	
Methyl tert-butyl ether (MTBE)	934	---	50.0	"	"	1000	---	93	"	---	---	
Methylene chloride	1060	---	250	"	"	"	---	106	"	---	---	
Naphthalene	1220	---	100	"	"	"	---	122	"	---	---	
n-Propylbenzene	1110	---	25.0	"	"	"	---	111	"	---	---	
Styrene	1110	---	50.0	"	"	"	---	111	"	---	---	
1,1,1,2-Tetrachloroethane	849	---	50.0	"	"	"	---	85	"	---	---	
1,1,2,2-Tetrachloroethane	1140	---	25.0	"	"	"	---	114	"	---	---	
Tetrachloroethene (PCE)	1020	---	25.0	"	"	"	---	102	"	---	---	
Toluene	998	---	50.0	"	"	"	---	100	"	---	---	
1,2,3-Trichlorobenzene	1160	---	250	"	"	"	---	116	"	---	---	
1,2,4-Trichlorobenzene	1060	---	250	"	"	"	---	106	"	---	---	
1,1,1-Trichloroethane	913	---	25.0	"	"	"	---	91	"	---	---	
1,1,2-Trichloroethane	1090	---	25.0	"	"	"	---	109	"	---	---	
Trichloroethene (TCE)	1040	---	25.0	"	"	"	---	104	"	---	---	
Trichlorofluoromethane	1800	---	250	"	"	"	---	180	"	---	---	EST
1,2,3-Trichloropropane	1100	---	50.0	"	"	"	---	110	"	---	---	
1,2,4-Trimethylbenzene	1090	---	50.0	"	"	"	---	109	"	---	---	
1,3,5-Trimethylbenzene	1060	---	50.0	"	"	"	---	106	"	---	---	
Vinyl chloride	1010	---	25.0	"	"	"	---	101	"	---	---	
m,p-Xylene	2170	---	50.0	"	"	2000	---	108	"	---	---	
o-Xylene	1070	---	25.0	"	"	1000	---	107	"	---	---	

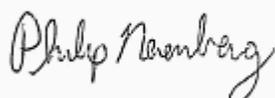
Surr: Dibromofluoromethane (Surr)	Recovery: 99 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	102 %	70-130 %	"
Toluene-d8 (Surr)	107 %	70-130 %	"
4-Bromofluorobenzene (Surr)	106 %	70-130 %	"

Matrix Spike (1206599-MS1)

Prepared: 06/28/12 13:45 Analyzed: 06/29/12 15:28

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 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

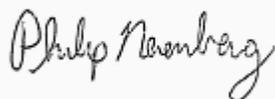
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206599 - EPA 5035A						Soil						
Matrix Spike (1206599-MS1)						Prepared: 06/28/12 13:45 Analyzed: 06/29/12 15:28						
QC Source Sample: CT-04-5-6 (A12F492-14)												
5035/8260B												
Acetone	30700	---	18700	ug/kg wet	500	37300	ND	82	65-135%	---	---	
Benzene	18700	---	233	"	"	18700	ND	100	"	---	---	
Bromobenzene	17000	---	467	"	"	"	ND	91	"	---	---	
Bromochloromethane	19900	---	467	"	"	"	ND	107	"	---	---	
Bromodichloromethane	16300	---	467	"	"	"	ND	87	"	---	---	
Bromoform	13200	---	933	"	"	"	ND	71	"	---	---	
Bromomethane	15400	---	9330	"	"	"	ND	82	"	---	---	
2-Butanone (MEK)	29200	---	9330	"	"	37300	ND	78	"	---	---	
n-Butylbenzene	20100	---	933	"	"	18700	ND	108	"	---	---	
sec-Butylbenzene	19200	---	933	"	"	"	ND	103	"	---	---	
tert-Butylbenzene	18500	---	933	"	"	"	ND	99	"	---	---	
Carbon tetrachloride	16900	---	467	"	"	"	ND	91	"	---	---	
Chlorobenzene	18700	---	467	"	"	"	ND	100	"	---	---	
Chloroethane	45200	---	9330	"	"	"	ND	242	"	---	---	EST
Chloroform	18000	---	933	"	"	"	ND	97	"	---	---	
Chloromethane	16700	---	4670	"	"	"	ND	90	"	---	---	
2-Chlorotoluene	18300	---	933	"	"	"	ND	98	"	---	---	
4-Chlorotoluene	19400	---	933	"	"	"	ND	104	"	---	---	
1,2-Dibromo-3-chloropropane	18100	---	4670	"	"	"	ND	97	"	---	---	
Dibromochloromethane	15900	---	1870	"	"	"	ND	85	"	---	---	
1,2-Dibromoethane (EDB)	18700	---	467	"	"	"	ND	100	"	---	---	
Dibromomethane	17100	---	933	"	"	"	ND	91	"	---	---	
1,2-Dichlorobenzene	19800	---	467	"	"	"	ND	106	"	---	---	
1,3-Dichlorobenzene	18500	---	467	"	"	"	ND	99	"	---	---	
1,4-Dichlorobenzene	17600	---	467	"	"	"	1050	89	"	---	---	
Dichlorodifluoromethane	20500	---	1870	"	"	"	ND	110	"	---	---	
1,1-Dichloroethane	19100	---	467	"	"	"	ND	102	"	---	---	
1,2-Dichloroethane (EDC)	19300	---	467	"	"	"	ND	103	"	---	---	
1,1-Dichloroethene	13600	---	467	"	"	"	ND	73	"	---	---	
cis-1,2-Dichloroethene	19400	---	467	"	"	"	ND	104	"	---	---	
trans-1,2-Dichloroethene	19400	---	467	"	"	"	ND	104	"	---	---	
1,2-Dichloropropane	17900	---	467	"	"	"	ND	96	"	---	---	
1,3-Dichloropropane	20600	---	467	"	"	"	ND	111	"	---	---	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

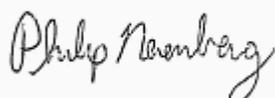
Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206599 - EPA 5035A						Soil						
Matrix Spike (1206599-MS1)						Prepared: 06/28/12 13:45 Analyzed: 06/29/12 15:28						
QC Source Sample: CT-04-5-6 (A12F492-14)												
2,2-Dichloropropane	16300	---	933	ug/kg wet	"	"	ND	88	"	---	---	
1,1-Dichloropropene	17400	---	933	"	"	"	ND	93	"	---	---	
cis-1,3-Dichloropropene	16500	---	933	"	"	"	ND	88	"	---	---	
trans-1,3-Dichloropropene	17800	---	933	"	"	"	ND	95	"	---	---	
Ethylbenzene	19200	---	467	"	"	"	ND	103	"	---	---	
Hexachlorobutadiene	19800	---	1870	"	"	"	ND	106	"	---	---	
2-Hexanone	29600	---	9330	"	"	37300	ND	79	"	---	---	
Isopropylbenzene	19000	---	933	"	"	18700	ND	102	"	---	---	
4-Isopropyltoluene	19200	---	933	"	"	"	ND	103	"	---	---	
4-Methyl-2-pentanone (MiBK)	40300	---	9330	"	"	37300	ND	108	"	---	---	
Methyl tert-butyl ether (MTBE)	16600	---	933	"	"	18700	ND	89	"	---	---	
Methylene chloride	17700	---	4670	"	"	"	ND	95	"	---	---	
Naphthalene	58600	---	1870	"	"	"	36600	118	"	---	---	
n-Propylbenzene	19500	---	467	"	"	"	ND	105	"	---	---	
Styrene	18700	---	933	"	"	"	ND	100	"	---	---	
1,1,1,2-Tetrachloroethane	15800	---	933	"	"	"	ND	84	"	---	---	
1,1,2,2-Tetrachloroethane	18200	---	467	"	"	"	ND	98	"	---	---	
Tetrachloroethene (PCE)	20900	---	467	"	"	"	ND	112	"	---	---	
Toluene	21400	---	933	"	"	"	1970	104	"	---	---	
1,2,3-Trichlorobenzene	20400	---	4670	"	"	"	ND	109	"	---	---	
1,2,4-Trichlorobenzene	18700	---	4670	"	"	"	ND	100	"	---	---	
1,1,1-Trichloroethane	18100	---	467	"	"	"	ND	97	"	---	---	
1,1,2-Trichloroethane	18800	---	467	"	"	"	ND	101	"	---	---	
Trichloroethene (TCE)	18600	---	467	"	"	"	ND	100	"	---	---	
Trichlorofluoromethane	35200	---	4670	"	"	"	ND	189	"	---	---	EST
1,2,3-Trichloropropane	20000	---	933	"	"	"	ND	107	"	---	---	
1,2,4-Trimethylbenzene	19300	---	933	"	"	"	ND	104	"	---	---	
1,3,5-Trimethylbenzene	18900	---	933	"	"	"	ND	102	"	---	---	
Vinyl chloride	17100	---	467	"	"	"	ND	91	"	---	---	
m,p-Xylene	39000	---	933	"	"	37300	ND	105	"	---	---	
o-Xylene	18400	---	467	"	"	18700	ND	99	"	---	---	

Surr: Dibromofluoromethane (Surr) Recovery: 101 % Limits: 70-130 % Dilution: 1x
 1,4-Difluorobenzene (Surr) 100 % 70-130 % "
 Toluene-d8 (Surr) 110 % 70-130 % "

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: **Troutdale Riverfront**

Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1206599 - EPA 5035A

Soil

Matrix Spike (1206599-MS1)

Prepared: 06/28/12 13:45 Analyzed: 06/29/12 15:28

QC Source Sample: CT-04-5-6 (A12F492-14)

Surr: 4-Bromofluorobenzene (Surr)

Recovery: 103 %

Limits: 70-130 %

Dilution: 1x

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Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207189 - EPA 3546/3640A (GPC)						Soil						
Blank (1207189-BLK1)						Prepared: 07/10/12 13:43 Analyzed: 07/12/12 15:43						C-05
EPA 8081B												
Aldrin	ND	---	4.55	ug/kg wet	1	---	---	---	---	---	---	
alpha-BHC	ND	---	4.55	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	4.55	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	4.55	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	4.55	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	4.55	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	4.55	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	4.55	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	4.55	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	4.55	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	4.55	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	4.55	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	4.55	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	4.55	"	"	---	---	---	---	---	---	
Endrin	ND	---	4.55	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	4.55	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	4.55	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	4.55	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	4.55	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	9.09	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	54.5	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	54.5	"	"	---	---	---	---	---	---	

Surr: 2,4,5,6-TCMX (Surr) Recovery: 83 % Limits: 50-125 % Dilution: 1x
 Decachlorobiphenyl (Surr) 95 % 55-130 % "

LCS (1207189-BS1) Prepared: 07/10/12 13:43 Analyzed: 07/12/12 16:01 **C-05**

EPA 8081B												
Aldrin	171	---	5.00	ug/kg wet	1	200	---	86	45-140%	---	---	
alpha-BHC	196	---	5.00	"	"	"	---	98	60-125%	---	---	
beta-BHC	162	---	5.00	"	"	"	---	81	"	---	---	
delta-BHC	199	---	5.00	"	"	"	---	100	55-130%	---	---	
gamma-BHC (Lindane)	200	---	5.00	"	"	"	---	100	60-125%	---	---	
cis-Chlordane	192	---	5.00	"	"	"	---	96	60-120%	---	---	
trans-Chlordane	193	---	5.00	"	"	"	---	97	65-125%	---	---	

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207189 - EPA 3546/3640A (GPC)						Soil						
LCS (1207189-BS1)						Prepared: 07/10/12 13:43 Analyzed: 07/12/12 16:01						C-05
4,4'-DDD	209	---	5.00	ug/kg wet	"	"	---	104	30-135%	---	---	
4,4'-DDE	194	---	5.00	"	"	"	---	97	70-125%	---	---	
4,4'-DDT	228	---	5.00	"	"	"	---	114	45-140%	---	---	
Dieldrin	200	---	5.00	"	"	"	---	100	65-125%	---	---	
Endosulfan I	194	---	5.00	"	"	"	---	97	15-135%	---	---	
Endosulfan II	210	---	5.00	"	"	"	---	105	35-140%	---	---	
Endosulfan sulfate	213	---	5.00	"	"	"	---	106	60-135%	---	---	
Endrin	219	---	5.00	"	"	"	---	109	"	---	---	
Endrin Aldehyde	197	---	5.00	"	"	"	---	98	30-145%	---	---	
Endrin ketone	222	---	5.00	"	"	"	---	111	65-135%	---	---	
Heptachlor	204	---	5.00	"	"	"	---	102	50-140%	---	---	
Heptachlor epoxide	194	---	5.00	"	"	"	---	97	65-130%	---	---	
Methoxychlor	235	---	10.0	"	"	"	---	118	55-145%	---	---	

Surr: 2,4,5,6-TCMX (Surr) Recovery: 94 % Limits: 50-125 % Dilution: 1x
Decachlorobiphenyl (Surr) 106 % 55-130 % "

Duplicate (1207189-DUP1) Prepared: 07/10/12 13:43 Analyzed: 07/12/12 16:37 **C-05**

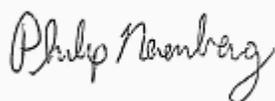
QC Source Sample: CT-02-0-0.5 (A12F492-03RE1)

EPA 8081B

Aldrin	ND	---	9.62	ug/kg wet	1	---	ND	---	---	---	30%	
alpha-BHC	ND	---	9.62	"	"	---	ND	---	---	---	30%	
beta-BHC	ND	---	9.62	"	"	---	ND	---	---	---	30%	
delta-BHC	ND	---	9.62	"	"	---	ND	---	---	---	30%	
gamma-BHC (Lindane)	ND	---	9.62	"	"	---	ND	---	---	---	30%	
cis-Chlordane	11.9	---	9.62	"	"	---	10.9	---	---	9	30%	
trans-Chlordane	12.4	---	9.62	"	"	---	11.8	---	---	5	30%	
4,4'-DDD	ND	---	9.62	"	"	---	ND	---	---	---	30%	
4,4'-DDE	ND	---	9.62	"	"	---	5.35	---	---	***	30%	
4,4'-DDT	10.3	---	9.62	"	"	---	9.17	---	---	12	30%	
Dieldrin	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Endosulfan I	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Endosulfan II	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Endosulfan sulfate	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Endrin	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Endrin Aldehyde	ND	---	9.62	"	"	---	ND	---	---	---	30%	

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

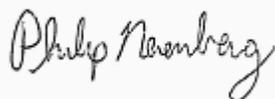
Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207189 - EPA 3546/3640A (GPC)						Soil						
Duplicate (1207189-DUP1)						Prepared: 07/10/12 13:43 Analyzed: 07/12/12 16:37						C-05
QC Source Sample: CT-02-0-0.5 (A12F492-03RE1)												
Endrin ketone	ND	---	9.62	ug/kg wet	"	---	ND	---	---	---	30%	
Heptachlor	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	9.62	"	"	---	ND	---	---	---	30%	
Methoxychlor	ND	---	19.2	"	"	---	ND	---	---	---	30%	
Chlordane (Technical)	ND	---	115	"	"	---	109	---	---	***	30%	P-04
Toxaphene (Total)	ND	---	115	"	"	---	ND	---	---	---	30%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 90 %</i>		<i>Limits: 50-125 %</i>		<i>Dilution: 1x</i>					
<i>Decachlorobiphenyl (Surr)</i>			<i>104 %</i>		<i>55-130 %</i>		<i>"</i>					

Matrix Spike (1207189-MS1)						Prepared: 07/10/12 13:43 Analyzed: 07/12/12 18:07						C-05
QC Source Sample: CT-04-0-0.5 (A12F492-09RE1)												
EPA 8081B												
Aldrin	166	---	24.3	ug/kg wet	1	195	ND	85	45-140%	---	---	
alpha-BHC	178	---	24.3	"	"	"	ND	91	60-125%	---	---	
beta-BHC	154	---	24.3	"	"	"	ND	79	"	---	---	
delta-BHC	185	---	24.3	"	"	"	ND	95	55-130%	---	---	
gamma-BHC (Lindane)	182	---	24.3	"	"	"	ND	93	60-125%	---	---	
cis-Chlordane	224	---	24.3	"	"	"	36.2	96	60-120%	---	---	
trans-Chlordane	204	---	24.3	"	"	"	19.9	95	65-125%	---	---	
4,4'-DDD	246	---	24.3	"	"	"	ND	126	30-135%	---	---	
4,4'-DDE	210	---	24.3	"	"	"	24.1	95	70-125%	---	---	
4,4'-DDT	268	---	24.3	"	"	"	13.2	131	45-140%	---	---	
Dieldrin	188	---	24.3	"	"	"	ND	97	65-125%	---	---	
Endosulfan I	184	---	24.3	"	"	"	ND	94	15-135%	---	---	
Endosulfan II	197	---	24.3	"	"	"	ND	101	35-140%	---	---	
Endosulfan sulfate	204	---	24.3	"	"	"	ND	105	60-135%	---	---	
Endrin	211	---	24.3	"	"	"	ND	108	"	---	---	
Endrin Aldehyde	222	---	24.3	"	"	"	ND	114	35-145%	---	---	
Endrin ketone	210	---	24.3	"	"	"	ND	108	65-135%	---	---	
Heptachlor	189	---	24.3	"	"	"	ND	97	50-140%	---	---	
Heptachlor epoxide	186	---	24.3	"	"	"	ND	96	65-130%	---	---	
Methoxychlor	225	---	48.7	"	"	"	ND	115	55-145%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 88 %</i>		<i>Limits: 50-125 %</i>		<i>Dilution: 1x</i>					
<i>Decachlorobiphenyl (Surr)</i>			<i>101 %</i>		<i>55-130 %</i>		<i>"</i>					

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Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

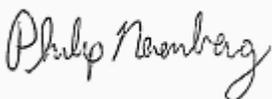
Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207189 - EPA 3546/3640A (GPC)							Soil					

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207517 - EPA 3546/3640A (GPC)						Solid						
Blank (1207517-BLK1)						Prepared: 07/26/12 10:12 Analyzed: 07/27/12 16:06						C-05
EPA 8081B												
Aldrin	ND	---	3.85	ug/kg	1	---	---	---	---	---	---	
alpha-BHC	ND	---	3.85	"	"	---	---	---	---	---	---	
beta-BHC	ND	---	3.85	"	"	---	---	---	---	---	---	
delta-BHC	ND	---	3.85	"	"	---	---	---	---	---	---	
gamma-BHC (Lindane)	ND	---	3.85	"	"	---	---	---	---	---	---	
cis-Chlordane	ND	---	3.85	"	"	---	---	---	---	---	---	
trans-Chlordane	ND	---	3.85	"	"	---	---	---	---	---	---	
4,4'-DDD	ND	---	3.85	"	"	---	---	---	---	---	---	
4,4'-DDE	ND	---	3.85	"	"	---	---	---	---	---	---	
4,4'-DDT	ND	---	3.85	"	"	---	---	---	---	---	---	
Dieldrin	ND	---	3.85	"	"	---	---	---	---	---	---	
Endosulfan I	ND	---	3.85	"	"	---	---	---	---	---	---	
Endosulfan II	ND	---	3.85	"	"	---	---	---	---	---	---	
Endosulfan sulfate	ND	---	3.85	"	"	---	---	---	---	---	---	
Endrin	ND	---	3.85	"	"	---	---	---	---	---	---	
Endrin Aldehyde	ND	---	3.85	"	"	---	---	---	---	---	---	
Endrin ketone	ND	---	3.85	"	"	---	---	---	---	---	---	
Heptachlor	ND	---	3.85	"	"	---	---	---	---	---	---	
Heptachlor epoxide	ND	---	3.85	"	"	---	---	---	---	---	---	
Methoxychlor	ND	---	7.69	"	"	---	---	---	---	---	---	
Chlordane (Technical)	ND	---	46.2	"	"	---	---	---	---	---	---	
Toxaphene (Total)	ND	---	46.2	"	"	---	---	---	---	---	---	

Surr: 2,4,5,6-TCMX (Surr) Recovery: 77 % Limits: 50-125 % Dilution: 1x
Decachlorobiphenyl (Surr) 97 % 55-130 % "

LCS (1207517-BS1)						Prepared: 07/26/12 10:12 Analyzed: 07/27/12 16:24						C-05
EPA 8081B												
Aldrin	170	---	5.00	ug/kg	1	200	---	85	45-140%	---	---	
alpha-BHC	183	---	5.00	"	"	"	---	92	60-125%	---	---	
beta-BHC	178	---	5.00	"	"	"	---	89	"	---	---	
delta-BHC	188	---	5.00	"	"	"	---	94	55-130%	---	---	
gamma-BHC (Lindane)	185	---	5.00	"	"	"	---	93	60-125%	---	---	
cis-Chlordane	176	---	5.00	"	"	"	---	88	60-120%	---	---	
trans-Chlordane	179	---	5.00	"	"	"	---	90	65-125%	---	---	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207517 - EPA 3546/3640A (GPC)						Solid						
LCS (1207517-BS1)						Prepared: 07/26/12 10:12 Analyzed: 07/27/12 16:24						C-05
4,4'-DDD	181	---	5.00	ug/kg	"	"	---	90	30-135%	---	---	
4,4'-DDE	182	---	5.00	"	"	"	---	91	70-125%	---	---	
4,4'-DDT	203	---	5.00	"	"	"	---	102	45-140%	---	---	
Dieldrin	188	---	5.00	"	"	"	---	94	65-125%	---	---	
Endosulfan I	186	---	5.00	"	"	"	---	93	15-135%	---	---	
Endosulfan II	197	---	5.00	"	"	"	---	99	35-140%	---	---	
Endosulfan sulfate	201	---	5.00	"	"	"	---	100	60-135%	---	---	
Endrin	204	---	5.00	"	"	"	---	102	"	---	---	
Endrin Aldehyde	188	---	5.00	"	"	"	---	94	30-145%	---	---	
Endrin ketone	208	---	5.00	"	"	"	---	104	65-135%	---	---	Q-23
Heptachlor	184	---	5.00	"	"	"	---	92	50-140%	---	---	
Heptachlor epoxide	182	---	5.00	"	"	"	---	91	65-130%	---	---	
Methoxychlor	217	---	10.0	"	"	"	---	108	55-145%	---	---	

Surr: 2,4,5,6-TCMX (Surr)

Recovery: 91 %

Limits: 50-125 %

Dilution: 1x

Decachlorobiphenyl (Surr)

104 %

55-130 %

"

Duplicate (1207517-DUP1)

Prepared: 07/26/12 10:12 Analyzed: 07/27/12 17:00

C-05, H-06, R-04

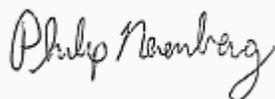
QC Source Sample: CT-01-0-0.5 (A12F492-01RE1)

EPA 8081B

Aldrin	ND	---	9.71	ug/kg	1	---	ND	---	---	---	30%
alpha-BHC	ND	---	9.71	"	"	---	ND	---	---	---	30%
beta-BHC	ND	---	9.71	"	"	---	ND	---	---	---	30%
delta-BHC	ND	---	9.71	"	"	---	ND	---	---	---	30%
gamma-BHC (Lindane)	ND	---	9.71	"	"	---	ND	---	---	---	30%
cis-Chlordane	ND	---	9.71	"	"	---	ND	---	---	---	30%
trans-Chlordane	ND	---	9.71	"	"	---	ND	---	---	---	30%
4,4'-DDD	ND	---	9.71	"	"	---	ND	---	---	---	30%
4,4'-DDE	ND	---	9.71	"	"	---	ND	---	---	---	30%
4,4'-DDT	ND	---	9.71	"	"	---	ND	---	---	---	30%
Dieldrin	ND	---	9.71	"	"	---	ND	---	---	---	30%
Endosulfan I	ND	---	9.71	"	"	---	ND	---	---	---	30%
Endosulfan II	ND	---	9.71	"	"	---	ND	---	---	---	30%
Endosulfan sulfate	ND	---	9.71	"	"	---	ND	---	---	---	30%
Endrin	ND	---	9.71	"	"	---	ND	---	---	---	30%
Endrin Aldehyde	ND	---	9.71	"	"	---	ND	---	---	---	30%

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Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

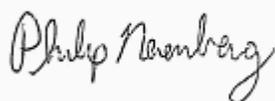
Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207517 - EPA 3546/3640A (GPC)						Solid						
Duplicate (1207517-DUP1)						Prepared: 07/26/12 10:12 Analyzed: 07/27/12 17:00				C-05, H-06, R-04		
QC Source Sample: CT-01-0-0.5 (A12F492-01RE1)												
Endrin ketone	ND	---	9.71	ug/kg	"	---	ND	---	---	---	30%	
Heptachlor	ND	---	9.71	"	"	---	ND	---	---	---	30%	
Heptachlor epoxide	ND	---	9.71	"	"	---	ND	---	---	---	30%	
Methoxychlor	ND	---	19.4	"	"	---	ND	---	---	---	30%	
Chlordane (Technical)	ND	---	117	"	"	---	ND	---	---	---	30%	
Toxaphene (Total)	ND	---	117	"	"	---	ND	---	---	---	30%	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 78 %</i>	<i>Limits: 50-125 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>			<i>89 %</i>	<i>55-130 %</i>		<i>"</i>						

Matrix Spike (1207517-MS1)						Prepared: 07/26/12 10:12 Analyzed: 07/27/12 17:35				C-05, H-06, R-04		
QC Source Sample: CT-05-0-0.5 (A12F492-11RE1)												
EPA 8081B												
Aldrin	149	---	22.8	ug/kg	1	182	ND	82	45-140%	---	---	
alpha-BHC	160	---	22.8	"	"	"	ND	88	60-125%	---	---	
beta-BHC	160	---	22.8	"	"	"	ND	88	"	---	---	
delta-BHC	163	---	22.8	"	"	"	ND	89	55-130%	---	---	
gamma-BHC (Lindane)	160	---	22.8	"	"	"	ND	88	60-125%	---	---	
cis-Chlordane	148	---	22.8	"	"	"	ND	81	60-120%	---	---	
trans-Chlordane	158	---	22.8	"	"	"	ND	86	65-125%	---	---	
4,4'-DDD	158	---	22.8	"	"	"	ND	87	30-135%	---	---	
4,4'-DDE	155	---	22.8	"	"	"	ND	85	70-125%	---	---	
4,4'-DDT	180	---	22.8	"	"	"	ND	98	45-140%	---	---	
Dieldrin	159	---	22.8	"	"	"	ND	87	65-125%	---	---	
Endosulfan I	160	---	22.8	"	"	"	ND	88	15-135%	---	---	
Endosulfan II	159	---	22.8	"	"	"	ND	87	35-140%	---	---	
Endosulfan sulfate	171	---	22.8	"	"	"	ND	93	60-135%	---	---	
Endrin	174	---	22.8	"	"	"	ND	95	"	---	---	
Endrin Aldehyde	164	---	22.8	"	"	15.2	81	35-145%	---	---		
Endrin ketone	171	---	22.8	"	"	"	ND	94	65-135%	---	---	Q-23
Heptachlor	165	---	22.8	"	"	"	ND	90	50-140%	---	---	
Heptachlor epoxide	159	---	22.8	"	"	"	ND	87	65-130%	---	---	
Methoxychlor	194	---	45.6	"	"	"	ND	106	55-145%	---	---	
<i>Surr: 2,4,5,6-TCMX (Surr)</i>			<i>Recovery: 86 %</i>	<i>Limits: 50-125 %</i>		<i>Dilution: 1x</i>						
<i>Decachlorobiphenyl (Surr)</i>			<i>90 %</i>	<i>55-130 %</i>		<i>"</i>						

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

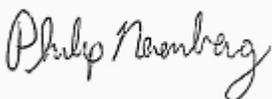
Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207517 - EPA 3546/3640A (GPC)							Solid					

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 7376 SW Durham Road
 Portland, OR 97224

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Reported:
 07/31/12 17:05

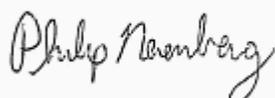
QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207164 - EPA 3546						Solid						
Blank (1207164-BLK1)						Prepared: 07/10/12 13:15 Analyzed: 07/11/12 10:19						
EPA 8270D												
Acenaphthene	ND	---	208	ug/kg	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	208	"	"	---	---	---	---	---	---	---
Aniline	ND	---	208	"	"	---	---	---	---	---	---	---
Anthracene	ND	---	208	"	"	---	---	---	---	---	---	---
Azobenzene (1,2-DPH)	ND	---	208	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	208	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	208	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	208	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	208	"	"	---	---	---	---	---	---	---
Benzo(b+k)fluoranthene(s)	ND	---	417	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	208	"	"	---	---	---	---	---	---	---
Benzoic acid	ND	---	1040	"	"	---	---	---	---	---	---	---
Benzyl alcohol	ND	---	208	"	"	---	---	---	---	---	---	---
Bis(2-Chloroethoxy) methane	ND	---	208	"	"	---	---	---	---	---	---	---
Bis(2-Chloroethyl) ether	ND	---	208	"	"	---	---	---	---	---	---	---
Bis(2-Chloroisopropyl) ether	ND	---	208	"	"	---	---	---	---	---	---	---
Bis(2-Ethylhexyl) adipate	ND	---	208	"	"	---	---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	ND	---	208	"	"	---	---	---	---	---	---	---
4-Bromophenyl phenyl ether	ND	---	208	"	"	---	---	---	---	---	---	---
Butyl benzyl phthalate	ND	---	208	"	"	---	---	---	---	---	---	---
Carbazole	ND	---	208	"	"	---	---	---	---	---	---	---
4-Chloroaniline	ND	---	208	"	"	---	---	---	---	---	---	---
4-Chloro-3-methylphenol	ND	---	208	"	"	---	---	---	---	---	---	---
2-Chloronaphthalene	ND	---	208	"	"	---	---	---	---	---	---	---
2-Chlorophenol	ND	---	208	"	"	---	---	---	---	---	---	---
4-Chlorophenyl phenyl ether	ND	---	208	"	"	---	---	---	---	---	---	---
Chrysene	ND	---	208	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	208	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	---	208	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	208	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	208	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	208	"	"	---	---	---	---	---	---	---
2,4-Dichlorophenol	ND	---	208	"	"	---	---	---	---	---	---	---
Di-n-butylphthalate	ND	---	208	"	"	---	---	---	---	---	---	---

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

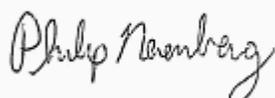
QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207164 - EPA 3546						Solid						
Blank (1207164-BLK1)						Prepared: 07/10/12 13:15 Analyzed: 07/11/12 10:19						
Diethylphthalate	ND	---	208	ug/kg	"	---	---	---	---	---	---	
Dimethylphthalate	ND	---	208	"	"	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	---	208	"	"	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	---	208	"	"	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	---	208	"	"	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	---	208	"	"	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	---	500	"	"	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	---	208	"	"	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	---	208	"	"	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	---	208	"	"	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	---	208	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	208	"	"	---	---	---	---	---	---	
Fluorene	ND	---	208	"	"	---	---	---	---	---	---	
Hexachlorobenzene	ND	---	208	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	208	"	"	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	---	208	"	"	---	---	---	---	---	---	
Hexachloroethane	ND	---	208	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	208	"	"	---	---	---	---	---	---	
Isophorone	ND	---	208	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	208	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	208	"	"	---	---	---	---	---	---	
2-Methylphenol	ND	---	208	"	"	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	---	208	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	208	"	"	---	---	---	---	---	---	
2-Nitroaniline	ND	---	208	"	"	---	---	---	---	---	---	
3-Nitroaniline	ND	---	208	"	"	---	---	---	---	---	---	
4-Nitroaniline	ND	---	208	"	"	---	---	---	---	---	---	
Nitrobenzene	ND	---	208	"	"	---	---	---	---	---	---	
2-Nitrophenol	ND	---	208	"	"	---	---	---	---	---	---	
4-Nitrophenol	ND	---	208	"	"	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	---	208	"	"	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	---	208	"	"	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	---	208	"	"	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	---	208	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	208	"	"	---	---	---	---	---	---	

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 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

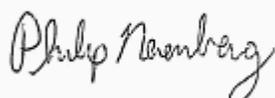
QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207164 - EPA 3546						Solid						
Blank (1207164-BLK1)						Prepared: 07/10/12 13:15 Analyzed: 07/11/12 10:19						
Phenol	ND	---	208	ug/kg	"	---	---	---	---	---	---	
Pyrene	ND	---	208	"	"	---	---	---	---	---	---	
Pyridine	ND	---	417	"	"	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	---	208	"	"	---	---	---	---	---	---	
2,3,5,6-Tetrachlorophenol	ND	---	208	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	208	"	"	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	---	208	"	"	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	---	208	"	"	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 75 %</i>	<i>Limits: 35-120 %</i>		<i>Dilution: 1x</i>						
<i>2-Fluorobiphenyl (Surr)</i>			<i>79 %</i>	<i>45-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>			<i>76 %</i>	<i>40-120 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>			<i>102 %</i>	<i>30-125 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>			<i>78 %</i>	<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>			<i>68 %</i>	<i>35-125 %</i>		<i>"</i>						
LCS (1207164-BS1)						Prepared: 07/10/12 13:15 Analyzed: 07/11/12 10:55						
EPA 8270D												
Acenaphthene	654	---	250	ug/kg	1	800	---	82	45-120%	---	---	
Acenaphthylene	679	---	250	"	"	"	---	85	"	---	---	
Aniline	348	---	250	"	"	"	---	44	40-120%	---	---	
Anthracene	677	---	250	"	"	"	---	85	55-120%	---	---	
Azobenzene (1,2-DPH)	689	---	250	"	"	"	---	86	25-120%	---	---	
Benz(a)anthracene	643	---	250	"	"	"	---	80	50-120%	---	---	
Benzo(a)pyrene	668	---	250	"	"	"	---	83	"	---	---	
Benzo(b)fluoranthene	676	---	250	"	"	"	---	84	45-120%	---	---	
Benzo(k)fluoranthene	679	---	250	"	"	"	---	85	45-125%	---	---	
Benzo(b+k)fluoranthene(s)	1360	---	500	"	"	1600	---	85	"	---	---	
Benzo(g,h,i)perylene	641	---	250	"	"	800	---	80	40-125%	---	---	
Benzoic acid	ND	---	1250	"	"	1600	---	11	10-120%	---	---	
Benzyl alcohol	586	---	250	"	"	800	---	73	20-125%	---	---	
Bis(2-Chloroethoxy) methane	620	---	250	"	"	"	---	77	45-120%	---	---	
Bis(2-Chloroethyl) ether	584	---	250	"	"	"	---	73	40-120%	---	---	
Bis(2-Chloroisopropyl) ether	620	---	250	"	"	"	---	78	20-120%	---	---	
Bis(2-Ethylhexyl) adipate	630	---	250	"	"	"	---	79	40-120%	---	---	
Bis(2-ethylhexyl)phthalate	622	---	250	"	"	"	---	78	45-125%	---	---	
4-Bromophenyl phenyl ether	672	---	250	"	"	"	---	84	45-120%	---	---	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207164 - EPA 3546						Solid						
LCS (1207164-BS1)						Prepared: 07/10/12 13:15 Analyzed: 07/11/12 10:55						
Butyl benzyl phthalate	647	---	250	ug/kg	"	"	---	81	50-125%	---	---	
Carbazole	708	---	250	"	"	"	---	88	45-120%	---	---	
4-Chloroaniline	306	---	250	"	"	"	---	38	10-120%	---	---	
4-Chloro-3-methylphenol	657	---	250	"	"	"	---	82	45-120%	---	---	
2-Chloronaphthalene	659	---	250	"	"	"	---	82	"	---	---	
2-Chlorophenol	635	---	250	"	"	"	---	79	"	---	---	
4-Chlorophenyl phenyl ether	677	---	250	"	"	"	---	85	"	---	---	
Chrysene	631	---	250	"	"	"	---	79	55-120%	---	---	
Dibenz(a,h)anthracene	612	---	250	"	"	"	---	76	40-125%	---	---	
Dibenzofuran	642	---	250	"	"	"	---	80	50-120%	---	---	
1,2-Dichlorobenzene	585	---	250	"	"	"	---	73	45-120%	---	---	
1,3-Dichlorobenzene	599	---	250	"	"	"	---	75	40-120%	---	---	
1,4-Dichlorobenzene	590	---	250	"	"	"	---	74	35-120%	---	---	
2,4-Dichlorophenol	670	---	250	"	"	"	---	84	45-120%	---	---	
Di-n-butylphthalate	625	---	250	"	"	"	---	78	55-120%	---	---	
Diethylphthalate	703	---	250	"	"	"	---	88	50-120%	---	---	
Dimethylphthalate	648	---	250	"	"	"	---	81	"	---	---	
2,4-Dimethylphenol	622	---	250	"	"	"	---	78	30-120%	---	---	
1,2-Dinitrobenzene	592	---	250	"	"	"	---	74	40-120%	---	---	
1,3-Dinitrobenzene	602	---	250	"	"	"	---	75	"	---	---	
1,4-Dinitrobenzene	625	---	250	"	"	"	---	78	"	---	---	
4,6-Dinitro-2-methylphenol	ND	---	600	"	"	"	---	71	30-135%	---	---	
2,4-Dinitrophenol	415	---	250	"	"	"	---	52	15-130%	---	---	
2,4-Dinitrotoluene	595	---	250	"	"	"	---	74	50-120%	---	---	
2,6-Dinitrotoluene	677	---	250	"	"	"	---	85	"	---	---	
Di-n-octyl phthalate	616	---	250	"	"	"	---	77	40-130%	---	---	
Fluoranthene	676	---	250	"	"	"	---	85	55-120%	---	---	
Fluorene	673	---	250	"	"	"	---	84	50-120%	---	---	
Hexachlorobenzene	689	---	250	"	"	"	---	86	45-120%	---	---	
Hexachlorobutadiene	653	---	250	"	"	"	---	82	40-120%	---	---	
Hexachlorocyclopentadiene	635	---	250	"	"	"	---	79	"	---	---	
Hexachloroethane	625	---	250	"	"	"	---	78	35-120%	---	---	
Indeno(1,2,3-cd)pyrene	591	---	250	"	"	"	---	74	40-120%	---	---	
Isophorone	623	---	250	"	"	"	---	78	45-120%	---	---	
1-Methylnaphthalene	649	---	250	"	"	"	---	81	"	---	---	

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Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207164 - EPA 3546						Solid						
LCS (1207164-BS1)						Prepared: 07/10/12 13:15 Analyzed: 07/11/12 10:55						
2-Methylnaphthalene	672	---	250	ug/kg	"	"	---	84	"	---	---	
2-Methylphenol	618	---	250	"	"	"	---	77	40-120%	---	---	
3+4-Methylphenol(s)	617	---	250	"	"	"	---	77	"	---	---	
Naphthalene	636	---	250	"	"	"	---	79	"	---	---	
2-Nitroaniline	605	---	250	"	"	"	---	76	45-120%	---	---	
3-Nitroaniline	510	---	250	"	"	"	---	64	25-120%	---	---	
4-Nitroaniline	766	---	250	"	"	"	---	96	35-120%	---	---	Q-23
Nitrobenzene	623	---	250	"	"	"	---	78	40-120%	---	---	
2-Nitrophenol	772	---	250	"	"	"	---	97	40-110%	---	---	
4-Nitrophenol	509	---	250	"	"	"	---	64	15-140%	---	---	
N-Nitrosodimethylamine	537	---	250	"	"	"	---	67	20-120%	---	---	
N-Nitroso-di-n-propylamine	588	---	250	"	"	"	---	73	40-120%	---	---	
N-Nitrosodiphenylamine	675	---	250	"	"	"	---	84	50-120%	---	---	
Pentachlorophenol (PCP)	499	---	250	"	"	"	---	62	25-120%	---	---	
Phenanthrene	658	---	250	"	"	"	---	82	50-120%	---	---	
Phenol	606	---	250	"	"	"	---	76	40-120%	---	---	
Pyrene	654	---	250	"	"	"	---	82	45-120%	---	---	
Pyridine	511	---	500	"	"	"	---	64	40-120%	---	---	
2,3,4,6-Tetrachlorophenol	583	---	250	"	"	"	---	73	"	---	---	
2,3,5,6-Tetrachlorophenol	594	---	250	"	"	"	---	74	"	---	---	
1,2,4-Trichlorobenzene	618	---	250	"	"	"	---	77	45-120%	---	---	
2,4,5-Trichlorophenol	588	---	250	"	"	"	---	73	40-120%	---	---	
2,4,6-Trichlorophenol	608	---	250	"	"	"	---	76	"	---	---	

Surr: Nitrobenzene-d5 (Surr)	Recovery: 77 %	Limits: 35-120 %	Dilution: 1x
2-Fluorobiphenyl (Surr)	80 %	45-120 %	"
Phenol-d6 (Surr)	78 %	40-120 %	"
p-Terphenyl-d14 (Surr)	97 %	30-125 %	"
2-Fluorophenol (Surr)	80 %	35-120 %	"
2,4,6-Tribromophenol (Surr)	85 %	35-125 %	"

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Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207120 - EPA 3546						Soil						
Blank (1207120-BLK1)						Prepared: 07/09/12 08:24 Analyzed: 07/10/12 12:28						
EPA 8270D (SIM)												
Acenaphthene	ND	---	8.33	ug/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Anthracene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Benzo(b+k)fluoranthene(s)	ND	---	16.7	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Chrysene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	---	8.33	"	"	---	---	---	---	---	---	---
Fluoranthene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Fluorene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	8.33	"	"	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	8.33	"	"	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Naphthalene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Phenanthrene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Pyrene	ND	---	8.33	"	"	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr) Recovery: 85 % Limits: 45-120 % Dilution: 1x
p-Terphenyl-d14 (Surr) 104 % 30-120 % "

LCS (1207120-BS1)

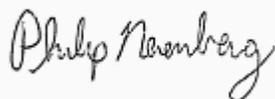
Prepared: 07/09/12 08:24 Analyzed: 07/10/12 12:56

EPA 8270D (SIM)

Acenaphthene	687	---	10.0	ug/kg wet	1	800	---	86	45-125%	---	---
Acenaphthylene	702	---	10.0	"	"	"	---	88	"	---	---
Anthracene	714	---	10.0	"	"	"	---	89	55-125%	---	---
Benz(a)anthracene	692	---	10.0	"	"	"	---	86	50-125%	---	---
Benzo(a)pyrene	734	---	10.0	"	"	"	---	92	"	---	---
Benzo(b)fluoranthene	729	---	10.0	"	"	"	---	91	45-125%	---	---
Benzo(k)fluoranthene	732	---	10.0	"	"	"	---	91	"	---	---
Benzo(b+k)fluoranthene(s)	1450	---	20.0	"	"	1600	---	91	"	---	---
Benzo(g,h,i)perylene	759	---	10.0	"	"	800	---	95	40-125%	---	---

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Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

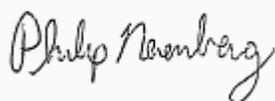
QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207120 - EPA 3546						Soil						
LCS (1207120-BS1)						Prepared: 07/09/12 08:24 Analyzed: 07/10/12 12:56						
Chrysene	712	---	10.0	ug/kg wet	"	"	---	89	55-125%	---	---	
Dibenz(a,h)anthracene	742	---	10.0	"	"	"	---	93	40-125%	---	---	
Dibenzofuran	692	---	10.0	"	"	"	---	87	50-125%	---	---	
Fluoranthene	712	---	10.0	"	"	"	---	89	55-125%	---	---	
Fluorene	706	---	10.0	"	"	"	---	88	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	712	---	10.0	"	"	"	---	89	40-125%	---	---	
1-Methylnaphthalene	679	---	10.0	"	"	"	---	85	45-125%	---	---	
2-Methylnaphthalene	704	---	10.0	"	"	"	---	88	"	---	---	
Naphthalene	661	---	10.0	"	"	"	---	83	40-125%	---	---	
Phenanthrene	693	---	10.0	"	"	"	---	87	50-125%	---	---	
Pyrene	705	---	10.0	"	"	"	---	88	45-125%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>			<i>100 %</i>	<i>30-120 %</i>		<i>"</i>						
Duplicate (1207120-DUP1)						Prepared: 07/09/12 08:24 Analyzed: 07/10/12 15:17						
QC Source Sample: CT-01-0-0.5 (A12F492-01)												
EPA 8270D (SIM)												
Acenaphthene	ND	---	47.6	ug/kg wet	5	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	47.6	"	"	---	ND	---	---	---	30%	
Anthracene	ND	---	47.6	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	---	47.6	"	"	---	49.1	---	---	***	30%	
Benzo(a)pyrene	61.2	---	47.6	"	"	---	67.4	---	---	10	30%	
Benzo(b+k)fluoranthene(s)	ND	---	95.2	"	"	---	91.4	---	---	***	30%	Q-26
Benzo(g,h,i)perylene	72.5	---	47.6	"	"	---	90.1	---	---	22	30%	
Chrysene	53.0	---	47.6	"	"	---	55.9	---	---	5	30%	
Dibenz(a,h)anthracene	ND	---	47.6	"	"	---	ND	---	---	---	30%	
Dibenzofuran	ND	---	47.6	"	"	---	47.7	---	---	***	30%	
Fluoranthene	ND	---	47.6	"	"	---	58.1	---	---	***	30%	
Fluorene	ND	---	47.6	"	"	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	61.9	---	47.6	"	"	---	79.5	---	---	25	30%	
1-Methylnaphthalene	85.1	---	47.6	"	"	---	162	---	---	62	30%	Q-17
2-Methylnaphthalene	86.9	---	47.6	"	"	---	171	---	---	65	30%	Q-17
Naphthalene	75.6	---	47.6	"	"	---	129	---	---	52	30%	Q-17
Phenanthrene	55.9	---	47.6	"	"	---	98.8	---	---	56	30%	Q-17
Pyrene	58.4	---	47.6	"	"	---	63.7	---	---	9	30%	

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 Portland, OR 97224

Project: **Troutdale Riverfront**
 Project Number: 261M125850
 Project Manager: Leonard Farr

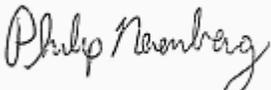
Reported:
 07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207120 - EPA 3546						Soil						
Duplicate (1207120-DUP1)						Prepared: 07/09/12 08:24 Analyzed: 07/10/12 15:17						
QC Source Sample: CT-01-0-0.5 (A12F492-01)												
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 5x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>87 %</i>		<i>30-120 %</i>		<i>"</i>						

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Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

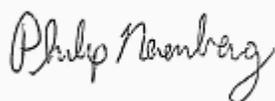
QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207158 - EPA 3051A						Soil						
Blank (1207158-BLK1)						Prepared: 07/10/12 12:29 Analyzed: 07/11/12 17:45						
EPA 6020												
Arsenic	ND	---	2.00	mg/kg wet	10	---	---	---	---	---	---	---
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	---
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	---
Chromium	ND	---	2.00	"	"	---	---	---	---	---	---	---
Iron	ND	---	50.0	"	"	---	---	---	---	---	---	---
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	---
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	---
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	---
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	---
Vanadium	ND	---	2.00	"	"	---	---	---	---	---	---	---
LCS (1207158-BS1)						Prepared: 07/10/12 12:29 Analyzed: 07/12/12 11:18						
EPA 6020												
Arsenic	50.3	---	2.00	mg/kg wet	10	50.0	---	101	80-120%	---	---	---
Barium	50.2	---	1.00	"	"	"	---	100	"	---	---	---
Cadmium	49.7	---	1.00	"	"	"	---	99	"	---	---	---
Chromium	48.2	---	2.00	"	"	"	---	96	"	---	---	---
Iron	4950	---	50.0	"	"	5000	---	99	"	---	---	---
Lead	49.3	---	1.00	"	"	50.0	---	99	"	---	---	---
Mercury	1.01	---	0.0800	"	"	1.00	---	101	"	---	---	---
Selenium	26.5	---	2.00	"	"	25.0	---	106	"	---	---	---
Silver	25.6	---	1.00	"	"	"	---	103	"	---	---	---
Vanadium	49.5	---	2.00	"	"	50.0	---	99	"	---	---	---
Duplicate (1207158-DUP1)						Prepared: 07/10/12 12:29 Analyzed: 07/11/12 18:02						
QC Source Sample: CT-02-13.5-14 (A12F492-04)												
EPA 6020												
Arsenic	4.26	---	2.63	mg/kg dry	10	---	4.00	---	---	6	40%	---
Barium	127	---	1.32	"	"	---	135	---	---	6	40%	---
Cadmium	ND	---	1.32	"	"	---	ND	---	---	---	40%	---
Chromium	14.5	---	2.63	"	"	---	14.6	---	---	0.7	40%	---
Iron	20300	---	65.8	"	"	---	20200	---	---	0.6	40%	---
Lead	5.66	---	1.32	"	"	---	5.40	---	---	5	40%	---
Mercury	ND	---	0.105	"	"	---	ND	---	---	---	40%	---

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 Project Number: 261M125850
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Reported:
 07/31/12 17:05

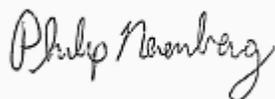
QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207158 - EPA 3051A						Soil						
Duplicate (1207158-DUP1)						Prepared: 07/10/12 12:29 Analyzed: 07/11/12 18:02						
QC Source Sample: CT-02-13.5-14 (A12F492-04)												
Selenium	ND	---	2.63	mg/kg dry	"	---	ND	---	---	---	40%	
Silver	ND	---	1.32	"	"	---	ND	---	---	---	40%	
Vanadium	44.7	---	2.63	"	"	---	44.8	---	---	0.2	40%	
Matrix Spike (1207158-MS2)						Prepared: 07/10/12 12:29 Analyzed: 07/11/12 18:58						
QC Source Sample: CT-02-13.5-14 (A12F492-04)												
EPA 6020												
Arsenic	71.1	---	2.46	mg/kg dry	10	61.5	4.00	109	75-125%	---	---	
Barium	213	---	1.23	"	"	"	135	128	"	---	---	Q-01
Cadmium	61.7	---	1.23	"	"	"	ND	100	"	---	---	
Chromium	73.9	---	2.46	"	"	"	14.6	96	"	---	---	
Iron	25200	---	61.5	"	"	6150	20200	82	"	---	---	
Lead	64.3	---	1.23	"	"	61.5	5.40	96	"	---	---	
Mercury	1.24	---	0.0985	"	"	1.23	ND	100	"	---	---	
Selenium	29.7	---	2.46	"	"	30.8	ND	97	"	---	---	
Silver	31.4	---	1.23	"	"	"	ND	102	"	---	---	
Vanadium	99.3	---	2.46	"	"	61.5	44.8	89	"	---	---	
Post Spike (1207158-PS1)						Prepared: 07/12/12 09:27 Analyzed: 07/12/12 11:24						
QC Source Sample: CT-02-13.5-14 (A12F492-04)												
EPA 6020												
Barium	1720	---		ug/L	10	909	992	81	80-120%		---	

Apex Laboratories

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



Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Leonard Farr

Reported:
 07/31/12 17:05

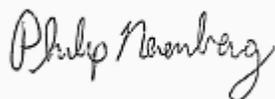
QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1206612 - Method Prep: Non-Aq						Soil						
Duplicate (1206612-DUP1)						Prepared: 06/29/12 11:46 Analyzed: 06/29/12 13:12						
QC Source Sample: CT-05-5-6 (A12F492-12)												
EPA 9045D												
Soil pH (measured in H2O)	7.92	---		pH Units	1	---	7.94	---	---	0.3	10%	
pH Temperature (deg C)	24.1	---		"	"	---	24.0	---	---	0.4	30%	
Reference (1206612-SRM1)						Prepared: 06/29/12 11:46 Analyzed: 06/29/12 12:56						
EPA 9045D												
Soil pH (measured in H2O)	6.01	---		pH Units	1	6.00		100	98.4-101.7%	---	---	
Reference (1206612-SRM2)						Prepared: 06/29/12 11:46 Analyzed: 06/29/12 13:14						
EPA 9045D												
Soil pH (measured in H2O)	7.96	---		pH Units	1	8.00		100	98.75-101.26%	---	---	

Apex Laboratories

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Philip Nerenberg, Lab Director

AmeC Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: **Troutdale Riverfront**
 Project Number: 261M125850
 Project Manager: Leonard Farr

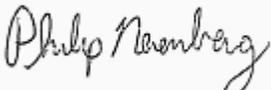
Reported:
 07/31/12 17:05

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1207022 - Total Solids (Dry Weight)						Soil						
Duplicate (1207022-DUP1)						Prepared: 07/02/12 15:46 Analyzed: 07/03/12 10:19						
QC Source Sample: CT-04-6-7 (A12F492-10)												
Apex SOP												
% Solids	90.2	---	1.00	% by Weight	1	---	89.8	---	---	0.4	20%	

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1206599							
A12F492-02	Soil	5035/8260B	06/27/12 10:20	06/28/12 13:45	11.621g/10mL	10g/10mL	0.86
A12F492-04	Soil	5035/8260B	06/27/12 10:00	06/28/12 13:45	11.079g/10mL	10g/10mL	0.90
A12F492-06	Soil	5035/8260B	06/27/12 11:30	06/28/12 13:45	9.232g/20mL	10g/10mL	2.17
A12F492-07	Soil	5035/8260B	06/27/12 12:00	06/28/12 13:45	11.463g/10mL	10g/10mL	0.87
A12F492-10RE1	Soil	5035/8260B	06/27/12 12:45	06/28/12 13:45	12.068g/10mL	10g/10mL	0.83
A12F492-12	Soil	5035/8260B	06/27/12 13:15	06/28/12 13:45	5.744g/20mL	10g/10mL	3.48
A12F492-13RE1	Soil	5035/8260B	06/27/12 13:22	06/28/12 13:45	11.067g/10mL	10g/10mL	0.90
A12F492-14	Soil	5035/8260B	06/27/12 12:30	06/28/12 13:45	10.713g/20mL	10g/10mL	1.87

Organochlorine Pesticides by EPA 8081B

Prep: EPA 3546/3640A (GPC)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1207189							
A12F492-03RE1	Soil	EPA 8081B	06/27/12 09:30	07/10/12 13:43	10.8g/20mL	10g/5mL	3.70
A12F492-05RE1	Soil	EPA 8081B	06/27/12 14:10	07/10/12 13:43	10.93g/50mL	10g/5mL	9.15
A12F492-09RE1	Soil	EPA 8081B	06/27/12 14:00	07/10/12 13:43	10.56g/50mL	10g/5mL	9.47
Batch: 1207517							
A12F492-01RE1	Soil	EPA 8081B	06/27/12 10:05	07/26/12 10:12	10.62g/20mL	10g/5mL	3.77
A12F492-11RE1	Soil	EPA 8081B	06/27/12 14:05	07/26/12 10:12	12.1g/50mL	10g/5mL	8.26

Semivolatile Organic Compounds by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1207164							
A12F492-12	Soil	EPA 8270D	06/27/12 13:15	07/10/12 13:15	1.04g/10mL	10g/5mL	19.20

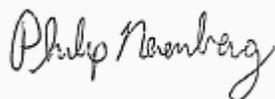
Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1207120							
A12F492-01	Soil	EPA 8270D (SIM)	06/27/12 10:05	07/09/12 08:24	10.14g/5mL	10g/5mL	0.99
A12F492-02	Soil	EPA 8270D (SIM)	06/27/12 10:20	07/09/12 08:24	10.35g/5mL	10g/5mL	0.97

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A12F492-03RE1	Soil	EPA 8270D (SIM)	06/27/12 09:30	07/09/12 08:24	11.29g/5mL	10g/5mL	0.89
A12F492-04	Soil	EPA 8270D (SIM)	06/27/12 10:00	07/09/12 08:24	10.91g/5mL	10g/5mL	0.92
A12F492-05	Soil	EPA 8270D (SIM)	06/27/12 14:10	07/09/12 08:24	10.32g/5mL	10g/5mL	0.97
A12F492-06	Soil	EPA 8270D (SIM)	06/27/12 11:30	07/09/12 08:24	1.03g/10mL	10g/5mL	19.40
A12F492-07	Soil	EPA 8270D (SIM)	06/27/12 12:00	07/09/12 08:24	11.14g/5mL	10g/5mL	0.90
A12F492-09	Soil	EPA 8270D (SIM)	06/27/12 14:00	07/09/12 08:24	11.68g/5mL	10g/5mL	0.86
A12F492-10	Soil	EPA 8270D (SIM)	06/27/12 12:45	07/09/12 08:24	10.56g/5mL	10g/5mL	0.95
A12F492-11RE1	Soil	EPA 8270D (SIM)	06/27/12 14:05	07/09/12 08:24	10.19g/5mL	10g/5mL	0.98
A12F492-13	Soil	EPA 8270D (SIM)	06/27/12 13:22	07/09/12 08:24	10.25g/5mL	10g/5mL	0.98
A12F492-14	Soil	EPA 8270D (SIM)	06/27/12 12:30	07/09/12 08:24	1.23g/10mL	10g/5mL	16.30

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1207158							
A12F492-01	Soil	EPA 6020	06/27/12 10:05	07/10/12 12:29	0.539g/50mL	0.5g/50mL	0.93
A12F492-02	Soil	EPA 6020	06/27/12 10:20	07/10/12 12:29	0.478g/50mL	0.5g/50mL	1.05
A12F492-03	Soil	EPA 6020	06/27/12 09:30	07/10/12 12:29	0.492g/50mL	0.5g/50mL	1.02
A12F492-04	Soil	EPA 6020	06/27/12 10:00	07/10/12 12:29	0.509g/50mL	0.5g/50mL	0.98
A12F492-05	Soil	EPA 6020	06/27/12 14:10	07/10/12 12:29	0.536g/50mL	0.5g/50mL	0.93
A12F492-06	Soil	EPA 6020	06/27/12 11:30	07/10/12 12:29	0.469g/50mL	0.5g/50mL	1.07
A12F492-07	Soil	EPA 6020	06/27/12 12:00	07/10/12 12:29	0.545g/50mL	0.5g/50mL	0.92
A12F492-09	Soil	EPA 6020	06/27/12 14:00	07/10/12 12:29	0.472g/50mL	0.5g/50mL	1.06
A12F492-10	Soil	EPA 6020	06/27/12 12:45	07/10/12 12:29	0.542g/50mL	0.5g/50mL	0.92
A12F492-11	Soil	EPA 6020	06/27/12 14:05	07/10/12 12:29	0.532g/50mL	0.5g/50mL	0.94
A12F492-12	Soil	EPA 6020	06/27/12 13:15	07/10/12 12:29	0.538g/50mL	0.5g/50mL	0.93
A12F492-13	Soil	EPA 6020	06/27/12 13:22	07/10/12 12:29	0.518g/50mL	0.5g/50mL	0.97
A12F492-14	Soil	EPA 6020	06/27/12 12:30	07/10/12 12:29	0.468g/50mL	0.5g/50mL	1.07

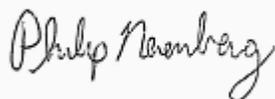
Conventional Chemistry Parameters

Prep: Method Prep: Non-Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1206612							
A12F492-12	Soil	EPA 9045D	06/27/12 13:15	06/29/12 11:47	20g/20mL	20g/20mL	NA

Apex Laboratories

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Philip Nerenberg, Lab Director

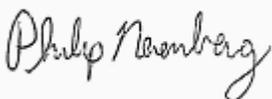
Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: **Troutdale Riverfront**
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

SAMPLE PREPARATION INFORMATION

Apex Laboratories



Philip Nerenberg, Lab Director

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Amec Environment & Infrastructure, Inc

Project: Troutdale Riverfront

7376 SW Durham Road
Portland, OR 97224

Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

Notes and Definitions

Qualifiers:

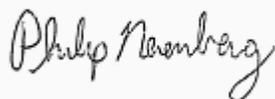
- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- H-06 This sample was received, or the analysis requested, outside the recommended holding time.
- P-04 The sample chromatographic pattern for this multicomponent analyte (Toxaphene or Chlordane) does not resemble the standard used for quantitation. Results are estimated.
- Q-01 Percent recovery and/or RPD is outside acceptance limits.
- Q-17 RPD between original and duplicate sample is outside of established control limits.
- Q-23 Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Data is likely biased high.
- Q-26 Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)Fluoranthenes.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- R-04 Reporting levels elevated due to dilution necessary for analysis.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- V-06 Sample aliquot was subsampled from a soil jar with minimal headspace. The subsampled aliquot was preserved within 48 hours of sampling.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc

7376 SW Durham Road
Portland, OR 97224

Project: **Troutdale Riverfront**

Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

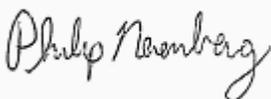
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: **Troutdale Riverfront**
Project Number: 261M125850
Project Manager: Leonard Farr

Reported:
07/31/12 17:05

CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: **AMEC** Project Mgr: **Leon Farr** Project Name: **Troutdale Riverfront** Project # **261M125850**
 Address: **7376 SW Durham Road** Phone: **503-634-3400** Fax: **503-600-1100** Email: **leon.farr@amec.com**
 Sampled by: **Joe Passio**

Site Location: OR WA
 Other: _____

LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTH-ACID	NWTH-DX	NWTH-GX	8260 VOC	8160 BTEX	8170 SVOC	8170 SEM PAHs	8802 PCBs	600 TTO	TCF Media (I)	TCF Media (II)	AL, SA, Ar, Ba, Bi, Br, Ca, Cd, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Se, Zn	1201-COLS	1201-Z	Organochlorine Pesticides	PH (Soil) 9040	Wash port	Organochlorine Pesticides	Toxic Chemicals	Soil Hole
CT-05-0-0-5	6/26/12	1405	Amphib	5							X			X		X			X					X
CT-05-3-6	↓	1315	Amphib	1				X		X				X		X			X					X
CT-03-11-13	↓	1822	Amphib	1				X		X				X		X			X					X
CT-04-3-6	↓	1820	Amphib	1				X		X				X		X			X					X

Normal Turn Around Time (TAT) = 7-10 Business Days **YES** **NO**

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS: _____

RELEASING BY: **Joe Passio** Date: **6/26/12** Signature: *[Signature]* Date: **6/28**
 RECEIVED BY: **AMEC** Date: **7/31/12** Signature: *[Signature]* Date: **7/31/12**
 Printed Name: **Joe Passio** Title: **Lab Manager** Printed Name: **AMEC** Title: **Lab Manager**
 Company: **AMEC** Company: **AMEC**

Apex Laboratories
Philip Nerenberg
Philip Nerenberg, Lab Director

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

17 July 2012

Philip Nerenberg
Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

RE: Subcontract
A12F492

Enclosed are the results of analyses for samples received by the laboratory on 07/10/12 10:50. If you have any questions concerning this report, please feel free to contact me at 1-800-858-5227.

ANALYTICAL REPORT FOR SAMPLES

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A12F492-15 (Composite)	1G20422-01	Soil	06/27/12 11:30	07/10/12 10:50

Apex Laboratories
12232 SW Garden Place
Tigard OR, 97223

Project: Subcontract
Project Number: A12F492
Project Manager: Philip Nerenberg

Reported
07/17/12 19:51

A12F492-15 (Composite)
1G20422-01 (Soil)

Date Sampled: 6/27/2012 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Keystone Laboratories, Inc. - Newton

Determination of Chlorinated Phenoxy Herbicides

Dalapon	ND	0.417	mg/kg dry	1	1VG0314	07/11/12	07/17/12 12:40	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.417	"	"	"	"	"	"	
Dicamba	ND	0.417	"	"	"	"	"	"	
MCPP	ND	417	"	"	"	"	"	"	
MCPA	ND	417	"	"	"	"	"	"	
Dichlorprop	ND	0.417	"	"	"	"	"	"	
2,4-D	ND	0.417	"	"	"	"	"	"	
Pentachlorophenol	0.433	0.417	"	"	"	"	"	"	
2,4,5-TP (Silvex)	ND	0.417	"	"	"	"	"	"	
Chloramben	ND	0.417	"	"	"	"	"	"	
2,4,5-T	ND	0.417	"	"	"	"	"	"	
2,4-DB	ND	0.417	"	"	"	"	"	"	
Bentazon	ND	0.417	"	"	"	"	"	"	
Picloram	ND	0.417	"	"	"	"	"	"	
Dinoseb	ND	0.417	"	"	"	"	"	"	
DCPA	ND	0.417	"	"	"	"	"	"	
Acifluorfen	ND	0.417	"	"	"	"	"	"	

Surrogate: 2,5-Dichlorobenzoic Acid 21.6 % 24-140 " " " " S-04

Determination of Conventional Chemistry Parameters

Cyanide, total	ND	0.6	mg/kg dry	1	1VG0283	07/11/12	07/11/12 16:20	EPA 9010B/9014	
Flash Point, Cleveland Open Cup	> 181	20	°F	"	1VG0265	07/10/12	07/10/12 16:17	ASTM D 92-85	F-02
% Solids	57.4	0.1	%	"	1VG0275	07/10/12	07/10/12 16:48	SM 2540 G	I-05
Sulfide, total	176	17	mg/kg dry	"	1VG0277	07/11/12	07/12/12 14:29	EPA 9030B	

Apex Laboratories
12232 SW Garden Place
Tigard OR, 97223

Project: Subcontract
Project Number: A12F492
Project Manager: Philip Nerenberg

Reported
07/17/12 19:51

Determination of Chlorinated Phenoxy Herbicides - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1VG0314 - EPA 8151A

Blank (1VG0314-BLK1)

Prepared: 07/11/12 Analyzed: 07/17/12

Dalapon	ND	0.050	mg/kg wet							
3,5-Dichlorobenzoic acid	ND	0.050	"							
Dicamba	ND	0.050	"							
MCPP	ND	50.0	"							
MCPA	ND	50.0	"							
Dichlorprop	ND	0.050	"							
2,4-D	ND	0.050	"							
Pentachlorophenol	ND	0.050	"							
2,4,5-TP (Silvex)	ND	0.050	"							
Chloramben	ND	0.050	"							
2,4,5-T	ND	0.050	"							
2,4-DB	ND	0.050	"							
Bentazon	ND	0.050	"							
Picloram	ND	0.050	"							
Dinoseb	ND	0.050	"							
DCPA	ND	0.050	"							
Acifluorfen	ND	0.050	"							

Surrogate: 2,5-Dichlorobenzoic Acid 0.0375 " 0.0670000 56.0 24-140

LCS (1VG0314-BS1)

Prepared: 07/11/12 Analyzed: 07/17/12

Dalapon	0.112	0.050	mg/kg wet	0.234000		47.7	32-100			
3,5-Dichlorobenzoic acid	0.010	0.050	"	0.0180000		53.7	34-157			
Dicamba	0.010	0.050	"	0.0180000		58.3	22-148			
Dichlorprop	0.030	0.050	"	0.0540000		56.2	25-138			
2,4-D	0.020	0.050	"	0.0360000		56.9	23-141			
Pentachlorophenol	0.009	0.050	"	0.0180000		50.9	25-129			
2,4,5-TP (Silvex)	0.009	0.050	"	0.0180000		49.1	22-143			
Chloramben	0.005	0.050	"	0.0180000		25.9	30-125			QS-03
2,4,5-T	0.009	0.050	"	0.0180000		48.1	25-124			
2,4-DB	0.093	0.050	"	0.144000		64.5	29-146			
Bentazon	0.027	0.050	"	0.0360000		75.9	33-148			
Picloram	0.011	0.050	"	0.0180000		59.3	20-146			
Dinoseb	0.004	0.050	"	0.0360000		10.2	17-163			QS-03
DCPA	0.016	0.050	"	0.0180000		88.0	27-112			
Acifluorfen	0.010	0.050	"	0.0180000		55.6	27-122			

Surrogate: 2,5-Dichlorobenzoic Acid 0.0330 " 0.0670000 49.3 24-140

Apex Laboratories
12232 SW Garden Place
Tigard OR, 97223

Project: Subcontract
Project Number: A12F492
Project Manager: Philip Nerenberg

Reported
07/17/12 19:51

Determination of Chlorinated Phenoxy Herbicides - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1VG0314 - EPA 8151A

LCS Dup (1VG0314-BSD1)

Prepared: 07/11/12 Analyzed: 07/17/12

Dalapon	0.120	0.050	mg/kg wet	0.234000		51.1	32-100	6.78	30	
3,5-Dichlorobenzoic acid	0.007	0.050	"	0.0180000		39.8	34-157	29.7	30	
Dicamba	0.012	0.050	"	0.0180000		64.8	22-148	10.5	30	
Dichlorprop	0.034	0.050	"	0.0540000		62.3	25-138	10.4	30	
2,4-D	0.026	0.050	"	0.0360000		73.6	23-141	25.5	30	
Pentachlorophenol	0.010	0.050	"	0.0180000		57.4	25-129	12.0	30	
2,4,5-TP (Silvex)	0.010	0.050	"	0.0180000		57.4	22-143	15.7	30	
Chloramben	0.008	0.050	"	0.0180000		45.4	30-125	54.5	30	QR-04
2,4,5-T	0.010	0.050	"	0.0180000		57.4	25-124	17.5	30	
2,4-DB	0.097	0.050	"	0.144000		67.6	29-146	4.73	30	
Bentazon	0.024	0.050	"	0.0360000		66.2	33-148	13.7	30	
Picloram	0.011	0.050	"	0.0180000		61.1	20-146	3.08	30	
Dinoseb	0.004	0.050	"	0.0360000		9.72	17-163	4.65	30	QS-03
DCPA	0.013	0.050	"	0.0180000		71.3	27-112	20.9	30	
Acifluorfen	0.012	0.050	"	0.0180000		69.4	27-122	22.2	30	
<i>Surrogate: 2,5-Dichlorobenzoic Acid</i>	<i>0.0362</i>		<i>"</i>	<i>0.0670000</i>		<i>54.0</i>	<i>24-140</i>			

Matrix Spike (1VG0314-MS1)

Source: 1G20422-01

Prepared: 07/11/12 Analyzed: 07/17/12

Dalapon	1.903	0.425	mg/kg dry	1.98792	ND	95.7	10-165			
3,5-Dichlorobenzoic acid	0.286	0.425	"	0.152917	ND	187	48-161			QM-05
Dicamba	0.119	0.425	"	0.152917	ND	77.8	28-159			
Dichlorprop	0.782	0.425	"	0.458751	ND	170	22-140			QM-05
2,4-D	0.353	0.425	"	0.305834	ND	115	28-159			
Pentachlorophenol	0.517	0.425	"	0.152917	0.433	55.1	30-141			
2,4,5-TP (Silvex)	0.034	0.425	"	0.152917	ND	22.2	28-153			QM-05
Chloramben	0.098	0.425	"	0.152917	ND	63.9	19-147			
2,4,5-T	0.054	0.425	"	0.152917	ND	35.2	26-147			
2,4-DB	0.820	0.425	"	1.22334	ND	67.0	25-172			
Bentazon	0.379	0.425	"	0.305834	ND	124	27-147			
Picloram	0.098	0.425	"	0.152917	ND	63.9	28-166			
Dinoseb	0.256	0.425	"	0.305834	ND	83.8	16-126			
DCPA	0.317	0.425	"	0.152917	ND	207	16-148			QM-05
Acifluorfen	0.017	0.425	"	0.152917	ND	11.1	27-149			QM-05
<i>Surrogate: 2,5-Dichlorobenzoic Acid</i>	<i>0.147</i>		<i>"</i>	<i>0.569191</i>		<i>25.9</i>	<i>24-140</i>			

Apex Laboratories
12232 SW Garden Place
Tigard OR, 97223

Project: Subcontract
Project Number: A12F492
Project Manager: Philip Nerenberg

Reported
07/17/12 19:51

Determination of Conventional Chemistry Parameters - Quality Control
Keystone Laboratories, Inc. - Newton

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1VG0283 - Wet Chem Preparation

Matrix Spike (1VG0283-MS1)	Source: 1G20422-01	Prepared & Analyzed: 07/11/12						
Cyanide, total	1.89	0.6 mg/kg dry	1.61255	0.55	83.4	60-140		
Matrix Spike Dup (1VG0283-MSD1)	Source: 1G20422-01	Prepared & Analyzed: 07/11/12						
Cyanide, total	1.73	0.6 mg/kg dry	1.67457	0.55	70.4	60-140	9.11	30

Certified Analyses Included in This Report

Method/Matrix	Analyte	Certifications
<i>EPA 8151A in Soil</i>		
	Dalapon	KS-NT,NELAC
	Dicamba	KS-NT,NELAC,SIA1X
	MCPPP	NELAC
	MCPA	NELAC
	Dichlorprop	NELAC
	2,4-D	KS-NT,NELAC,SIA1X
	2,4,5-TP (Silvex)	KS-NT,NELAC,SIA1X
	2,4,5-T	KS-NT,NELAC
	2,4-DB	NELAC
	Picloram	KS-NT,NELAC
	Dinoseb	KS-NT,NELAC
	Acifluorfen	SIA1X
<i>EPA 9010B/9014 in Sludge</i>		
	Cyanide, total	KS-NT,NELAC,SIA1X
<i>SM 2540 G in Sludge</i>		
	% Solids	SIA1X

Code	Certifying Authority	Certificate Number	Expires
KS-KC	Kansas Department of Health and Environment-KC	E-10110	04/30/2013
KS-NT	Kansas Department of Health and Environment	E-10287	10/30/2012
MO-KC	Missouri Department of Natural Resources	140	04/30/2013
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2013
SIA1X	Iowa Department of Natural Resources	95	02/01/2013

Apex Laboratories
12232 SW Garden Place
Tigard OR, 97223

Project: Subcontract
Project Number: A12F492
Project Manager: Philip Nerenberg

Reported
07/17/12 19:51

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- R-GT > 181
- R-GT > 181
- QS-03 The blank spike recovery was below established acceptance limits.
- QR-04 The RPD for this analyte exceeded acceptance limits.
- QM-05 The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- I-05 Sample received at laboratory past hold time for this analyte.
- F-02 No flash detected up to 181 °F.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Apex Laboratories
12232 SW Garden Place
Tigard OR, 97223

Project: Subcontract
Project Number: A12F492
Project Manager: Philip Nerenberg

Reported
07/17/12 19:51

A handwritten signature in cursive script that reads "Sue Thompson".

Sue Thompson
Project Manager II

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Portland
9405 SW Nimbus Ave.
Beaverton, OR 97008
Tel: (503)906-9200

TestAmerica Job ID: 250-4379-1

Client Project/Site: City of Troutdale Eastwind Property

For:
AMEC Environment & Infrastructure, Inc.
7376 SW Durham Rd
Portland, Oregon 97224

Attn: Len Farr



Authorized for release by:
7/17/2012 9:43:56 PM

Vanessa Frahs
Project Manager I
vanessa.frahs@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
250-4379-1	CT-06	Air	06/27/12 15:39	07/02/12 11:54
250-4379-2	CT-07	Air	06/27/12 15:17	07/02/12 11:54

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Case Narrative

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Job ID: 250-4379-1

Laboratory: TestAmerica Portland

Narrative

Receipt

The samples were received on 7/2/2012 11:54 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

Air - GC VOA

No analytical or quality issues were noted.

Air - GC/MS VOA

No analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

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Definitions/Glossary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: D1946 - Fixed Gases in Air (GC)

Client Sample ID: CT-06

Date Collected: 06/27/12 15:39

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-1

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		0.040		% v/v			07/12/12 17:51	1.98
Methane (FID)	ND		0.00040		% v/v			07/12/12 17:51	1.98
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		65000		ug/m3			07/12/12 17:51	1.98
Methane (FID)	ND		2600		ug/m3			07/12/12 17:51	1.98

Client Sample ID: CT-07

Date Collected: 06/27/12 15:17

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-2

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		0.038		% v/v			07/12/12 18:13	1.88
Methane (FID)	ND		0.00038		% v/v			07/12/12 18:13	1.88
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		62000		ug/m3			07/12/12 18:13	1.88
Methane (FID)	ND		2500		ug/m3			07/12/12 18:13	1.88

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Client Sample ID: CT-06

Date Collected: 06/27/12 15:39

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-1

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	14		0.80		ppb v/v			07/09/12 17:51	1
Benzene	ND		0.30		ppb v/v			07/09/12 17:51	1
Benzyl chloride	ND		0.80		ppb v/v			07/09/12 17:51	1
Bromodichloromethane	ND		0.30		ppb v/v			07/09/12 17:51	1
Bromoform	ND		0.40		ppb v/v			07/09/12 17:51	1
Bromomethane	ND		0.80		ppb v/v			07/09/12 17:51	1
2-Butanone (MEK)	2.5		0.80		ppb v/v			07/09/12 17:51	1
Carbon disulfide	0.93		0.80		ppb v/v			07/09/12 17:51	1
Carbon tetrachloride	ND		0.80		ppb v/v			07/09/12 17:51	1
Chlorobenzene	ND		0.30		ppb v/v			07/09/12 17:51	1
Dibromochloromethane	ND		0.40		ppb v/v			07/09/12 17:51	1
Chloroethane	ND		0.80		ppb v/v			07/09/12 17:51	1
Chloroform	ND		0.30		ppb v/v			07/09/12 17:51	1
Chloromethane	ND		0.80		ppb v/v			07/09/12 17:51	1
1,2-Dibromoethane (EDB)	ND		0.80		ppb v/v			07/09/12 17:51	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 17:51	1
1,3-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 17:51	1
1,4-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 17:51	1
Dichlorodifluoromethane	0.92		0.40		ppb v/v			07/09/12 17:51	1
1,1-Dichloroethane	ND		0.30		ppb v/v			07/09/12 17:51	1
1,2-Dichloroethane	ND		0.80		ppb v/v			07/09/12 17:51	1
1,1-Dichloroethene	ND		0.80		ppb v/v			07/09/12 17:51	1
cis-1,2-Dichloroethene	ND		0.40		ppb v/v			07/09/12 17:51	1
trans-1,2-Dichloroethene	ND		0.40		ppb v/v			07/09/12 17:51	1
1,2-Dichloropropane	ND		0.40		ppb v/v			07/09/12 17:51	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			07/09/12 17:51	1
trans-1,3-Dichloropropene	ND		0.40		ppb v/v			07/09/12 17:51	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40		ppb v/v			07/09/12 17:51	1
Ethylbenzene	ND		0.40		ppb v/v			07/09/12 17:51	1
4-Ethyltoluene	1.2		0.40		ppb v/v			07/09/12 17:51	1
Hexachlorobutadiene	ND		0.40		ppb v/v			07/09/12 17:51	1
2-Hexanone	ND		0.40		ppb v/v			07/09/12 17:51	1
Methylene chloride	ND		0.40		ppb v/v			07/09/12 17:51	1
4-Methyl-2-pentanone (MIBK)	ND		0.40		ppb v/v			07/09/12 17:51	1
Styrene	ND		0.40		ppb v/v			07/09/12 17:51	1
1,1,2,2-Tetrachloroethane	ND		0.40		ppb v/v			07/09/12 17:51	1
Tetrachloroethene	ND		0.40		ppb v/v			07/09/12 17:51	1
Toluene	1.2		0.40		ppb v/v			07/09/12 17:51	1
1,2,4-Trichlorobenzene	ND		2.5		ppb v/v			07/09/12 17:51	1
1,1,1-Trichloroethane	ND		0.30		ppb v/v			07/09/12 17:51	1
1,1,2-Trichloroethane	ND		0.40		ppb v/v			07/09/12 17:51	1
Trichloroethene	ND		0.40		ppb v/v			07/09/12 17:51	1
Trichlorofluoromethane	ND		0.40		ppb v/v			07/09/12 17:51	1
1,1,2-Trichloro-1,1,2,2-trifluoroethane	ND		0.40		ppb v/v			07/09/12 17:51	1
1,2,4-Trimethylbenzene	ND		2.5		ppb v/v			07/09/12 17:51	1
1,3,5-Trimethylbenzene	0.40		0.40		ppb v/v			07/09/12 17:51	1
Vinyl acetate	ND		0.80		ppb v/v			07/09/12 17:51	1
Vinyl chloride	ND		0.20		ppb v/v			07/09/12 17:51	1
m,p-Xylene	1.5		0.80		ppb v/v			07/09/12 17:51	1
o-Xylene	0.56		0.40		ppb v/v			07/09/12 17:51	1

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Client Sample ID: CT-06

Date Collected: 06/27/12 15:39

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-1

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		2.0		ppb v/v			07/09/12 17:51	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	32		1.9		ug/m3			07/09/12 17:51	1
Benzene	ND		0.96		ug/m3			07/09/12 17:51	1
Benzyl chloride	ND		4.1		ug/m3			07/09/12 17:51	1
Bromodichloromethane	ND		2.0		ug/m3			07/09/12 17:51	1
Bromoform	ND		4.1		ug/m3			07/09/12 17:51	1
Bromomethane	ND		3.1		ug/m3			07/09/12 17:51	1
2-Butanone (MEK)	7.3		2.4		ug/m3			07/09/12 17:51	1
Carbon disulfide	2.9		2.5		ug/m3			07/09/12 17:51	1
Carbon tetrachloride	ND		5.0		ug/m3			07/09/12 17:51	1
Chlorobenzene	ND		1.4		ug/m3			07/09/12 17:51	1
Dibromochloromethane	ND		3.4		ug/m3			07/09/12 17:51	1
Chloroethane	ND		2.1		ug/m3			07/09/12 17:51	1
Chloroform	ND		1.5		ug/m3			07/09/12 17:51	1
Chloromethane	ND		1.7		ug/m3			07/09/12 17:51	1
1,2-Dibromoethane (EDB)	ND		6.1		ug/m3			07/09/12 17:51	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 17:51	1
1,3-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 17:51	1
1,4-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 17:51	1
Dichlorodifluoromethane	4.5		2.0		ug/m3			07/09/12 17:51	1
1,1-Dichloroethane	ND		1.2		ug/m3			07/09/12 17:51	1
1,2-Dichloroethane	ND		3.2		ug/m3			07/09/12 17:51	1
1,1-Dichloroethene	ND		3.2		ug/m3			07/09/12 17:51	1
cis-1,2-Dichloroethene	ND		1.6		ug/m3			07/09/12 17:51	1
trans-1,2-Dichloroethene	ND		1.6		ug/m3			07/09/12 17:51	1
1,2-Dichloropropane	ND		1.8		ug/m3			07/09/12 17:51	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			07/09/12 17:51	1
trans-1,3-Dichloropropene	ND		1.8		ug/m3			07/09/12 17:51	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.8		ug/m3			07/09/12 17:51	1
Ethylbenzene	ND		1.7		ug/m3			07/09/12 17:51	1
4-Ethyltoluene	5.9		2.0		ug/m3			07/09/12 17:51	1
Hexachlorobutadiene	ND		4.3		ug/m3			07/09/12 17:51	1
2-Hexanone	ND		1.6		ug/m3			07/09/12 17:51	1
Methylene chloride	ND		1.4		ug/m3			07/09/12 17:51	1
4-Methyl-2-pentanone (MIBK)	ND		1.6		ug/m3			07/09/12 17:51	1
Styrene	ND		1.7		ug/m3			07/09/12 17:51	1
1,1,2,2-Tetrachloroethane	ND		2.7		ug/m3			07/09/12 17:51	1
Tetrachloroethene	ND		2.7		ug/m3			07/09/12 17:51	1
Toluene	4.5		1.5		ug/m3			07/09/12 17:51	1
1,2,4-Trichlorobenzene	ND		19		ug/m3			07/09/12 17:51	1
1,1,1-Trichloroethane	ND		1.6		ug/m3			07/09/12 17:51	1
1,1,2-Trichloroethane	ND		2.2		ug/m3			07/09/12 17:51	1
Trichloroethene	ND		2.1		ug/m3			07/09/12 17:51	1
Trichlorofluoromethane	ND		2.2		ug/m3			07/09/12 17:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.1		ug/m3			07/09/12 17:51	1
1,2,4-Trimethylbenzene	ND		12		ug/m3			07/09/12 17:51	1
1,3,5-Trimethylbenzene	2.0		2.0		ug/m3			07/09/12 17:51	1
Vinyl acetate	ND		2.8		ug/m3			07/09/12 17:51	1
Vinyl chloride	ND		0.51		ug/m3			07/09/12 17:51	1

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Client Sample ID: CT-06

Date Collected: 06/27/12 15:39

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-1

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	6.4		3.5		ug/m3			07/09/12 17:51	1
o-Xylene	2.4		1.7		ug/m3			07/09/12 17:51	1
Naphthalene	ND		10		ug/m3			07/09/12 17:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130					07/09/12 17:51	1
1,2-Dichloroethane-d4 (Surr)	93		70 - 130					07/09/12 17:51	1
Toluene-d8 (Surr)	100		70 - 130					07/09/12 17:51	1

Client Sample ID: CT-07

Date Collected: 06/27/12 15:17

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-2

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	47		1.9		ppb v/v			07/11/12 14:20	2.35
Benzene	2.0		0.30		ppb v/v			07/09/12 18:40	1
Benzyl chloride	ND		0.80		ppb v/v			07/09/12 18:40	1
Bromodichloromethane	ND		0.30		ppb v/v			07/09/12 18:40	1
Bromoform	ND		0.40		ppb v/v			07/09/12 18:40	1
Bromomethane	ND		0.80		ppb v/v			07/09/12 18:40	1
2-Butanone (MEK)	8.6		0.80		ppb v/v			07/09/12 18:40	1
Carbon disulfide	3.4		0.80		ppb v/v			07/09/12 18:40	1
Carbon tetrachloride	ND		0.80		ppb v/v			07/09/12 18:40	1
Chlorobenzene	ND		0.30		ppb v/v			07/09/12 18:40	1
Dibromochloromethane	ND		0.40		ppb v/v			07/09/12 18:40	1
Chloroethane	ND		0.80		ppb v/v			07/09/12 18:40	1
Chloroform	ND		0.30		ppb v/v			07/09/12 18:40	1
Chloromethane	1.4		0.80		ppb v/v			07/09/12 18:40	1
1,2-Dibromoethane (EDB)	ND		0.80		ppb v/v			07/09/12 18:40	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 18:40	1
1,3-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 18:40	1
1,4-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 18:40	1
Dichlorodifluoromethane	0.47		0.40		ppb v/v			07/09/12 18:40	1
1,1-Dichloroethane	ND		0.30		ppb v/v			07/09/12 18:40	1
1,2-Dichloroethane	ND		0.80		ppb v/v			07/09/12 18:40	1
1,1-Dichloroethene	ND		0.80		ppb v/v			07/09/12 18:40	1
cis-1,2-Dichloroethene	ND		0.40		ppb v/v			07/09/12 18:40	1
trans-1,2-Dichloroethene	ND		0.40		ppb v/v			07/09/12 18:40	1
1,2-Dichloropropane	ND		0.40		ppb v/v			07/09/12 18:40	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			07/09/12 18:40	1
trans-1,3-Dichloropropene	ND		0.40		ppb v/v			07/09/12 18:40	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40		ppb v/v			07/09/12 18:40	1
Ethylbenzene	0.83		0.40		ppb v/v			07/09/12 18:40	1
4-Ethyltoluene	1.5		0.40		ppb v/v			07/09/12 18:40	1
Hexachlorobutadiene	ND		0.40		ppb v/v			07/09/12 18:40	1
2-Hexanone	ND		0.40		ppb v/v			07/09/12 18:40	1
Methylene chloride	ND		0.40		ppb v/v			07/09/12 18:40	1
4-Methyl-2-pentanone (MIBK)	ND		0.40		ppb v/v			07/09/12 18:40	1
Styrene	0.66		0.40		ppb v/v			07/09/12 18:40	1
1,1,2,2-Tetrachloroethane	ND		0.40		ppb v/v			07/09/12 18:40	1

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Client Sample ID: CT-07

Date Collected: 06/27/12 15:17

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-2

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		0.40		ppb v/v			07/09/12 18:40	1
Toluene	5.0		0.40		ppb v/v			07/09/12 18:40	1
1,2,4-Trichlorobenzene	ND		2.5		ppb v/v			07/09/12 18:40	1
1,1,1-Trichloroethane	ND		0.30		ppb v/v			07/09/12 18:40	1
1,1,2-Trichloroethane	ND		0.40		ppb v/v			07/09/12 18:40	1
Trichloroethene	ND		0.40		ppb v/v			07/09/12 18:40	1
Trichlorofluoromethane	ND		0.40		ppb v/v			07/09/12 18:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40		ppb v/v			07/09/12 18:40	1
1,2,4-Trimethylbenzene	ND		2.5		ppb v/v			07/09/12 18:40	1
1,3,5-Trimethylbenzene	0.44		0.40		ppb v/v			07/09/12 18:40	1
Vinyl acetate	ND		0.80		ppb v/v			07/09/12 18:40	1
Vinyl chloride	ND		0.20		ppb v/v			07/09/12 18:40	1
m,p-Xylene	2.6		0.80		ppb v/v			07/09/12 18:40	1
o-Xylene	0.95		0.40		ppb v/v			07/09/12 18:40	1
Naphthalene	ND		2.0		ppb v/v			07/09/12 18:40	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	110		4.5		ug/m3			07/11/12 14:20	2.35
Benzene	6.4		0.96		ug/m3			07/09/12 18:40	1
Benzyl chloride	ND		4.1		ug/m3			07/09/12 18:40	1
Bromodichloromethane	ND		2.0		ug/m3			07/09/12 18:40	1
Bromoform	ND		4.1		ug/m3			07/09/12 18:40	1
Bromomethane	ND		3.1		ug/m3			07/09/12 18:40	1
2-Butanone (MEK)	25		2.4		ug/m3			07/09/12 18:40	1
Carbon disulfide	11		2.5		ug/m3			07/09/12 18:40	1
Carbon tetrachloride	ND		5.0		ug/m3			07/09/12 18:40	1
Chlorobenzene	ND		1.4		ug/m3			07/09/12 18:40	1
Dibromochloromethane	ND		3.4		ug/m3			07/09/12 18:40	1
Chloroethane	ND		2.1		ug/m3			07/09/12 18:40	1
Chloroform	ND		1.5		ug/m3			07/09/12 18:40	1
Chloromethane	2.8		1.7		ug/m3			07/09/12 18:40	1
1,2-Dibromoethane (EDB)	ND		6.1		ug/m3			07/09/12 18:40	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 18:40	1
1,3-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 18:40	1
1,4-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 18:40	1
Dichlorodifluoromethane	2.3		2.0		ug/m3			07/09/12 18:40	1
1,1-Dichloroethane	ND		1.2		ug/m3			07/09/12 18:40	1
1,2-Dichloroethane	ND		3.2		ug/m3			07/09/12 18:40	1
1,1-Dichloroethene	ND		3.2		ug/m3			07/09/12 18:40	1
cis-1,2-Dichloroethene	ND		1.6		ug/m3			07/09/12 18:40	1
trans-1,2-Dichloroethene	ND		1.6		ug/m3			07/09/12 18:40	1
1,2-Dichloropropane	ND		1.8		ug/m3			07/09/12 18:40	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			07/09/12 18:40	1
trans-1,3-Dichloropropene	ND		1.8		ug/m3			07/09/12 18:40	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.8		ug/m3			07/09/12 18:40	1
Ethylbenzene	3.6		1.7		ug/m3			07/09/12 18:40	1
4-Ethyltoluene	7.2		2.0		ug/m3			07/09/12 18:40	1
Hexachlorobutadiene	ND		4.3		ug/m3			07/09/12 18:40	1
2-Hexanone	ND		1.6		ug/m3			07/09/12 18:40	1
Methylene chloride	ND		1.4		ug/m3			07/09/12 18:40	1
4-Methyl-2-pentanone (MIBK)	ND		1.6		ug/m3			07/09/12 18:40	1

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Client Sample ID: CT-07

Date Collected: 06/27/12 15:17

Date Received: 07/02/12 11:54

Sample Container: Summa Canister 6L

Lab Sample ID: 250-4379-2

Matrix: Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	2.8		1.7		ug/m3			07/09/12 18:40	1
1,1,2,2-Tetrachloroethane	ND		2.7		ug/m3			07/09/12 18:40	1
Tetrachloroethene	ND		2.7		ug/m3			07/09/12 18:40	1
Toluene	19		1.5		ug/m3			07/09/12 18:40	1
1,2,4-Trichlorobenzene	ND		19		ug/m3			07/09/12 18:40	1
1,1,1-Trichloroethane	ND		1.6		ug/m3			07/09/12 18:40	1
1,1,1,2-Trichloroethane	ND		2.2		ug/m3			07/09/12 18:40	1
Trichloroethene	ND		2.1		ug/m3			07/09/12 18:40	1
Trichlorofluoromethane	ND		2.2		ug/m3			07/09/12 18:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.1		ug/m3			07/09/12 18:40	1
1,2,4-Trimethylbenzene	ND		12		ug/m3			07/09/12 18:40	1
1,3,5-Trimethylbenzene	2.1		2.0		ug/m3			07/09/12 18:40	1
Vinyl acetate	ND		2.8		ug/m3			07/09/12 18:40	1
Vinyl chloride	ND		0.51		ug/m3			07/09/12 18:40	1
m,p-Xylene	11		3.5		ug/m3			07/09/12 18:40	1
o-Xylene	4.1		1.7		ug/m3			07/09/12 18:40	1
Naphthalene	ND		10		ug/m3			07/09/12 18:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130					07/09/12 18:40	1
4-Bromofluorobenzene (Surr)	101		70 - 130					07/11/12 14:20	2.35
1,2-Dichloroethane-d4 (Surr)	96		70 - 130					07/09/12 18:40	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130					07/11/12 14:20	2.35
Toluene-d8 (Surr)	98		70 - 130					07/09/12 18:40	1
Toluene-d8 (Surr)	99		70 - 130					07/11/12 14:20	2.35

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: D1946 - Fixed Gases in Air (GC)

Lab Sample ID: MB 340-2102/10

Matrix: Air

Analysis Batch: 2102

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	ND		0.00020		% v/v			07/12/12 13:48	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	ND		1300		ug/m3			07/12/12 13:48	1

Lab Sample ID: MB 340-2102/13

Matrix: Air

Analysis Batch: 2102

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		0.020		% v/v			07/12/12 14:57	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		33000		ug/m3			07/12/12 14:57	1

Lab Sample ID: LCS 340-2102/11

Matrix: Air

Analysis Batch: 2102

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Helium	12.5	12.7		% v/v		101	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Helium	20000000	20700000		ug/m3		101	80 - 120

Lab Sample ID: LCS 340-2102/4

Matrix: Air

Analysis Batch: 2102

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	19.8	20.1		% v/v		101	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	130000000	132000000		ug/m3		101	80 - 120

Lab Sample ID: LCS 340-2102/6

Matrix: Air

Analysis Batch: 2102

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (FID)	0.0495	0.0531		% v/v		107	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (FID)	320000	348000		ug/m3		107	80 - 120

Lab Sample ID: LCSD 340-2102/12

Matrix: Air

Analysis Batch: 2102

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Helium	12.5	12.7		% v/v		101	80 - 120	0	20

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: D1946 - Fixed Gases in Air (GC) (Continued)

Lab Sample ID: LCSD 340-2102/12
Matrix: Air
Analysis Batch: 2102

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Helium	20000000	20700000		ug/m3		101	80 - 120	0	20

Lab Sample ID: LCSD 340-2102/5
Matrix: Air
Analysis Batch: 2102

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	19.8	20.1		% v/v		102	80 - 120	0	20

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	130000000	132000000		ug/m3		102	80 - 120	0	20

Lab Sample ID: LCSD 340-2102/7
Matrix: Air
Analysis Batch: 2102

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (FID)	0.0495	0.0530		% v/v		107	80 - 120	0	20

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (FID)	320000	348000		ug/m3		107	80 - 120	0	20

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 340-2058/5
Matrix: Air
Analysis Batch: 2058

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.80		ppb v/v			07/09/12 09:40	1
Benzene	ND		0.30		ppb v/v			07/09/12 09:40	1
Benzyl chloride	ND		0.80		ppb v/v			07/09/12 09:40	1
Bromodichloromethane	ND		0.30		ppb v/v			07/09/12 09:40	1
Bromoform	ND		0.40		ppb v/v			07/09/12 09:40	1
Bromomethane	ND		0.80		ppb v/v			07/09/12 09:40	1
2-Butanone (MEK)	ND		0.80		ppb v/v			07/09/12 09:40	1
Carbon disulfide	ND		0.80		ppb v/v			07/09/12 09:40	1
Carbon tetrachloride	ND		0.80		ppb v/v			07/09/12 09:40	1
Chlorobenzene	ND		0.30		ppb v/v			07/09/12 09:40	1
Dibromochloromethane	ND		0.40		ppb v/v			07/09/12 09:40	1
Chloroethane	ND		0.80		ppb v/v			07/09/12 09:40	1
Chloroform	ND		0.30		ppb v/v			07/09/12 09:40	1
Chloromethane	ND		0.80		ppb v/v			07/09/12 09:40	1
1,2-Dibromoethane (EDB)	ND		0.80		ppb v/v			07/09/12 09:40	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 09:40	1
1,3-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 09:40	1
1,4-Dichlorobenzene	ND		0.40		ppb v/v			07/09/12 09:40	1
Dichlorodifluoromethane	ND		0.40		ppb v/v			07/09/12 09:40	1
1,1-Dichloroethane	ND		0.30		ppb v/v			07/09/12 09:40	1
1,2-Dichloroethane	ND		0.80		ppb v/v			07/09/12 09:40	1

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 340-2058/5

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.80		ppb v/v			07/09/12 09:40	1
cis-1,2-Dichloroethene	ND		0.40		ppb v/v			07/09/12 09:40	1
trans-1,2-Dichloroethene	ND		0.40		ppb v/v			07/09/12 09:40	1
1,2-Dichloropropane	ND		0.40		ppb v/v			07/09/12 09:40	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			07/09/12 09:40	1
trans-1,3-Dichloropropene	ND		0.40		ppb v/v			07/09/12 09:40	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40		ppb v/v			07/09/12 09:40	1
Ethylbenzene	ND		0.40		ppb v/v			07/09/12 09:40	1
4-Ethyltoluene	ND		0.40		ppb v/v			07/09/12 09:40	1
Hexachlorobutadiene	ND		0.40		ppb v/v			07/09/12 09:40	1
2-Hexanone	ND		0.40		ppb v/v			07/09/12 09:40	1
Methylene chloride	ND		0.40		ppb v/v			07/09/12 09:40	1
4-Methyl-2-pentanone (MIBK)	ND		0.40		ppb v/v			07/09/12 09:40	1
Styrene	ND		0.40		ppb v/v			07/09/12 09:40	1
1,1,2,2-Tetrachloroethane	ND		0.40		ppb v/v			07/09/12 09:40	1
Tetrachloroethene	ND		0.40		ppb v/v			07/09/12 09:40	1
Toluene	ND		0.40		ppb v/v			07/09/12 09:40	1
1,2,4-Trichlorobenzene	ND		2.5		ppb v/v			07/09/12 09:40	1
1,1,1-Trichloroethane	ND		0.30		ppb v/v			07/09/12 09:40	1
1,1,2-Trichloroethane	ND		0.40		ppb v/v			07/09/12 09:40	1
Trichloroethene	ND		0.40		ppb v/v			07/09/12 09:40	1
Trichlorofluoromethane	ND		0.40		ppb v/v			07/09/12 09:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40		ppb v/v			07/09/12 09:40	1
1,2,4-Trimethylbenzene	ND		2.5		ppb v/v			07/09/12 09:40	1
1,3,5-Trimethylbenzene	ND		0.40		ppb v/v			07/09/12 09:40	1
Vinyl acetate	ND		0.80		ppb v/v			07/09/12 09:40	1
Vinyl chloride	ND		0.20		ppb v/v			07/09/12 09:40	1
m,p-Xylene	ND		0.80		ppb v/v			07/09/12 09:40	1
o-Xylene	ND		0.40		ppb v/v			07/09/12 09:40	1
Naphthalene	ND		2.0		ppb v/v			07/09/12 09:40	1

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		1.9		ug/m3			07/09/12 09:40	1
Benzene	ND		0.96		ug/m3			07/09/12 09:40	1
Benzyl chloride	ND		4.1		ug/m3			07/09/12 09:40	1
Bromodichloromethane	ND		2.0		ug/m3			07/09/12 09:40	1
Bromoform	ND		4.1		ug/m3			07/09/12 09:40	1
Bromomethane	ND		3.1		ug/m3			07/09/12 09:40	1
2-Butanone (MEK)	ND		2.4		ug/m3			07/09/12 09:40	1
Carbon disulfide	ND		2.5		ug/m3			07/09/12 09:40	1
Carbon tetrachloride	ND		5.0		ug/m3			07/09/12 09:40	1
Chlorobenzene	ND		1.4		ug/m3			07/09/12 09:40	1
Dibromochloromethane	ND		3.4		ug/m3			07/09/12 09:40	1
Chloroethane	ND		2.1		ug/m3			07/09/12 09:40	1
Chloroform	ND		1.5		ug/m3			07/09/12 09:40	1
Chloromethane	ND		1.7		ug/m3			07/09/12 09:40	1
1,2-Dibromoethane (EDB)	ND		6.1		ug/m3			07/09/12 09:40	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 09:40	1
1,3-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 09:40	1
1,4-Dichlorobenzene	ND		2.4		ug/m3			07/09/12 09:40	1

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 340-2058/5

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dichlorodifluoromethane	ND		2.0		ug/m3			07/09/12 09:40	1
1,1-Dichloroethane	ND		1.2		ug/m3			07/09/12 09:40	1
1,2-Dichloroethane	ND		3.2		ug/m3			07/09/12 09:40	1
1,1-Dichloroethene	ND		3.2		ug/m3			07/09/12 09:40	1
cis-1,2-Dichloroethene	ND		1.6		ug/m3			07/09/12 09:40	1
trans-1,2-Dichloroethene	ND		1.6		ug/m3			07/09/12 09:40	1
1,2-Dichloropropane	ND		1.8		ug/m3			07/09/12 09:40	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			07/09/12 09:40	1
trans-1,3-Dichloropropene	ND		1.8		ug/m3			07/09/12 09:40	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.8		ug/m3			07/09/12 09:40	1
Ethylbenzene	ND		1.7		ug/m3			07/09/12 09:40	1
4-Ethyltoluene	ND		2.0		ug/m3			07/09/12 09:40	1
Hexachlorobutadiene	ND		4.3		ug/m3			07/09/12 09:40	1
2-Hexanone	ND		1.6		ug/m3			07/09/12 09:40	1
Methylene chloride	ND		1.4		ug/m3			07/09/12 09:40	1
4-Methyl-2-pentanone (MIBK)	ND		1.6		ug/m3			07/09/12 09:40	1
Styrene	ND		1.7		ug/m3			07/09/12 09:40	1
1,1,2,2-Tetrachloroethane	ND		2.7		ug/m3			07/09/12 09:40	1
Tetrachloroethene	ND		2.7		ug/m3			07/09/12 09:40	1
Toluene	ND		1.5		ug/m3			07/09/12 09:40	1
1,2,4-Trichlorobenzene	ND		19		ug/m3			07/09/12 09:40	1
1,1,1-Trichloroethane	ND		1.6		ug/m3			07/09/12 09:40	1
1,1,2-Trichloroethane	ND		2.2		ug/m3			07/09/12 09:40	1
Trichloroethene	ND		2.1		ug/m3			07/09/12 09:40	1
Trichlorofluoromethane	ND		2.2		ug/m3			07/09/12 09:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.1		ug/m3			07/09/12 09:40	1
1,2,4-Trimethylbenzene	ND		12		ug/m3			07/09/12 09:40	1
1,3,5-Trimethylbenzene	ND		2.0		ug/m3			07/09/12 09:40	1
Vinyl acetate	ND		2.8		ug/m3			07/09/12 09:40	1
Vinyl chloride	ND		0.51		ug/m3			07/09/12 09:40	1
m,p-Xylene	ND		3.5		ug/m3			07/09/12 09:40	1
o-Xylene	ND		1.7		ug/m3			07/09/12 09:40	1
Naphthalene	ND		10		ug/m3			07/09/12 09:40	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	98		70 - 130		07/09/12 09:40	1
1,2-Dichloroethane-d4 (Surr)	92		70 - 130		07/09/12 09:40	1
Toluene-d8 (Surr)	95		70 - 130		07/09/12 09:40	1

Lab Sample ID: LCS 340-2058/3

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	10.0	9.86		ppb v/v		99	70 - 130
Benzene	10.0	10.7		ppb v/v		107	70 - 130
Benzyl chloride	10.8	12.1		ppb v/v		112	70 - 130
Bromodichloromethane	10.0	11.3		ppb v/v		113	70 - 130
Bromoform	10.0	11.2		ppb v/v		112	70 - 130

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 340-2058/3

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	10.0	11.6		ppb v/v		116	70 - 130
2-Butanone (MEK)	10.6	9.81		ppb v/v		93	70 - 130
Carbon disulfide	10.0	11.0		ppb v/v		110	70 - 130
Carbon tetrachloride	10.0	11.1		ppb v/v		111	70 - 130
Chlorobenzene	10.7	10.2		ppb v/v		96	70 - 130
Dibromochloromethane	11.5	10.7		ppb v/v		93	70 - 130
Chloroethane	10.0	12.2		ppb v/v		122	70 - 130
Chloroform	10.0	10.2		ppb v/v		102	70 - 130
Chloromethane	10.0	12.6		ppb v/v		126	70 - 130
1,2-Dibromoethane (EDB)	10.0	10.7		ppb v/v		107	70 - 130
1,2-Dichlorobenzene	10.7	10.9		ppb v/v		102	70 - 130
1,3-Dichlorobenzene	10.8	10.8		ppb v/v		100	70 - 130
1,4-Dichlorobenzene	10.0	10.8		ppb v/v		108	70 - 130
Dichlorodifluoromethane	10.0	10.6		ppb v/v		106	70 - 130
1,1-Dichloroethane	10.0	10.3		ppb v/v		103	70 - 130
1,2-Dichloroethane	10.0	11.0		ppb v/v		110	70 - 130
1,1-Dichloroethene	10.0	10.2		ppb v/v		102	70 - 130
cis-1,2-Dichloroethene	10.0	10.1		ppb v/v		101	70 - 130
trans-1,2-Dichloroethene	10.0	10.4		ppb v/v		104	70 - 130
1,2-Dichloropropane	10.0	10.6		ppb v/v		106	70 - 130
cis-1,3-Dichloropropene	10.6	11.9		ppb v/v		112	70 - 130
trans-1,3-Dichloropropene	10.0	10.5		ppb v/v		105	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	10.0	11.7		ppb v/v		117	70 - 130
Ethylbenzene	10.6	10.9		ppb v/v		103	70 - 130
4-Ethyltoluene	10.0	10.7		ppb v/v		107	70 - 130
Hexachlorobutadiene	10.0	11.6		ppb v/v		116	70 - 130
2-Hexanone	10.0	10.9		ppb v/v		109	70 - 130
Methylene chloride	10.0	9.99		ppb v/v		100	70 - 130
4-Methyl-2-pentanone (MIBK)	11.0	11.6		ppb v/v		105	70 - 130
Styrene	10.7	11.1		ppb v/v		104	70 - 130
1,1,2,2-Tetrachloroethane	10.8	10.8		ppb v/v		100	70 - 130
Tetrachloroethene	10.0	10.5		ppb v/v		105	70 - 130
Toluene	10.0	11.0		ppb v/v		110	70 - 130
1,2,4-Trichlorobenzene	10.0	11.5		ppb v/v		115	70 - 130
1,1,1-Trichloroethane	10.0	10.5		ppb v/v		105	70 - 130
1,1,2-Trichloroethane	10.0	10.7		ppb v/v		107	70 - 130
Trichloroethene	10.0	10.7		ppb v/v		107	70 - 130
Trichlorofluoromethane	10.0	10.2		ppb v/v		102	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.75		ppb v/v		97	70 - 130
1,2,4-Trimethylbenzene	10.0	11.6		ppb v/v		116	70 - 130
1,3,5-Trimethylbenzene	10.7	11.2		ppb v/v		105	70 - 130
Vinyl acetate	10.8	11.0		ppb v/v		102	70 - 130
Vinyl chloride	10.0	11.9		ppb v/v		119	70 - 130
m,p-Xylene	20.0	22.7		ppb v/v		113	70 - 130
o-Xylene	10.8	11.1		ppb v/v		103	70 - 130
Naphthalene	10.0	12.8		ppb v/v		128	70 - 130

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 340-2058/3

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	24	23.4		ug/m3		99	70 - 130
Benzene	32	34.3		ug/m3		107	70 - 130
Benzyl chloride	56	62.7		ug/m3		112	70 - 130
Bromodichloromethane	67	75.9		ug/m3		113	70 - 130
Bromoform	100	116		ug/m3		112	70 - 130
Bromomethane	39	45.2		ug/m3		116	70 - 130
2-Butanone (MEK)	31	28.9		ug/m3		93	70 - 130
Carbon disulfide	31	34.4		ug/m3		110	70 - 130
Carbon tetrachloride	63	69.6		ug/m3		111	70 - 130
Chlorobenzene	49	47.0		ug/m3		96	70 - 130
Dibromochloromethane	98	90.8		ug/m3		93	70 - 130
Chloroethane	26	32.3		ug/m3		122	70 - 130
Chloroform	49	50.0		ug/m3		102	70 - 130
Chloromethane	21	26.1		ug/m3		126	70 - 130
1,2-Dibromoethane (EDB)	77	82.0		ug/m3		107	70 - 130
1,2-Dichlorobenzene	64	65.3		ug/m3		102	70 - 130
1,3-Dichlorobenzene	65	64.7		ug/m3		100	70 - 130
1,4-Dichlorobenzene	60	64.7		ug/m3		108	70 - 130
Dichlorodifluoromethane	49	52.2		ug/m3		106	70 - 130
1,1-Dichloroethane	40	41.8		ug/m3		103	70 - 130
1,2-Dichloroethane	40	44.5		ug/m3		110	70 - 130
1,1,1-Dichloroethane	40	40.4		ug/m3		102	70 - 130
cis-1,2-Dichloroethane	40	40.0		ug/m3		101	70 - 130
trans-1,2-Dichloroethane	40	41.4		ug/m3		104	70 - 130
1,2-Dichloropropane	46	49.0		ug/m3		106	70 - 130
cis-1,3-Dichloropropene	48	54.0		ug/m3		112	70 - 130
trans-1,3-Dichloropropene	45	47.8		ug/m3		105	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	70	81.8		ug/m3		117	70 - 130
Ethylbenzene	46	47.3		ug/m3		103	70 - 130
4-Ethyltoluene	49	52.7		ug/m3		107	70 - 130
Hexachlorobutadiene	110	124		ug/m3		116	70 - 130
2-Hexanone	41	44.5		ug/m3		109	70 - 130
Methylene chloride	35	34.7		ug/m3		100	70 - 130
4-Methyl-2-pentanone (MIBK)	45	47.4		ug/m3		105	70 - 130
Styrene	46	47.3		ug/m3		104	70 - 130
1,1,2,2-Tetrachloroethane	74	74.4		ug/m3		100	70 - 130
Tetrachloroethane	68	71.2		ug/m3		105	70 - 130
Toluene	38	41.6		ug/m3		110	70 - 130
1,2,4-Trichlorobenzene	74	85.2		ug/m3		115	70 - 130
1,1,1-Trichloroethane	55	57.4		ug/m3		105	70 - 130
1,1,2-Trichloroethane	55	58.4		ug/m3		107	70 - 130
Trichloroethane	54	57.6		ug/m3		107	70 - 130
Trichlorofluoromethane	56	57.5		ug/m3		102	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	77	74.7		ug/m3		97	70 - 130
1,2,4-Trimethylbenzene	49	57.0		ug/m3		116	70 - 130
1,3,5-Trimethylbenzene	53	55.1		ug/m3		105	70 - 130
Vinyl acetate	38	38.7		ug/m3		102	70 - 130
Vinyl chloride	26	30.4		ug/m3		119	70 - 130

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 340-2058/3

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m,p-Xylene	87	98.5		ug/m3		113	70 - 130
o-Xylene	47	48.3		ug/m3		103	70 - 130
Naphthalene	52	66.9		ug/m3		128	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 340-2058/4

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10.0	9.79		ppb v/v		98	70 - 130	1	25
Benzene	10.0	10.5		ppb v/v		105	70 - 130	3	25
Benzyl chloride	10.8	11.7		ppb v/v		109	70 - 130	3	25
Bromodichloromethane	10.0	10.9		ppb v/v		109	70 - 130	4	25
Bromoform	10.0	11.0		ppb v/v		110	70 - 130	2	25
Bromomethane	10.0	11.1		ppb v/v		111	70 - 130	5	25
2-Butanone (MEK)	10.6	9.83		ppb v/v		93	70 - 130	0	25
Carbon disulfide	10.0	11.1		ppb v/v		111	70 - 130	0	25
Carbon tetrachloride	10.0	10.8		ppb v/v		108	70 - 130	2	25
Chlorobenzene	10.7	10.1		ppb v/v		95	70 - 130	1	25
Dibromochloromethane	11.5	10.5		ppb v/v		91	70 - 130	2	25
Chloroethane	10.0	11.7		ppb v/v		117	70 - 130	5	25
Chloroform	10.0	10.2		ppb v/v		102	70 - 130	0	25
Chloromethane	10.0	12.3		ppb v/v		123	70 - 130	2	25
1,2-Dibromoethane (EDB)	10.0	10.6		ppb v/v		106	70 - 130	1	25
1,2-Dichlorobenzene	10.7	10.7		ppb v/v		100	70 - 130	1	25
1,3-Dichlorobenzene	10.8	10.5		ppb v/v		97	70 - 130	2	25
1,4-Dichlorobenzene	10.0	10.5		ppb v/v		105	70 - 130	2	25
Dichlorodifluoromethane	10.0	10.7		ppb v/v		107	70 - 130	1	25
1,1-Dichloroethane	10.0	10.3		ppb v/v		103	70 - 130	0	25
1,2-Dichloroethane	10.0	10.6		ppb v/v		106	70 - 130	4	25
1,1-Dichloroethene	10.0	10.3		ppb v/v		103	70 - 130	1	25
cis-1,2-Dichloroethene	10.0	10.2		ppb v/v		102	70 - 130	1	25
trans-1,2-Dichloroethene	10.0	10.5		ppb v/v		105	70 - 130	1	25
1,2-Dichloropropane	10.0	10.3		ppb v/v		103	70 - 130	3	25
cis-1,3-Dichloropropene	10.6	11.5		ppb v/v		108	70 - 130	4	25
trans-1,3-Dichloropropene	10.0	10.2		ppb v/v		102	70 - 130	3	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	10.0	11.4		ppb v/v		114	70 - 130	3	25
Ethylbenzene	10.6	10.6		ppb v/v		100	70 - 130	2	25
4-Ethyltoluene	10.0	10.7		ppb v/v		107	70 - 130	0	25
Hexachlorobutadiene	10.0	11.8		ppb v/v		118	70 - 130	2	25
2-Hexanone	10.0	10.7		ppb v/v		107	70 - 130	1	25
Methylene chloride	10.0	9.90		ppb v/v		99	70 - 130	1	25
4-Methyl-2-pentanone (MIBK)	11.0	11.1		ppb v/v		101	70 - 130	4	25
Styrene	10.7	10.8		ppb v/v		101	70 - 130	3	25

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCSD 340-2058/4

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	10.8	10.6		ppb v/v		98	70 - 130	2	25
Tetrachloroethene	10.0	10.4		ppb v/v		104	70 - 130	0	25
Toluene	10.0	10.7		ppb v/v		107	70 - 130	3	25
1,2,4-Trichlorobenzene	10.0	11.7		ppb v/v		117	70 - 130	2	25
1,1,1-Trichloroethane	10.0	10.6		ppb v/v		106	70 - 130	0	25
1,1,2-Trichloroethane	10.0	10.5		ppb v/v		105	70 - 130	2	25
Trichloroethene	10.0	10.5		ppb v/v		105	70 - 130	2	25
Trichlorofluoromethane	10.0	10.4		ppb v/v		104	70 - 130	1	25
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.89		ppb v/v		99	70 - 130	1	25
1,2,4-Trimethylbenzene	10.0	11.2		ppb v/v		112	70 - 130	3	25
1,3,5-Trimethylbenzene	10.7	10.7		ppb v/v		100	70 - 130	5	25
Vinyl acetate	10.8	11.0		ppb v/v		102	70 - 130	0	25
Vinyl chloride	10.0	11.6		ppb v/v		116	70 - 130	2	25
m,p-Xylene	20.0	22.0		ppb v/v		110	70 - 130	3	25
o-Xylene	10.8	10.8		ppb v/v		100	70 - 130	3	25
Naphthalene	10.0	13.0		ppb v/v		130	70 - 130	2	25
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	24	23.3		ug/m3		98	70 - 130	1	25
Benzene	32	33.4		ug/m3		105	70 - 130	3	25
Benzyl chloride	56	60.7		ug/m3		109	70 - 130	3	25
Bromodichloromethane	67	73.3		ug/m3		109	70 - 130	4	25
Bromoform	100	113		ug/m3		110	70 - 130	2	25
Bromomethane	39	43.0		ug/m3		111	70 - 130	5	25
2-Butanone (MEK)	31	29.0		ug/m3		93	70 - 130	0	25
Carbon disulfide	31	34.4		ug/m3		111	70 - 130	0	25
Carbon tetrachloride	63	68.0		ug/m3		108	70 - 130	2	25
Chlorobenzene	49	46.6		ug/m3		95	70 - 130	1	25
Dibromochloromethane	98	89.2		ug/m3		91	70 - 130	2	25
Chloroethane	26	30.9		ug/m3		117	70 - 130	5	25
Chloroform	49	50.0		ug/m3		102	70 - 130	0	25
Chloromethane	21	25.5		ug/m3		123	70 - 130	2	25
1,2-Dibromoethane (EDB)	77	81.2		ug/m3		106	70 - 130	1	25
1,2-Dichlorobenzene	64	64.5		ug/m3		100	70 - 130	1	25
1,3-Dichlorobenzene	65	63.2		ug/m3		97	70 - 130	2	25
1,4-Dichlorobenzene	60	63.3		ug/m3		105	70 - 130	2	25
Dichlorodifluoromethane	49	52.8		ug/m3		107	70 - 130	1	25
1,1-Dichloroethane	40	41.8		ug/m3		103	70 - 130	0	25
1,2-Dichloroethane	40	42.9		ug/m3		106	70 - 130	4	25
1,1-Dichloroethene	40	40.8		ug/m3		103	70 - 130	1	25
cis-1,2-Dichloroethene	40	40.3		ug/m3		102	70 - 130	1	25
trans-1,2-Dichloroethene	40	41.6		ug/m3		105	70 - 130	1	25
1,2-Dichloropropane	46	47.7		ug/m3		103	70 - 130	3	25
cis-1,3-Dichloropropene	48	52.1		ug/m3		108	70 - 130	4	25
trans-1,3-Dichloropropene	45	46.3		ug/m3		102	70 - 130	3	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	70	79.7		ug/m3		114	70 - 130	3	25
Ethylbenzene	46	46.2		ug/m3		100	70 - 130	2	25
4-Ethyltoluene	49	52.4		ug/m3		107	70 - 130	0	25

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCSD 340-2058/4

Matrix: Air

Analysis Batch: 2058

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
Hexachlorobutadiene	110	126		ug/m3		118	70 - 130	2	25	
2-Hexanone	41	43.9		ug/m3		107	70 - 130	1	25	
Methylene chloride	35	34.4		ug/m3		99	70 - 130	1	25	
4-Methyl-2-pentanone (MIBK)	45	45.5		ug/m3		101	70 - 130	4	25	
Styrene	46	46.1		ug/m3		101	70 - 130	3	25	
1,1,2,2-Tetrachloroethane	74	72.9		ug/m3		98	70 - 130	2	25	
Tetrachloroethene	68	70.8		ug/m3		104	70 - 130	0	25	
Toluene	38	40.4		ug/m3		107	70 - 130	3	25	
1,2,4-Trichlorobenzene	74	86.9		ug/m3		117	70 - 130	2	25	
1,1,1-Trichloroethane	55	57.7		ug/m3		106	70 - 130	0	25	
1,1,2-Trichloroethane	55	57.5		ug/m3		105	70 - 130	2	25	
Trichloroethene	54	56.7		ug/m3		105	70 - 130	2	25	
Trichlorofluoromethane	56	58.2		ug/m3		104	70 - 130	1	25	
1,1,2-Trichloro-1,2,2-trifluoroethane	77	75.8		ug/m3		99	70 - 130	1	25	
1,2,4-Trimethylbenzene	49	55.1		ug/m3		112	70 - 130	3	25	
1,3,5-Trimethylbenzene	53	52.6		ug/m3		100	70 - 130	5	25	
Vinyl acetate	38	38.8		ug/m3		102	70 - 130	0	25	
Vinyl chloride	26	29.7		ug/m3		116	70 - 130	2	25	
m,p-Xylene	87	95.5		ug/m3		110	70 - 130	3	25	
o-Xylene	47	47.0		ug/m3		100	70 - 130	3	25	
Naphthalene	52	68.3		ug/m3		130	70 - 130	2	25	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		70 - 130
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: MB 340-2085/5

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		0.80		ppb v/v			07/11/12 09:56	1
Benzene	ND		0.30		ppb v/v			07/11/12 09:56	1
Benzyl chloride	ND		0.80		ppb v/v			07/11/12 09:56	1
Bromodichloromethane	ND		0.30		ppb v/v			07/11/12 09:56	1
Bromoform	ND		0.40		ppb v/v			07/11/12 09:56	1
Bromomethane	ND		0.80		ppb v/v			07/11/12 09:56	1
2-Butanone (MEK)	ND		0.80		ppb v/v			07/11/12 09:56	1
Carbon disulfide	ND		0.80		ppb v/v			07/11/12 09:56	1
Carbon tetrachloride	ND		0.80		ppb v/v			07/11/12 09:56	1
Chlorobenzene	ND		0.30		ppb v/v			07/11/12 09:56	1
Dibromochloromethane	ND		0.40		ppb v/v			07/11/12 09:56	1
Chloroethane	ND		0.80		ppb v/v			07/11/12 09:56	1
Chloroform	ND		0.30		ppb v/v			07/11/12 09:56	1
Chloromethane	ND		0.80		ppb v/v			07/11/12 09:56	1
1,2-Dibromoethane (EDB)	ND		0.80		ppb v/v			07/11/12 09:56	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			07/11/12 09:56	1
1,3-Dichlorobenzene	ND		0.40		ppb v/v			07/11/12 09:56	1

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 340-2085/5

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dichlorobenzene	ND		0.40		ppb v/v			07/11/12 09:56	1
Dichlorodifluoromethane	ND		0.40		ppb v/v			07/11/12 09:56	1
1,1-Dichloroethane	ND		0.30		ppb v/v			07/11/12 09:56	1
1,2-Dichloroethane	ND		0.80		ppb v/v			07/11/12 09:56	1
1,1-Dichloroethene	ND		0.80		ppb v/v			07/11/12 09:56	1
cis-1,2-Dichloroethene	ND		0.40		ppb v/v			07/11/12 09:56	1
trans-1,2-Dichloroethene	ND		0.40		ppb v/v			07/11/12 09:56	1
1,2-Dichloropropane	ND		0.40		ppb v/v			07/11/12 09:56	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			07/11/12 09:56	1
trans-1,3-Dichloropropene	ND		0.40		ppb v/v			07/11/12 09:56	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40		ppb v/v			07/11/12 09:56	1
Ethylbenzene	ND		0.40		ppb v/v			07/11/12 09:56	1
4-Ethyltoluene	ND		0.40		ppb v/v			07/11/12 09:56	1
Hexachlorobutadiene	ND		0.40		ppb v/v			07/11/12 09:56	1
2-Hexanone	ND		0.40		ppb v/v			07/11/12 09:56	1
Methylene chloride	ND		0.40		ppb v/v			07/11/12 09:56	1
4-Methyl-2-pentanone (MIBK)	ND		0.40		ppb v/v			07/11/12 09:56	1
Styrene	ND		0.40		ppb v/v			07/11/12 09:56	1
1,1,2,2-Tetrachloroethane	ND		0.40		ppb v/v			07/11/12 09:56	1
Tetrachloroethene	ND		0.40		ppb v/v			07/11/12 09:56	1
Toluene	ND		0.40		ppb v/v			07/11/12 09:56	1
1,2,4-Trichlorobenzene	ND		2.5		ppb v/v			07/11/12 09:56	1
1,1,1-Trichloroethane	ND		0.30		ppb v/v			07/11/12 09:56	1
1,1,2-Trichloroethane	ND		0.40		ppb v/v			07/11/12 09:56	1
Trichloroethene	ND		0.40		ppb v/v			07/11/12 09:56	1
Trichlorofluoromethane	ND		0.40		ppb v/v			07/11/12 09:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40		ppb v/v			07/11/12 09:56	1
1,2,4-Trimethylbenzene	ND		2.5		ppb v/v			07/11/12 09:56	1
1,3,5-Trimethylbenzene	ND		0.40		ppb v/v			07/11/12 09:56	1
Vinyl acetate	ND		0.80		ppb v/v			07/11/12 09:56	1
Vinyl chloride	ND		0.20		ppb v/v			07/11/12 09:56	1
m,p-Xylene	ND		0.80		ppb v/v			07/11/12 09:56	1
o-Xylene	ND		0.40		ppb v/v			07/11/12 09:56	1
Naphthalene	ND		2.0		ppb v/v			07/11/12 09:56	1
Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		1.9		ug/m3			07/11/12 09:56	1
Benzene	ND		0.96		ug/m3			07/11/12 09:56	1
Benzyl chloride	ND		4.1		ug/m3			07/11/12 09:56	1
Bromodichloromethane	ND		2.0		ug/m3			07/11/12 09:56	1
Bromoform	ND		4.1		ug/m3			07/11/12 09:56	1
Bromomethane	ND		3.1		ug/m3			07/11/12 09:56	1
2-Butanone (MEK)	ND		2.4		ug/m3			07/11/12 09:56	1
Carbon disulfide	ND		2.5		ug/m3			07/11/12 09:56	1
Carbon tetrachloride	ND		5.0		ug/m3			07/11/12 09:56	1
Chlorobenzene	ND		1.4		ug/m3			07/11/12 09:56	1
Dibromochloromethane	ND		3.4		ug/m3			07/11/12 09:56	1
Chloroethane	ND		2.1		ug/m3			07/11/12 09:56	1
Chloroform	ND		1.5		ug/m3			07/11/12 09:56	1
Chloromethane	ND		1.7		ug/m3			07/11/12 09:56	1

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 340-2085/5

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		6.1		ug/m3			07/11/12 09:56	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			07/11/12 09:56	1
1,3-Dichlorobenzene	ND		2.4		ug/m3			07/11/12 09:56	1
1,4-Dichlorobenzene	ND		2.4		ug/m3			07/11/12 09:56	1
Dichlorodifluoromethane	ND		2.0		ug/m3			07/11/12 09:56	1
1,1-Dichloroethane	ND		1.2		ug/m3			07/11/12 09:56	1
1,2-Dichloroethane	ND		3.2		ug/m3			07/11/12 09:56	1
1,1-Dichloroethene	ND		3.2		ug/m3			07/11/12 09:56	1
cis-1,2-Dichloroethene	ND		1.6		ug/m3			07/11/12 09:56	1
trans-1,2-Dichloroethene	ND		1.6		ug/m3			07/11/12 09:56	1
1,2-Dichloropropane	ND		1.8		ug/m3			07/11/12 09:56	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			07/11/12 09:56	1
trans-1,3-Dichloropropene	ND		1.8		ug/m3			07/11/12 09:56	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		2.8		ug/m3			07/11/12 09:56	1
Ethylbenzene	ND		1.7		ug/m3			07/11/12 09:56	1
4-Ethyltoluene	ND		2.0		ug/m3			07/11/12 09:56	1
Hexachlorobutadiene	ND		4.3		ug/m3			07/11/12 09:56	1
2-Hexanone	ND		1.6		ug/m3			07/11/12 09:56	1
Methylene chloride	ND		1.4		ug/m3			07/11/12 09:56	1
4-Methyl-2-pentanone (MIBK)	ND		1.6		ug/m3			07/11/12 09:56	1
Styrene	ND		1.7		ug/m3			07/11/12 09:56	1
1,1,2,2-Tetrachloroethane	ND		2.7		ug/m3			07/11/12 09:56	1
Tetrachloroethene	ND		2.7		ug/m3			07/11/12 09:56	1
Toluene	ND		1.5		ug/m3			07/11/12 09:56	1
1,2,4-Trichlorobenzene	ND		19		ug/m3			07/11/12 09:56	1
1,1,1-Trichloroethane	ND		1.6		ug/m3			07/11/12 09:56	1
1,1,2-Trichloroethane	ND		2.2		ug/m3			07/11/12 09:56	1
Trichloroethene	ND		2.1		ug/m3			07/11/12 09:56	1
Trichlorofluoromethane	ND		2.2		ug/m3			07/11/12 09:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.1		ug/m3			07/11/12 09:56	1
1,2,4-Trimethylbenzene	ND		12		ug/m3			07/11/12 09:56	1
1,3,5-Trimethylbenzene	ND		2.0		ug/m3			07/11/12 09:56	1
Vinyl acetate	ND		2.8		ug/m3			07/11/12 09:56	1
Vinyl chloride	ND		0.51		ug/m3			07/11/12 09:56	1
m,p-Xylene	ND		3.5		ug/m3			07/11/12 09:56	1
o-Xylene	ND		1.7		ug/m3			07/11/12 09:56	1
Naphthalene	ND		10		ug/m3			07/11/12 09:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		07/11/12 09:56	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		07/11/12 09:56	1
Toluene-d8 (Surr)	93		70 - 130		07/11/12 09:56	1

Lab Sample ID: LCS 340-2085/3

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10.0	10.1		ppb v/v		101	70 - 130

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 340-2085/3

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.4		ppb v/v		104	70 - 130
Benzyl chloride	10.8	11.5		ppb v/v		107	70 - 130
Bromodichloromethane	10.0	11.0		ppb v/v		110	70 - 130
Bromoform	10.0	11.2		ppb v/v		112	70 - 130
Bromomethane	10.0	10.3		ppb v/v		103	70 - 130
2-Butanone (MEK)	10.6	10.2		ppb v/v		97	70 - 130
Carbon disulfide	10.0	10.2		ppb v/v		102	70 - 130
Carbon tetrachloride	10.0	10.1		ppb v/v		101	70 - 130
Chlorobenzene	10.7	10.1		ppb v/v		95	70 - 130
Dibromochloromethane	11.5	10.7		ppb v/v		93	70 - 130
Chloroethane	10.0	10.6		ppb v/v		106	70 - 130
Chloroform	10.0	10.3		ppb v/v		103	70 - 130
Chloromethane	10.0	11.1		ppb v/v		111	70 - 130
1,2-Dibromoethane (EDB)	10.0	10.6		ppb v/v		106	70 - 130
1,2-Dichlorobenzene	10.7	10.5		ppb v/v		98	70 - 130
1,3-Dichlorobenzene	10.8	10.5		ppb v/v		97	70 - 130
1,4-Dichlorobenzene	10.0	10.5		ppb v/v		105	70 - 130
Dichlorodifluoromethane	10.0	10.5		ppb v/v		105	70 - 130
1,1-Dichloroethane	10.0	10.4		ppb v/v		104	70 - 130
1,2-Dichloroethane	10.0	10.5		ppb v/v		105	70 - 130
1,1,1-Dichloroethane	10.0	10.5		ppb v/v		105	70 - 130
cis-1,2-Dichloroethane	10.0	10.4		ppb v/v		104	70 - 130
trans-1,2-Dichloroethane	10.0	10.3		ppb v/v		103	70 - 130
1,2-Dichloropropane	10.0	10.8		ppb v/v		108	70 - 130
cis-1,3-Dichloropropene	10.6	10.9		ppb v/v		103	70 - 130
trans-1,3-Dichloropropene	10.0	10.8		ppb v/v		108	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	10.0	10.6		ppb v/v		106	70 - 130
Ethylbenzene	10.6	10.5		ppb v/v		99	70 - 130
4-Ethyltoluene	10.0	10.4		ppb v/v		104	70 - 130
Hexachlorobutadiene	10.0	11.5		ppb v/v		115	70 - 130
2-Hexanone	10.0	10.2		ppb v/v		102	70 - 130
Methylene chloride	10.0	9.96		ppb v/v		100	70 - 130
4-Methyl-2-pentanone (MIBK)	11.0	10.7		ppb v/v		97	70 - 130
Styrene	10.7	10.6		ppb v/v		99	70 - 130
1,1,2,2-Tetrachloroethane	10.8	10.3		ppb v/v		95	70 - 130
Tetrachloroethane	10.0	10.6		ppb v/v		106	70 - 130
Toluene	10.0	10.6		ppb v/v		106	70 - 130
1,2,4-Trichlorobenzene	10.0	11.3		ppb v/v		113	70 - 130
1,1,1-Trichloroethane	10.0	10.8		ppb v/v		108	70 - 130
1,1,2-Trichloroethane	10.0	10.4		ppb v/v		104	70 - 130
Trichloroethane	10.0	10.7		ppb v/v		107	70 - 130
Trichlorofluoromethane	10.0	10.3		ppb v/v		103	70 - 130
1,1,2-Trichloro-1,1,2,2-trifluoroethane	10.0	10.2		ppb v/v		102	70 - 130
1,2,4-Trimethylbenzene	10.0	10.3		ppb v/v		103	70 - 130
1,3,5-Trimethylbenzene	10.7	10.2		ppb v/v		95	70 - 130
Vinyl acetate	10.8	10.8		ppb v/v		100	70 - 130
Vinyl chloride	10.0	10.7		ppb v/v		107	70 - 130
m,p-Xylene	20.0	21.3		ppb v/v		106	70 - 130

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 340-2085/3

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
o-Xylene	10.8	10.7		ppb v/v		99	70 - 130
Naphthalene	10.0	10.8		ppb v/v		108	70 - 130
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	24	24.1		ug/m3		101	70 - 130
Benzene	32	33.1		ug/m3		104	70 - 130
Benzyl chloride	56	59.7		ug/m3		107	70 - 130
Bromodichloromethane	67	73.7		ug/m3		110	70 - 130
Bromoform	100	116		ug/m3		112	70 - 130
Bromomethane	39	39.9		ug/m3		103	70 - 130
2-Butanone (MEK)	31	30.2		ug/m3		97	70 - 130
Carbon disulfide	31	31.7		ug/m3		102	70 - 130
Carbon tetrachloride	63	63.4		ug/m3		101	70 - 130
Chlorobenzene	49	46.4		ug/m3		95	70 - 130
Dibromochloromethane	98	90.8		ug/m3		93	70 - 130
Chloroethane	26	28.1		ug/m3		106	70 - 130
Chloroform	49	50.5		ug/m3		103	70 - 130
Chloromethane	21	23.0		ug/m3		111	70 - 130
1,2-Dibromoethane (EDB)	77	81.8		ug/m3		106	70 - 130
1,2-Dichlorobenzene	64	63.2		ug/m3		98	70 - 130
1,3-Dichlorobenzene	65	63.0		ug/m3		97	70 - 130
1,4-Dichlorobenzene	60	63.0		ug/m3		105	70 - 130
Dichlorodifluoromethane	49	52.0		ug/m3		105	70 - 130
1,1-Dichloroethane	40	42.0		ug/m3		104	70 - 130
1,2-Dichloroethane	40	42.4		ug/m3		105	70 - 130
1,1-Dichloroethene	40	41.5		ug/m3		105	70 - 130
cis-1,2-Dichloroethene	40	41.1		ug/m3		104	70 - 130
trans-1,2-Dichloroethene	40	40.9		ug/m3		103	70 - 130
1,2-Dichloropropane	46	49.8		ug/m3		108	70 - 130
cis-1,3-Dichloropropene	48	49.4		ug/m3		103	70 - 130
trans-1,3-Dichloropropene	45	48.9		ug/m3		108	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	70	73.9		ug/m3		106	70 - 130
Ethylbenzene	46	45.5		ug/m3		99	70 - 130
4-Ethyltoluene	49	51.2		ug/m3		104	70 - 130
Hexachlorobutadiene	110	123		ug/m3		115	70 - 130
2-Hexanone	41	41.7		ug/m3		102	70 - 130
Methylene chloride	35	34.6		ug/m3		100	70 - 130
4-Methyl-2-pentanone (MIBK)	45	43.9		ug/m3		97	70 - 130
Styrene	46	45.1		ug/m3		99	70 - 130
1,1,2,2-Tetrachloroethane	74	70.5		ug/m3		95	70 - 130
Tetrachloroethene	68	72.1		ug/m3		106	70 - 130
Toluene	38	40.1		ug/m3		106	70 - 130
1,2,4-Trichlorobenzene	74	83.7		ug/m3		113	70 - 130
1,1,1-Trichloroethane	55	58.8		ug/m3		108	70 - 130
1,1,2-Trichloroethane	55	56.7		ug/m3		104	70 - 130
Trichloroethene	54	57.4		ug/m3		107	70 - 130
Trichlorofluoromethane	56	57.8		ug/m3		103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	77	78.5		ug/m3		102	70 - 130

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 340-2085/3

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	49	50.4		ug/m3		103	70 - 130
1,3,5-Trimethylbenzene	53	50.1		ug/m3		95	70 - 130
Vinyl acetate	38	38.2		ug/m3		100	70 - 130
Vinyl chloride	26	27.4		ug/m3		107	70 - 130
m,p-Xylene	87	92.5		ug/m3		106	70 - 130
o-Xylene	47	46.4		ug/m3		99	70 - 130
Naphthalene	52	56.8		ug/m3		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: LCSD 340-2085/4

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10.0	9.88		ppb v/v		99	70 - 130	2	25
Benzene	10.0	10.1		ppb v/v		101	70 - 130	2	25
Benzyl chloride	10.8	11.2		ppb v/v		104	70 - 130	3	25
Bromodichloromethane	10.0	10.6		ppb v/v		106	70 - 130	4	25
Bromoform	10.0	11.0		ppb v/v		110	70 - 130	2	25
Bromomethane	10.0	9.89		ppb v/v		99	70 - 130	4	25
2-Butanone (MEK)	10.6	10.2		ppb v/v		96	70 - 130	0	25
Carbon disulfide	10.0	10.1		ppb v/v		101	70 - 130	1	25
Carbon tetrachloride	10.0	9.66		ppb v/v		97	70 - 130	4	25
Chlorobenzene	10.7	10.0		ppb v/v		93	70 - 130	1	25
Dibromochloromethane	11.5	10.5		ppb v/v		91	70 - 130	2	25
Chloroethane	10.0	10.3		ppb v/v		103	70 - 130	3	25
Chloroform	10.0	10.4		ppb v/v		104	70 - 130	0	25
Chloromethane	10.0	10.9		ppb v/v		109	70 - 130	2	25
1,2-Dibromoethane (EDB)	10.0	10.5		ppb v/v		105	70 - 130	1	25
1,2-Dichlorobenzene	10.7	10.3		ppb v/v		97	70 - 130	2	25
1,3-Dichlorobenzene	10.8	10.2		ppb v/v		95	70 - 130	2	25
1,4-Dichlorobenzene	10.0	10.3		ppb v/v		103	70 - 130	2	25
Dichlorodifluoromethane	10.0	10.4		ppb v/v		104	70 - 130	1	25
1,1-Dichloroethane	10.0	10.3		ppb v/v		103	70 - 130	1	25
1,2-Dichloroethane	10.0	10.1		ppb v/v		101	70 - 130	3	25
1,1-Dichloroethene	10.0	10.4		ppb v/v		104	70 - 130	0	25
cis-1,2-Dichloroethene	10.0	10.3		ppb v/v		103	70 - 130	0	25
trans-1,2-Dichloroethene	10.0	10.2		ppb v/v		102	70 - 130	1	25
1,2-Dichloropropane	10.0	10.4		ppb v/v		104	70 - 130	3	25
cis-1,3-Dichloropropene	10.6	10.6		ppb v/v		100	70 - 130	3	25
trans-1,3-Dichloropropene	10.0	10.5		ppb v/v		105	70 - 130	3	25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	10.0	10.3		ppb v/v		103	70 - 130	2	25
Ethylbenzene	10.6	10.3		ppb v/v		98	70 - 130	1	25
4-Ethyltoluene	10.0	9.94		ppb v/v		99	70 - 130	5	25
Hexachlorobutadiene	10.0	11.6		ppb v/v		116	70 - 130	1	25

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCSD 340-2085/4

Matrix: Air

Analysis Batch: 2085

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Hexanone	10.0	10.1		ppb v/v		101	70 - 130	1	25
Methylene chloride	10.0	9.74		ppb v/v		97	70 - 130	2	25
4-Methyl-2-pentanone (MIBK)	11.0	10.4		ppb v/v		94	70 - 130	3	25
Styrene	10.7	10.4		ppb v/v		97	70 - 130	2	25
1,1,2,2-Tetrachloroethane	10.8	10.1		ppb v/v		93	70 - 130	2	25
Tetrachloroethene	10.0	10.6		ppb v/v		106	70 - 130	0	25
Toluene	10.0	10.4		ppb v/v		104	70 - 130	2	25
1,2,4-Trichlorobenzene	10.0	11.5		ppb v/v		115	70 - 130	2	25
1,1,1-Trichloroethane	10.0	10.7		ppb v/v		107	70 - 130	0	25
1,1,2-Trichloroethane	10.0	10.2		ppb v/v		102	70 - 130	2	25
Trichloroethene	10.0	10.5		ppb v/v		105	70 - 130	1	25
Trichlorofluoromethane	10.0	10.1		ppb v/v		101	70 - 130	1	25
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.3		ppb v/v		103	70 - 130	1	25
1,2,4-Trimethylbenzene	10.0	10.1		ppb v/v		101	70 - 130	2	25
1,3,5-Trimethylbenzene	10.7	10.4		ppb v/v		97	70 - 130	2	25
Vinyl acetate	10.8	10.8		ppb v/v		100	70 - 130	1	25
Vinyl chloride	10.0	10.5		ppb v/v		105	70 - 130	2	25
m,p-Xylene	20.0	20.9		ppb v/v		104	70 - 130	2	25
o-Xylene	10.8	10.5		ppb v/v		97	70 - 130	2	25
Naphthalene	10.0	10.8		ppb v/v		108	70 - 130	0	25

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	24	23.5		ug/m3		99	70 - 130	2	25
Benzene	32	32.4		ug/m3		101	70 - 130	2	25
Benzyl chloride	56	58.0		ug/m3		104	70 - 130	3	25
Bromodichloromethane	67	71.1		ug/m3		106	70 - 130	4	25
Bromoform	100	113		ug/m3		110	70 - 130	2	25
Bromomethane	39	38.4		ug/m3		99	70 - 130	4	25
2-Butanone (MEK)	31	30.1		ug/m3		96	70 - 130	0	25
Carbon disulfide	31	31.4		ug/m3		101	70 - 130	1	25
Carbon tetrachloride	63	60.8		ug/m3		97	70 - 130	4	25
Chlorobenzene	49	45.9		ug/m3		93	70 - 130	1	25
Dibromochloromethane	98	89.4		ug/m3		91	70 - 130	2	25
Chloroethane	26	27.3		ug/m3		103	70 - 130	3	25
Chloroform	49	50.7		ug/m3		104	70 - 130	0	25
Chloromethane	21	22.6		ug/m3		109	70 - 130	2	25
1,2-Dibromoethane (EDB)	77	80.7		ug/m3		105	70 - 130	1	25
1,2-Dichlorobenzene	64	62.1		ug/m3		97	70 - 130	2	25
1,3-Dichlorobenzene	65	61.6		ug/m3		95	70 - 130	2	25
1,4-Dichlorobenzene	60	61.9		ug/m3		103	70 - 130	2	25
Dichlorodifluoromethane	49	51.7		ug/m3		104	70 - 130	1	25
1,1-Dichloroethane	40	41.8		ug/m3		103	70 - 130	1	25
1,2-Dichloroethane	40	41.0		ug/m3		101	70 - 130	3	25
1,1-Dichloroethene	40	41.3		ug/m3		104	70 - 130	0	25
cis-1,2-Dichloroethene	40	41.0		ug/m3		103	70 - 130	0	25
trans-1,2-Dichloroethene	40	40.4		ug/m3		102	70 - 130	1	25
1,2-Dichloropropane	46	48.2		ug/m3		104	70 - 130	3	25
cis-1,3-Dichloropropene	48	48.2		ug/m3		100	70 - 130	3	25
trans-1,3-Dichloropropene	45	47.7		ug/m3		105	70 - 130	3	25

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCSD 340-2085/4

Client Sample ID: Lab Control Sample Dup

Matrix: Air

Prep Type: Total/NA

Analysis Batch: 2085

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloro-1,1,2,2-tetrafluoroethane	70	72.3		ug/m3		103	70 - 130	2	25
Ethylbenzene	46	44.9		ug/m3		98	70 - 130	1	25
4-Ethyltoluene	49	48.9		ug/m3		99	70 - 130	5	25
Hexachlorobutadiene	110	123		ug/m3		116	70 - 130	1	25
2-Hexanone	41	41.2		ug/m3		101	70 - 130	1	25
Methylene chloride	35	33.8		ug/m3		97	70 - 130	2	25
4-Methyl-2-pentanone (MIBK)	45	42.4		ug/m3		94	70 - 130	3	25
Styrene	46	44.2		ug/m3		97	70 - 130	2	25
1,1,2,2-Tetrachloroethane	74	69.1		ug/m3		93	70 - 130	2	25
Tetrachloroethene	68	71.8		ug/m3		106	70 - 130	0	25
Toluene	38	39.3		ug/m3		104	70 - 130	2	25
1,2,4-Trichlorobenzene	74	85.0		ug/m3		115	70 - 130	2	25
1,1,1-Trichloroethane	55	58.5		ug/m3		107	70 - 130	0	25
1,1,2-Trichloroethane	55	55.7		ug/m3		102	70 - 130	2	25
Trichloroethene	54	56.6		ug/m3		105	70 - 130	1	25
Trichlorofluoromethane	56	57.0		ug/m3		101	70 - 130	1	25
1,1,2-Trichloro-1,2,2-trifluoroethane	77	79.0		ug/m3		103	70 - 130	1	25
1,2,4-Trimethylbenzene	49	49.5		ug/m3		101	70 - 130	2	25
1,3,5-Trimethylbenzene	53	51.0		ug/m3		97	70 - 130	2	25
Vinyl acetate	38	37.9		ug/m3		100	70 - 130	1	25
Vinyl chloride	26	26.9		ug/m3		105	70 - 130	2	25
m,p-Xylene	87	90.7		ug/m3		104	70 - 130	2	25
o-Xylene	47	45.5		ug/m3		97	70 - 130	2	25
Naphthalene	52	56.8		ug/m3		108	70 - 130	0	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
Toluene-d8 (Surr)	99		70 - 130

QC Association Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

GC VOA

Analysis Batch: 2102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
250-4379-1	CT-06	Total/NA	Air	D1946	
250-4379-2	CT-07	Total/NA	Air	D1946	
LCS 340-2102/11	Lab Control Sample	Total/NA	Air	D1946	
LCS 340-2102/4	Lab Control Sample	Total/NA	Air	D1946	
LCS 340-2102/6	Lab Control Sample	Total/NA	Air	D1946	
LCSD 340-2102/12	Lab Control Sample Dup	Total/NA	Air	D1946	
LCSD 340-2102/5	Lab Control Sample Dup	Total/NA	Air	D1946	
LCSD 340-2102/7	Lab Control Sample Dup	Total/NA	Air	D1946	
MB 340-2102/10	Method Blank	Total/NA	Air	D1946	
MB 340-2102/13	Method Blank	Total/NA	Air	D1946	

Air - GC/MS VOA

Analysis Batch: 2058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
250-4379-1	CT-06	Total/NA	Air	TO-15	
250-4379-2	CT-07	Total/NA	Air	TO-15	
LCS 340-2058/3	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 340-2058/4	Lab Control Sample Dup	Total/NA	Air	TO-15	
MB 340-2058/5	Method Blank	Total/NA	Air	TO-15	

Analysis Batch: 2085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
250-4379-2	CT-07	Total/NA	Air	TO-15	
LCS 340-2085/3	Lab Control Sample	Total/NA	Air	TO-15	
LCSD 340-2085/4	Lab Control Sample Dup	Total/NA	Air	TO-15	
MB 340-2085/5	Method Blank	Total/NA	Air	TO-15	

Certification Summary

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Portland	Alaska	State Program	10	OR00040
TestAmerica Portland	Alaska (UST)	State Program	10	UST-012
TestAmerica Portland	California	State Program	9	2597
TestAmerica Portland	Oregon	NELAC	10	OR100021
TestAmerica Portland	USDA	Federal		P330-11-00092
TestAmerica Portland	Washington	State Program	10	C586
TestAmerica Costa Mesa	Arizona	State Program	9	AZ0727
TestAmerica Costa Mesa	Florida	NELAC	4	E87652
TestAmerica Costa Mesa	L-A-B	DoD ELAP		L2273
TestAmerica Costa Mesa	Louisiana	NELAC	6	01948
TestAmerica Costa Mesa	New York	NELAC	2	11851
TestAmerica Costa Mesa	Oregon	NELAC	10	CA200013
TestAmerica Costa Mesa	Washington	State Program	10	C579

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



Method Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: City of Troutdale Eastwind Property

TestAmerica Job ID: 250-4379-1

Method	Method Description	Protocol	Laboratory
D1946	Fixed Gases in Air (GC)	ASTM	TAL LA
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL LA

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

Laboratory References:

TAL LA = TestAmerica Costa Mesa, 3585 Cadillac Ave, Suite A, Costa Mesa, CA 92626, TEL (714)258-8610

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Login Sample Receipt Checklist

Client: AMEC Environment & Infrastructure, Inc.

Job Number: 250-4379-1

Login Number: 4379

List Source: TestAmerica Portland

List Number: 1

Creator: Krause, Thomas

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background		
The cooler's custody seal, if present, is intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the sample IDs on the containers and the COC.		
Samples are received within Holding Time.		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

Login Sample Receipt Checklist

Client: AMEC Environment & Infrastructure, Inc.

Job Number: 250-4379-1

Login Number: 4379
List Number: 1
Creator: Morales, Sergio

List Source: TestAmerica Costa Mesa
List Creation: 07/02/12 04:36 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-34187-1

Client Project/Site: Troutdale Riverfront Redevelopment Site

For:

AMEC Environment & Infrastructure, Inc.
7376 SW Durham Road
Portland, Oregon 97224-7307

Attn: Ms. Marie Bevier



Authorized for release by:
8/14/2012 5:21:27 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Job ID: 580-34187-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 7/28/2012 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1° C.

GC/MS Semi VOA - Method(s) 8270C SIM:

The method blank for analytical batch 117583 contained several analytes above the method detection limit. These target analyte concentrations were less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No other analytical or quality issues were noted.

Metals

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

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Definitions/Glossary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Client Sample ID: IS-01

Lab Sample ID: 580-34187-1

Date Collected: 07/26/12 13:05

Matrix: Solid

Date Received: 07/28/12 09:20

Percent Solids: 98.4

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	1.4	J	2.0	0.81	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
2-Methylnaphthalene	0.86	J	2.0	0.81	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
1-Methylnaphthalene	0.60	J	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Acenaphthylene	2.2		2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Acenaphthene	1.2	J	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Fluorene	1.8	J	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Phenanthrene	11		2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Anthracene	3.6		2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Fluoranthene	50	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Pyrene	53	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Benzo[a]anthracene	37	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Chrysene	42	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Benzo[b]fluoranthene	56	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Benzo[k]fluoranthene	21	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Benzo[a]pyrene	44	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Indeno[1,2,3-cd]pyrene	32	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Dibenz(a,h)anthracene	8.5		2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1
Benzo[g,h,i]perylene	28	B	2.0	0.60	ug/Kg	☼	08/09/12 14:55	08/14/12 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	106		42 - 151	08/09/12 14:55	08/14/12 13:59	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		6.0	0.64	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10
Barium	40		1.0	0.20	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10
Cadmium	ND		1.0	0.40	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10
Chromium	13		2.6	0.78	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10
Lead	21		3.0	0.30	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10
Selenium	1.7	J	10	0.40	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10
Silver	ND		2.0	1.1	mg/Kg	☼	08/06/12 13:16	08/06/12 19:29	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.025		0.019	0.0061	mg/Kg	☼	08/09/12 14:50	08/09/12 16:06	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	98		0.10	0.10	%			08/01/12 11:48	1
Percent Moisture	1.6		0.10	0.10	%			08/01/12 11:48	1

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Client Sample ID: IS-02

Lab Sample ID: 580-34187-2

Date Collected: 07/26/12 14:30

Matrix: Solid

Date Received: 07/28/12 09:20

Percent Solids: 91.1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	2.0	J	2.1	0.86	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
2-Methylnaphthalene	1.4	J	2.1	0.86	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
1-Methylnaphthalene	1.1	J	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Acenaphthylene	7.4		2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Acenaphthene	2.0	J	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Fluorene	2.1		2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Phenanthrene	30		2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Anthracene	12		2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Fluoranthene	87	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Pyrene	91	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Benzo[a]anthracene	56	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Chrysene	63	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Benzo[b]fluoranthene	90	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Benzo[k]fluoranthene	34	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Benzo[a]pyrene	64	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Indeno[1,2,3-cd]pyrene	46	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Dibenz(a,h)anthracene	11		2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1
Benzo[g,h,i]perylene	40	B	2.1	0.64	ug/Kg	☼	08/09/12 14:55	08/14/12 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	108		42 - 151	08/09/12 14:55	08/14/12 12:15	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.97	J	6.4	0.68	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10
Barium	56		1.1	0.21	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10
Cadmium	ND		1.1	0.43	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10
Chromium	14		2.8	0.83	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10
Lead	13		3.2	0.32	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10
Selenium	1.6	J	11	0.43	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10
Silver	ND		2.1	1.2	mg/Kg	☼	08/06/12 13:16	08/06/12 19:35	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.046		0.022	0.0068	mg/Kg	☼	08/09/12 14:50	08/09/12 16:08	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91		0.10	0.10	%			08/01/12 11:48	1
Percent Moisture	8.9		0.10	0.10	%			08/01/12 11:48	1

Client Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Client Sample ID: Dup

Lab Sample ID: 580-34187-3

Date Collected: 07/26/12 14:40

Matrix: Solid

Date Received: 07/28/12 09:20

Percent Solids: 93.5

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	2.4		2.2	0.90	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
2-Methylnaphthalene	1.5	J	2.2	0.90	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
1-Methylnaphthalene	1.1	J	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Acenaphthylene	4.8		2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Acenaphthene	1.1	J	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Fluorene	1.5	J	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Phenanthrene	14		2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Anthracene	4.3		2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Fluoranthene	39	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Pyrene	44	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Benzo[a]anthracene	ND		2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Chrysene	ND		2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Benzo[b]fluoranthene	34	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Benzo[k]fluoranthene	11	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Benzo[a]pyrene	24	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Indeno[1,2,3-cd]pyrene	23	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Dibenz(a,h)anthracene	3.6		2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1
Benzo[g,h,i]perylene	23	B	2.2	0.67	ug/Kg	☼	08/09/12 14:55	08/14/12 12:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	99		42 - 151	08/09/12 14:55	08/14/12 12:36	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0	J	6.3	0.67	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10
Barium	52		1.0	0.21	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10
Cadmium	ND		1.0	0.42	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10
Chromium	14		2.7	0.82	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10
Lead	15		3.1	0.31	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10
Selenium	1.7	J	10	0.42	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10
Silver	ND		2.1	1.2	mg/Kg	☼	08/06/12 13:16	08/06/12 19:42	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.048		0.021	0.0066	mg/Kg	☼	08/09/12 14:50	08/09/12 16:10	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93		0.10	0.10	%			08/01/12 11:48	1
Percent Moisture	6.5		0.10	0.10	%			08/01/12 11:48	1

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-117318/1-A

Matrix: Solid

Analysis Batch: 117583

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 117318

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.7	0.67	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
2-Methylnaphthalene	ND		1.7	0.67	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
1-Methylnaphthalene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Acenaphthylene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Acenaphthene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Fluorene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Phenanthrene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Anthracene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Fluoranthene	0.725	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Pyrene	0.758	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Benzo[a]anthracene	1.08	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Chrysene	0.889	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Benzo[b]fluoranthene	1.28	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Benzo[k]fluoranthene	0.892	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Benzo[a]pyrene	0.772	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Indeno[1,2,3-cd]pyrene	1.35	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Dibenz(a,h)anthracene	ND		1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1
Benzo[g,h,i]perylene	1.29	J	1.7	0.50	ug/Kg		08/09/12 14:55	08/14/12 10:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	102		42 - 151	08/09/12 14:55	08/14/12 10:52	1

Lab Sample ID: LCS 580-117318/2-A

Matrix: Solid

Analysis Batch: 117583

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 117318

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	336	321		ug/Kg		96	64 - 129
2-Methylnaphthalene	334	326		ug/Kg		97	65 - 125
1-Methylnaphthalene	335	336		ug/Kg		100	48 - 148
Acenaphthylene	333	332		ug/Kg		100	69 - 129
Acenaphthene	333	312		ug/Kg		94	65 - 130
Fluorene	336	315		ug/Kg		94	68 - 128
Phenanthrene	335	310		ug/Kg		92	65 - 125
Anthracene	333	330		ug/Kg		99	73 - 123
Fluoranthene	334	336		ug/Kg		101	61 - 121
Pyrene	333	332		ug/Kg		100	54 - 134
Benzo[a]anthracene	334	281		ug/Kg		84	64 - 124
Chrysene	321	268		ug/Kg		83	71 - 126
Benzo[b]fluoranthene	333	260		ug/Kg		78	66 - 136
Benzo[k]fluoranthene	333	262		ug/Kg		79	63 - 143
Benzo[a]pyrene	333	274		ug/Kg		82	68 - 128
Indeno[1,2,3-cd]pyrene	336	277		ug/Kg		82	59 - 139
Dibenz(a,h)anthracene	333	278		ug/Kg		83	57 - 142
Benzo[g,h,i]perylene	333	249		ug/Kg		75	57 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	112		42 - 151

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-117318/3-A

Matrix: Solid

Analysis Batch: 117583

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 117318

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Naphthalene	336	317		ug/Kg		94	64 - 129	1	26	
2-Methylnaphthalene	334	325		ug/Kg		97	65 - 125	0	27	
1-Methylnaphthalene	335	333		ug/Kg		99	48 - 148	1	30	
Acenaphthylene	333	330		ug/Kg		99	69 - 129	1	28	
Acenaphthene	333	313		ug/Kg		94	65 - 130	0	27	
Fluorene	336	311		ug/Kg		93	68 - 128	1	31	
Phenanthrene	335	307		ug/Kg		92	65 - 125	1	28	
Anthracene	333	321		ug/Kg		97	73 - 123	3	27	
Fluoranthene	334	330		ug/Kg		99	61 - 121	2	36	
Pyrene	333	327		ug/Kg		98	54 - 134	1	31	
Benzo[a]anthracene	334	284		ug/Kg		85	64 - 124	1	27	
Chrysene	321	270		ug/Kg		84	71 - 126	1	26	
Benzo[b]fluoranthene	333	262		ug/Kg		79	66 - 136	1	31	
Benzo[k]fluoranthene	333	262		ug/Kg		79	63 - 143	0	31	
Benzo[a]pyrene	333	275		ug/Kg		83	68 - 128	0	30	
Indeno[1,2,3-cd]pyrene	336	274		ug/Kg		82	59 - 139	1	29	
Dibenz(a,h)anthracene	333	281		ug/Kg		84	57 - 142	1	30	
Benzo[g,h,i]perylene	333	250		ug/Kg		75	57 - 142	0	28	

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	111		42 - 151

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-117007/9-A

Matrix: Solid

Analysis Batch: 117064

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 117007

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		3.0	0.32	mg/Kg		08/06/12 13:16	08/06/12 18:11	1
Barium	ND		0.50	0.10	mg/Kg		08/06/12 13:16	08/06/12 18:11	1
Cadmium	ND		0.50	0.20	mg/Kg		08/06/12 13:16	08/06/12 18:11	1
Chromium	ND		1.3	0.39	mg/Kg		08/06/12 13:16	08/06/12 18:11	1
Lead	ND		1.5	0.15	mg/Kg		08/06/12 13:16	08/06/12 18:11	1
Selenium	ND		5.0	0.20	mg/Kg		08/06/12 13:16	08/06/12 18:11	1
Silver	ND		1.0	0.56	mg/Kg		08/06/12 13:16	08/06/12 18:11	1

Lab Sample ID: LCS 580-117007/10-A

Matrix: Solid

Analysis Batch: 117064

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 117007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
Arsenic	200	202		mg/Kg		101	80 - 120	
Barium	200	189		mg/Kg		94	80 - 120	
Cadmium	5.00	4.82		mg/Kg		96	80 - 120	
Chromium	20.0	19.7		mg/Kg		98	80 - 120	
Lead	50.0	47.0		mg/Kg		94	80 - 120	
Selenium	200	178		mg/Kg		89	80 - 120	
Silver	30.0	30.0		mg/Kg		100	75 - 120	

QC Sample Results

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 580-117007/11-A

Matrix: Solid

Analysis Batch: 117064

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 117007

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Arsenic	200	201		mg/Kg		100	80 - 120	0	20	
Barium	200	190		mg/Kg		95	80 - 120	1	20	
Cadmium	5.00	4.77		mg/Kg		95	80 - 120	1	20	
Chromium	20.0	19.5		mg/Kg		98	80 - 120	1	20	
Lead	50.0	46.5		mg/Kg		93	80 - 120	1	20	
Selenium	200	177		mg/Kg		89	80 - 120	1	20	
Silver	30.0	30.4		mg/Kg		101	75 - 120	1	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-117317/4-A ^10

Matrix: Solid

Analysis Batch: 117327

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 117317

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Lab Sample ID: LCS 580-117317/5-A ^10

Matrix: Solid

Analysis Batch: 117327

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 117317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
Mercury	0.100	0.0906		mg/Kg		91	80 - 120	

Lab Sample ID: LCSD 580-117317/6-A ^10

Matrix: Solid

Analysis Batch: 117327

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 117317

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Mercury	0.100	0.0914		mg/Kg		91	80 - 120	1	20	

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-34113-A-1 DU

Matrix: Solid

Analysis Batch: 116677

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD	
								Limits	Limit
Percent Solids	91		88		%		3	20	
Percent Moisture	9.4		12	F	%		25	20	

Lab Chronicle

Client: AMEC Environment & Infrastructure, Inc.
 Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Client Sample ID: IS-01

Lab Sample ID: 580-34187-1

Date Collected: 07/26/12 13:05

Matrix: Solid

Date Received: 07/28/12 09:20

Percent Solids: 98.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Increm, Prep			116474	07/30/12 14:41	HM	TAL SEA
Total/NA	Prep	3550B			117318	08/09/12 14:55	AA	TAL SEA
Total/NA	Analysis	8270C SIM		1	117583	08/14/12 13:59	AP	TAL SEA
Total/NA	Leach	Increm, Prep			116474	07/30/12 14:41	HM	TAL SEA
Total/NA	Prep	3050B			117007	08/06/12 13:16	PAB	TAL SEA
Total/NA	Analysis	6010B		10	117064	08/06/12 19:29	HM	TAL SEA
Total/NA	Prep	7471A			117317	08/09/12 14:50	PAB	TAL SEA
Total/NA	Analysis	7471A		10	117327	08/09/12 16:06	PAB	TAL SEA
Total/NA	Analysis	D 2216		1	116677	08/01/12 11:48	RS	TAL SEA

Client Sample ID: IS-02

Lab Sample ID: 580-34187-2

Date Collected: 07/26/12 14:30

Matrix: Solid

Date Received: 07/28/12 09:20

Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Increm, Prep			116474	07/30/12 14:41	HM	TAL SEA
Total/NA	Prep	3550B			117318	08/09/12 14:55	AA	TAL SEA
Total/NA	Analysis	8270C SIM		1	117583	08/14/12 12:15	AP	TAL SEA
Total/NA	Leach	Increm, Prep			116474	07/30/12 14:41	HM	TAL SEA
Total/NA	Prep	3050B			117007	08/06/12 13:16	PAB	TAL SEA
Total/NA	Analysis	6010B		10	117064	08/06/12 19:35	HM	TAL SEA
Total/NA	Prep	7471A			117317	08/09/12 14:50	PAB	TAL SEA
Total/NA	Analysis	7471A		10	117327	08/09/12 16:08	PAB	TAL SEA
Total/NA	Analysis	D 2216		1	116677	08/01/12 11:48	RS	TAL SEA

Client Sample ID: Dup

Lab Sample ID: 580-34187-3

Date Collected: 07/26/12 14:40

Matrix: Solid

Date Received: 07/28/12 09:20

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Increm, Prep			116474	07/30/12 14:41	HM	TAL SEA
Total/NA	Prep	3550B			117318	08/09/12 14:55	AA	TAL SEA
Total/NA	Analysis	8270C SIM		1	117583	08/14/12 12:36	AP	TAL SEA
Total/NA	Leach	Increm, Prep			116474	07/30/12 14:41	HM	TAL SEA
Total/NA	Prep	3050B			117007	08/06/12 13:16	PAB	TAL SEA
Total/NA	Analysis	6010B		10	117064	08/06/12 19:42	HM	TAL SEA
Total/NA	Prep	7471A			117317	08/09/12 14:50	PAB	TAL SEA
Total/NA	Analysis	7471A		10	117327	08/09/12 16:10	PAB	TAL SEA
Total/NA	Analysis	D 2216		1	116677	08/01/12 11:48	RS	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-04-13
California	NELAC	9	1115CA	01-31-13
L-A-B	DoD ELAP		L2236	01-19-13
L-A-B	ISO/IEC 17025		L2236	01-19-13
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAC	10	WA100007	11-06-12
USDA	Federal		P330-11-00222	05-20-14
Washington	State Program	10	C553	02-17-13

Sample Summary

Client: AMEC Environment & Infrastructure, Inc.
Project/Site: Troutdale Riverfront Redevelopment Site

TestAmerica Job ID: 580-34187-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-34187-1	IS-01	Solid	07/26/12 13:05	07/28/12 09:20
580-34187-2	IS-02	Solid	07/26/12 14:30	07/28/12 09:20
580-34187-3	Dup	Solid	07/26/12 14:40	07/28/12 09:20

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
 5755 8th Street East, Tacoma, WA 98424
 9405 SW Nimbus Ave, Beaverton, OR 97008-7145
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

425-420-9200 FAX 420-9210
 253-922-2310 FAX 922-5047
 503-906-9200 FAX 906-9210
 907-563-9200 FAX 563-9210

34187

CHAIN OF CUSTODY REPORT

Work Order #:

TURNAROUND REQUEST

In Business Days *

10 Organic & Inorganic Analyses
 7
 5
 4
 3
 2
 1
 <1
 5 Petroleum Hydrocarbon Analyses
 4
 3
 2
 1
 <1
 OTHER Specify:

* Turnaround Request less than standard may incur Rush Charges

CLIENT: AMEC		INVOICE TO: Same	
REPORT TO: Lew Faust		ADDRESS: 7376 Sw Durham Rd Portland, OR 97224	
PHONE: 503-639-3400 FAX: 503-620-7892		PROJECT NAME: Frowdale Riverfront	
PROJECT NUMBER: 261M125856		RADIATION: 51hr	
SAMPLED BY: Joe Fassio		PRESERVATIVE:	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	REQUESTED ANALYSES	
1- 1S-01	7/26/12 1305	PAHs 8270-5M RCRA 8 Metals	
2- 1S-02	7/26/12 1430		
3- Dup	7/26/12 1440		
4			
5			
6			
7			
8			
9			
10			
RELEASED BY: Joe Fassio	FIRM: AMEC	DATE: 7/26/12	RECEIVED BY: [Signature]
PRINT NAME: Joe Fassio	FIRM: AMEC	TIME: 1632	PRINT NAME: [Signature]
RELEASED BY: [Signature]	FIRM: AMEC	DATE: 7/27/12	RECEIVED BY: [Signature]
PRINT NAME: [Signature]	FIRM: AMEC	TIME: 1225	PRINT NAME: [Signature]
ADDITIONAL REMARKS: Please use Test America SOP No. PA-GL-136 (11/30/07) to obtain Subsamples prior to testing.			

cooler/TB Dig/IR cor 11 unc 13
 cooler Dsc [Signature] @ Lab
 NetPacks Packing [Signature]
 ofc Met del [Signature]

Login Sample Receipt Checklist

Client: AMEC Environment & Infrastructure, Inc.

Job Number: 580-34187-1

Login Number: 34187

List Number: 1

Creator: Riley, Nicole

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Tuesday, August 28, 2012

Joe Fassio
Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

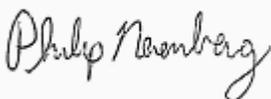
RE: Troutdale Riverfront / 261M125850

Enclosed are the results of analyses for work order A12H247, which was received by the laboratory on 8/14/2012 at 2:55:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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

Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: **Troutdale Riverfront**
Project Number: 261M125850
Project Manager: Joe Fassio

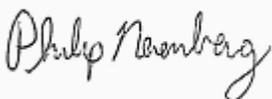
Reported:
08/28/12 16:20

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW02-17	A12H247-01	Soil	08/13/12 13:46	08/14/12 14:55
MW01-19	A12H247-03	Soil	08/14/12 09:34	08/14/12 14:55

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

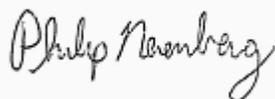
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW02-17 (A12H247-01RE1)			Matrix: Soil		Batch: 1208287			V-06
Acetone	ND	---	1200	ug/kg dry	50	08/15/12 11:42	5035/8260B	ESTa
Benzene	ND	---	15.0	"	"	"	"	
Bromobenzene	ND	---	30.0	"	"	"	"	
Bromochloromethane	ND	---	30.0	"	"	"	"	
Bromodichloromethane	ND	---	30.0	"	"	"	"	
Bromoform	ND	---	120	"	"	"	"	
Bromomethane	ND	---	599	"	"	"	"	
2-Butanone (MEK)	ND	---	599	"	"	"	"	
n-Butylbenzene	ND	---	59.9	"	"	"	"	
sec-Butylbenzene	ND	---	59.9	"	"	"	"	
tert-Butylbenzene	ND	---	59.9	"	"	"	"	
Carbon tetrachloride	ND	---	30.0	"	"	"	"	
Chlorobenzene	ND	---	30.0	"	"	"	"	
Chloroethane	ND	---	599	"	"	"	"	
Chloroform	ND	---	59.9	"	"	"	"	
Chloromethane	ND	---	300	"	"	"	"	
2-Chlorotoluene	ND	---	59.9	"	"	"	"	
4-Chlorotoluene	ND	---	59.9	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	300	"	"	"	"	
Dibromochloromethane	ND	---	120	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	30.0	"	"	"	"	
Dibromomethane	ND	---	59.9	"	"	"	"	
1,2-Dichlorobenzene	ND	---	30.0	"	"	"	"	
1,3-Dichlorobenzene	ND	---	30.0	"	"	"	"	
1,4-Dichlorobenzene	ND	---	30.0	"	"	"	"	
Dichlorodifluoromethane	ND	---	120	"	"	"	"	
1,1-Dichloroethane	ND	---	30.0	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	30.0	"	"	"	"	
1,1-Dichloroethene	ND	---	30.0	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	30.0	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	30.0	"	"	"	"	
1,2-Dichloropropane	ND	---	30.0	"	"	"	"	
1,3-Dichloropropane	ND	---	30.0	"	"	"	"	
2,2-Dichloropropane	ND	---	59.9	"	"	"	"	
1,1-Dichloropropene	ND	---	59.9	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

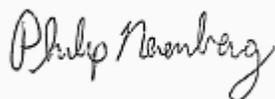
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW02-17 (A12H247-01RE1)			Matrix: Soil		Batch: 1208287			V-06
cis-1,3-Dichloropropene	ND	---	59.9	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	120	"	"	"	"	
Ethylbenzene	ND	---	30.0	"	"	"	"	
Hexachlorobutadiene	ND	---	120	"	"	"	"	
2-Hexanone	ND	---	599	"	"	"	"	
Isopropylbenzene	ND	---	59.9	"	"	"	"	
4-Isopropyltoluene	ND	---	59.9	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	599	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	59.9	"	"	"	"	
Methylene chloride	ND	---	300	"	"	"	"	
Naphthalene	219	---	120	"	"	"	"	
n-Propylbenzene	ND	---	30.0	"	"	"	"	
Styrene	ND	---	59.9	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	30.0	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	30.0	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	30.0	"	"	"	"	
Toluene	ND	---	59.9	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	300	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	300	"	"	"	"	
1,1,1-Trichloroethane	ND	---	30.0	"	"	"	"	
1,1,2-Trichloroethane	ND	---	30.0	"	"	"	"	
Trichloroethene (TCE)	ND	---	30.0	"	"	"	"	
Trichlorofluoromethane	ND	---	120	"	"	"	"	
1,2,3-Trichloropropane	ND	---	59.9	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	59.9	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	59.9	"	"	"	"	
Vinyl chloride	ND	---	30.0	"	"	"	"	
m,p-Xylene	ND	---	59.9	"	"	"	"	
o-Xylene	ND	---	30.0	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>111 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>96 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>93 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

Apex Laboratories

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



Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

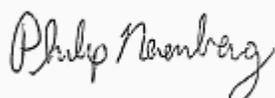
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW01-19 (A12H247-03)			Matrix: Soil		Batch: 1208349			V-07
Acetone	ND	---	1030	ug/kg dry	50	08/17/12 13:56	5035/8260B	
Benzene	ND	---	12.9	"	"	"	"	
Bromobenzene	ND	---	25.8	"	"	"	"	
Bromochloromethane	ND	---	25.8	"	"	"	"	
Bromodichloromethane	ND	---	25.8	"	"	"	"	
Bromoform	ND	---	103	"	"	"	"	
Bromomethane	ND	---	515	"	"	"	"	
2-Butanone (MEK)	ND	---	515	"	"	"	"	
n-Butylbenzene	ND	---	51.5	"	"	"	"	
sec-Butylbenzene	ND	---	51.5	"	"	"	"	
tert-Butylbenzene	ND	---	51.5	"	"	"	"	
Carbon tetrachloride	ND	---	25.8	"	"	"	"	
Chlorobenzene	ND	---	25.8	"	"	"	"	
Chloroethane	ND	---	515	"	"	"	"	
Chloroform	ND	---	51.5	"	"	"	"	
Chloromethane	ND	---	258	"	"	"	"	
2-Chlorotoluene	ND	---	51.5	"	"	"	"	
4-Chlorotoluene	ND	---	51.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	258	"	"	"	"	
Dibromochloromethane	ND	---	103	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.8	"	"	"	"	
Dibromomethane	ND	---	51.5	"	"	"	"	
1,2-Dichlorobenzene	ND	---	25.8	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.8	"	"	"	"	
1,4-Dichlorobenzene	ND	---	25.8	"	"	"	"	
Dichlorodifluoromethane	ND	---	103	"	"	"	"	
1,1-Dichloroethane	ND	---	25.8	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.8	"	"	"	"	
1,1-Dichloroethene	ND	---	25.8	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.8	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.8	"	"	"	"	
1,2-Dichloropropane	ND	---	25.8	"	"	"	"	
1,3-Dichloropropane	ND	---	25.8	"	"	"	"	
2,2-Dichloropropane	ND	---	51.5	"	"	"	"	
1,1-Dichloropropene	ND	---	51.5	"	"	"	"	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

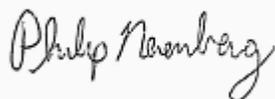
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW01-19 (A12H247-03)			Matrix: Soil		Batch: 1208349			V-07
cis-1,3-Dichloropropene	ND	---	51.5	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	103	"	"	"	"	
Ethylbenzene	ND	---	25.8	"	"	"	"	
Hexachlorobutadiene	ND	---	103	"	"	"	"	
2-Hexanone	ND	---	515	"	"	"	"	
Isopropylbenzene	ND	---	51.5	"	"	"	"	
4-Isopropyltoluene	ND	---	51.5	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	515	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	51.5	"	"	"	"	
Methylene chloride	ND	---	258	"	"	"	"	
Naphthalene	ND	---	103	"	"	"	"	
n-Propylbenzene	ND	---	25.8	"	"	"	"	
Styrene	ND	---	51.5	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	25.8	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.8	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.8	"	"	"	"	
Toluene	ND	---	51.5	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	258	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	258	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.8	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.8	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.8	"	"	"	"	
Trichlorofluoromethane	ND	---	103	"	"	"	"	
1,2,3-Trichloropropane	ND	---	51.5	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	51.5	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	51.5	"	"	"	"	
Vinyl chloride	ND	---	25.8	"	"	"	"	
m,p-Xylene	ND	---	51.5	"	"	"	"	
o-Xylene	ND	---	25.8	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 98 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>94 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>93 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

AmeC Environment & Infrastructure, Inc 7376 SW Durham Road Portland, OR 97224	Project: Troutdale Riverfront Project Number: 261M125850 Project Manager: Joe Fassio	Reported: 08/28/12 16:20
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW01-19 (A12H247-03)			Matrix: Soil		Batch: 1208511			
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>			<i>Recovery: 93 %</i>	<i>Limits: 30-120 %</i>	1	"	EPA 8270D (SIM)	

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 7376 SW Durham Road
 Portland, OR 97224

Project: **Troutdale Riverfront**
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

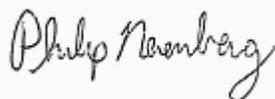
ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW02-17 (A12H247-01)			Matrix: Soil					
Batch: 1208391								
Arsenic	8.25	---	2.66	mg/kg dry	10	08/22/12 12:55	EPA 6020	
Barium	120	---	1.33	"	"	"	"	
Cadmium	ND	---	1.33	"	"	"	"	
Chromium	15.2	---	2.66	"	"	"	"	
Iron	25900	---	66.6	"	"	"	"	
Lead	27.2	---	1.33	"	"	"	"	
Mercury	ND	---	0.106	"	"	"	"	
Selenium	ND	---	2.66	"	"	"	"	
Silver	ND	---	1.33	"	"	"	"	
Vanadium	74.3	---	2.66	"	"	"	"	
MW01-19 (A12H247-03)			Matrix: Soil					
Batch: 1208391								
Arsenic	2.39	---	2.34	mg/kg dry	10	08/22/12 12:58	EPA 6020	
Barium	128	---	1.17	"	"	"	"	
Cadmium	ND	---	1.17	"	"	"	"	
Chromium	18.9	---	2.34	"	"	"	"	
Iron	17000	---	58.6	"	"	"	"	
Lead	7.21	---	1.17	"	"	"	"	
Mercury	ND	---	0.0938	"	"	"	"	
Selenium	ND	---	2.34	"	"	"	"	
Silver	ND	---	1.17	"	"	"	"	
Vanadium	53.8	---	2.34	"	"	"	"	

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 Project Number: 261M125850
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Reported:
 08/28/12 16:20

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW02-17 (A12H247-01)			Matrix: Soil		Batch: 1208346			
% Solids	80.6	---	1.00	% by Weight	1	08/17/12 10:50	Apex SOP	
MW01-19 (A12H247-03)			Matrix: Soil		Batch: 1208346			
% Solids	88.3	---	1.00	% by Weight	1	08/17/12 10:50	Apex SOP	

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Project: Troutdale Riverfront
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Reported:
 08/28/12 16:20

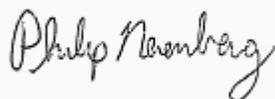
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208287 - EPA 5035A						Soil						
Blank (1208287-BLK1)						Prepared: 08/15/12 08:00 Analyzed: 08/15/12 09:59						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	ESTa
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromoform	ND	---	66.7	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208287 - EPA 5035A						Soil						
Blank (1208287-BLK1)						Prepared: 08/15/12 08:00 Analyzed: 08/15/12 09:59						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	66.7	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

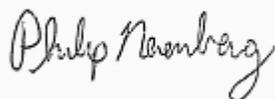
Surr: Dibromofluoromethane (Surr)	Recovery: 95 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	102 %	70-130 %	"
Toluene-d8 (Surr)	99 %	70-130 %	"
4-Bromofluorobenzene (Surr)	92 %	70-130 %	"

LCS (1208287-BS1)

Prepared: 08/15/12 08:00 Analyzed: 08/15/12 09:08

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Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

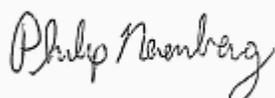
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208287 - EPA 5035A						Soil						
LCS (1208287-BS1)						Prepared: 08/15/12 08:00 Analyzed: 08/15/12 09:08						
5035/8260B												
Acetone	1350	---	1000	ug/kg wet	50	2000	---	68	65-135%	---	---	ESTa
Benzene	1170	---	12.5	"	"	1000	---	117	"	---	---	
Bromobenzene	1030	---	25.0	"	"	"	---	103	"	---	---	
Bromochloromethane	1230	---	25.0	"	"	"	---	123	"	---	---	
Bromodichloromethane	1160	---	25.0	"	"	"	---	116	"	---	---	
Bromoform	1070	---	100	"	"	"	---	107	"	---	---	
Bromomethane	1110	---	500	"	"	"	---	111	"	---	---	
2-Butanone (MEK)	2120	---	500	"	"	2000	---	106	"	---	---	
n-Butylbenzene	1160	---	50.0	"	"	1000	---	116	"	---	---	
sec-Butylbenzene	1140	---	50.0	"	"	"	---	114	"	---	---	
tert-Butylbenzene	1050	---	50.0	"	"	"	---	105	"	---	---	
Carbon tetrachloride	964	---	25.0	"	"	"	---	96	"	---	---	
Chlorobenzene	1080	---	25.0	"	"	"	---	108	"	---	---	
Chloroethane	1200	---	500	"	"	"	---	120	"	---	---	
Chloroform	1050	---	50.0	"	"	"	---	105	"	---	---	
Chloromethane	1230	---	250	"	"	"	---	123	"	---	---	
2-Chlorotoluene	1140	---	50.0	"	"	"	---	114	"	---	---	
4-Chlorotoluene	1150	---	50.0	"	"	"	---	115	"	---	---	
1,2-Dibromo-3-chloropropane	1100	---	250	"	"	"	---	110	"	---	---	
Dibromochloromethane	1060	---	100	"	"	"	---	106	"	---	---	
1,2-Dibromoethane (EDB)	1070	---	25.0	"	"	"	---	107	"	---	---	
Dibromomethane	1150	---	50.0	"	"	"	---	115	"	---	---	
1,2-Dichlorobenzene	1110	---	25.0	"	"	"	---	111	"	---	---	
1,3-Dichlorobenzene	1170	---	25.0	"	"	"	---	117	"	---	---	
1,4-Dichlorobenzene	1040	---	25.0	"	"	"	---	104	"	---	---	
Dichlorodifluoromethane	866	---	100	"	"	"	---	87	"	---	---	
1,1-Dichloroethane	1060	---	25.0	"	"	"	---	106	"	---	---	
1,2-Dichloroethane (EDC)	934	---	25.0	"	"	"	---	93	"	---	---	
1,1-Dichloroethene	1130	---	25.0	"	"	"	---	113	"	---	---	
cis-1,2-Dichloroethene	1110	---	25.0	"	"	"	---	111	"	---	---	
trans-1,2-Dichloroethene	1150	---	25.0	"	"	"	---	115	"	---	---	
1,2-Dichloropropane	1230	---	25.0	"	"	"	---	123	"	---	---	
1,3-Dichloropropane	1120	---	25.0	"	"	"	---	112	"	---	---	
2,2-Dichloropropane	1050	---	50.0	"	"	"	---	105	"	---	---	

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Project: **Troutdale Riverfront**
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

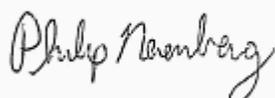
Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208287 - EPA 5035A						Soil						
LCS (1208287-BS1)						Prepared: 08/15/12 08:00 Analyzed: 08/15/12 09:08						
1,1-Dichloropropene	990	---	50.0	ug/kg wet	"	"	---	99	"	---	---	
cis-1,3-Dichloropropene	1070	---	50.0	"	"	"	---	107	"	---	---	
trans-1,3-Dichloropropene	992	---	100	"	"	"	---	99	"	---	---	
Ethylbenzene	1080	---	25.0	"	"	"	---	108	"	---	---	
Hexachlorobutadiene	1020	---	100	"	"	"	---	102	"	---	---	
2-Hexanone	1870	---	500	"	"	2000	---	93	"	---	---	
Isopropylbenzene	1080	---	50.0	"	"	1000	---	108	"	---	---	
4-Isopropyltoluene	1120	---	50.0	"	"	"	---	112	"	---	---	
4-Methyl-2-pentanone (MiBK)	2300	---	500	"	"	2000	---	115	"	---	---	
Methyl tert-butyl ether (MTBE)	1080	---	50.0	"	"	1000	---	108	"	---	---	
Methylene chloride	1090	---	250	"	"	"	---	109	"	---	---	
Naphthalene	1200	---	100	"	"	"	---	120	"	---	---	
n-Propylbenzene	1210	---	25.0	"	"	"	---	121	"	---	---	
Styrene	1150	---	50.0	"	"	"	---	115	"	---	---	
1,1,1,2-Tetrachloroethane	988	---	25.0	"	"	"	---	99	"	---	---	
1,1,2,2-Tetrachloroethane	1280	---	25.0	"	"	"	---	128	"	---	---	
Tetrachloroethene (PCE)	882	---	25.0	"	"	"	---	88	"	---	---	
Toluene	1080	---	50.0	"	"	"	---	108	"	---	---	
1,2,3-Trichlorobenzene	1090	---	250	"	"	"	---	109	"	---	---	
1,2,4-Trichlorobenzene	1180	---	250	"	"	"	---	118	"	---	---	
1,1,1-Trichloroethane	956	---	25.0	"	"	"	---	96	"	---	---	
1,1,2-Trichloroethane	1100	---	25.0	"	"	"	---	110	"	---	---	
Trichloroethene (TCE)	1060	---	25.0	"	"	"	---	106	"	---	---	
Trichlorofluoromethane	1110	---	100	"	"	"	---	111	"	---	---	
1,2,3-Trichloropropane	1080	---	50.0	"	"	"	---	108	"	---	---	
1,2,4-Trimethylbenzene	1150	---	50.0	"	"	"	---	115	"	---	---	
1,3,5-Trimethylbenzene	1160	---	50.0	"	"	"	---	116	"	---	---	
Vinyl chloride	1270	---	25.0	"	"	"	---	127	"	---	---	
m,p-Xylene	2200	---	50.0	"	"	2000	---	110	"	---	---	
o-Xylene	1080	---	25.0	"	"	1000	---	108	"	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 99 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	110 %	70-130 %	"
Toluene-d8 (Surr)	100 %	70-130 %	"
4-Bromofluorobenzene (Surr)	96 %	70-130 %	"

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

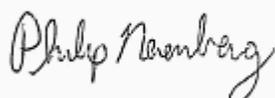
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208298 - EPA 5035A						Soil						
Blank (1208298-BLK1)						Prepared: 08/14/12 17:00 Analyzed: 08/14/12 20:33						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	---
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromochloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromoform	ND	---	66.7	"	"	---	---	---	---	---	---	---
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	---
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	---
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	---
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	---
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	---
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	---

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208298 - EPA 5035A						Soil						
Blank (1208298-BLK1)						Prepared: 08/14/12 17:00 Analyzed: 08/14/12 20:33						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	66.7	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

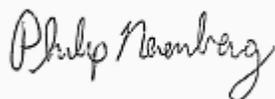
Surr: Dibromofluoromethane (Surr)	Recovery: 97 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	106 %	70-130 %	"
Toluene-d8 (Surr)	96 %	70-130 %	"
4-Bromofluorobenzene (Surr)	97 %	70-130 %	"

LCS (1208298-BS1)

Prepared: 08/14/12 17:00 Analyzed: 08/14/12 19:41

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

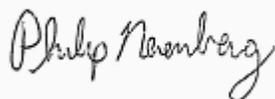
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208298 - EPA 5035A						Soil						
LCS (1208298-BS1)						Prepared: 08/14/12 17:00 Analyzed: 08/14/12 19:41						
5035/8260B												
Acetone	1330	---	1000	ug/kg wet	50	2000	---	66	65-135%	---	---	
Benzene	1130	---	12.5	"	"	1000	---	113	"	---	---	
Bromobenzene	1060	---	25.0	"	"	"	---	106	"	---	---	
Bromochloromethane	1130	---	25.0	"	"	"	---	113	"	---	---	
Bromodichloromethane	1060	---	25.0	"	"	"	---	106	"	---	---	
Bromoform	1120	---	100	"	"	"	---	112	"	---	---	
Bromomethane	1130	---	500	"	"	"	---	113	"	---	---	
2-Butanone (MEK)	2160	---	500	"	"	2000	---	108	"	---	---	
n-Butylbenzene	1170	---	50.0	"	"	1000	---	117	"	---	---	
sec-Butylbenzene	1160	---	50.0	"	"	"	---	116	"	---	---	
tert-Butylbenzene	1070	---	50.0	"	"	"	---	107	"	---	---	
Carbon tetrachloride	978	---	25.0	"	"	"	---	98	"	---	---	
Chlorobenzene	1110	---	25.0	"	"	"	---	111	"	---	---	
Chloroethane	1200	---	500	"	"	"	---	120	"	---	---	
Chloroform	1030	---	50.0	"	"	"	---	103	"	---	---	
Chloromethane	1190	---	250	"	"	"	---	119	"	---	---	
2-Chlorotoluene	1090	---	50.0	"	"	"	---	109	"	---	---	
4-Chlorotoluene	1140	---	50.0	"	"	"	---	114	"	---	---	
1,2-Dibromo-3-chloropropane	1090	---	250	"	"	"	---	109	"	---	---	
Dibromochloromethane	1080	---	100	"	"	"	---	108	"	---	---	
1,2-Dibromoethane (EDB)	1060	---	25.0	"	"	"	---	106	"	---	---	
Dibromomethane	1070	---	50.0	"	"	"	---	107	"	---	---	
1,2-Dichlorobenzene	1120	---	25.0	"	"	"	---	112	"	---	---	
1,3-Dichlorobenzene	1170	---	25.0	"	"	"	---	117	"	---	---	
1,4-Dichlorobenzene	1040	---	25.0	"	"	"	---	104	"	---	---	
Dichlorodifluoromethane	850	---	100	"	"	"	---	85	"	---	---	
1,1-Dichloroethane	1020	---	25.0	"	"	"	---	102	"	---	---	
1,2-Dichloroethane (EDC)	882	---	25.0	"	"	"	---	88	"	---	---	
1,1-Dichloroethene	883	---	25.0	"	"	"	---	88	"	---	---	
cis-1,2-Dichloroethene	1030	---	25.0	"	"	"	---	103	"	---	---	
trans-1,2-Dichloroethene	1090	---	25.0	"	"	"	---	109	"	---	---	
1,2-Dichloropropane	1120	---	25.0	"	"	"	---	112	"	---	---	
1,3-Dichloropropane	1140	---	25.0	"	"	"	---	114	"	---	---	
2,2-Dichloropropane	1040	---	50.0	"	"	"	---	104	"	---	---	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208298 - EPA 5035A						Soil						
LCS (1208298-BS1)						Prepared: 08/14/12 17:00 Analyzed: 08/14/12 19:41						
1,1-Dichloropropene	1010	---	50.0	ug/kg wet	"	"	---	101	"	---	---	
cis-1,3-Dichloropropene	1050	---	50.0	"	"	"	---	105	"	---	---	
trans-1,3-Dichloropropene	984	---	100	"	"	"	---	98	"	---	---	
Ethylbenzene	1040	---	25.0	"	"	"	---	104	"	---	---	
Hexachlorobutadiene	1090	---	100	"	"	"	---	109	"	---	---	
2-Hexanone	1940	---	500	"	"	2000	---	97	"	---	---	
Isopropylbenzene	1100	---	50.0	"	"	1000	---	110	"	---	---	
4-Isopropyltoluene	1120	---	50.0	"	"	"	---	112	"	---	---	
4-Methyl-2-pentanone (MiBK)	2400	---	500	"	"	2000	---	120	"	---	---	
Methyl tert-butyl ether (MTBE)	1030	---	50.0	"	"	1000	---	103	"	---	---	
Methylene chloride	1070	---	250	"	"	"	---	107	"	---	---	
Naphthalene	1250	---	100	"	"	"	---	125	"	---	---	
n-Propylbenzene	1210	---	25.0	"	"	"	---	121	"	---	---	
Styrene	1180	---	50.0	"	"	"	---	118	"	---	---	
1,1,1,2-Tetrachloroethane	980	---	25.0	"	"	"	---	98	"	---	---	
1,1,2,2-Tetrachloroethane	1240	---	25.0	"	"	"	---	124	"	---	---	
Tetrachloroethene (PCE)	996	---	25.0	"	"	"	---	100	"	---	---	
Toluene	1060	---	50.0	"	"	"	---	106	"	---	---	
1,2,3-Trichlorobenzene	1120	---	250	"	"	"	---	112	"	---	---	
1,2,4-Trichlorobenzene	1220	---	250	"	"	"	---	122	"	---	---	
1,1,1-Trichloroethane	958	---	25.0	"	"	"	---	96	"	---	---	
1,1,2-Trichloroethane	1150	---	25.0	"	"	"	---	115	"	---	---	
Trichloroethene (TCE)	1070	---	25.0	"	"	"	---	107	"	---	---	
Trichlorofluoromethane	1290	---	100	"	"	"	---	129	"	---	---	
1,2,3-Trichloropropane	1090	---	50.0	"	"	"	---	109	"	---	---	
1,2,4-Trimethylbenzene	1160	---	50.0	"	"	"	---	116	"	---	---	
1,3,5-Trimethylbenzene	1120	---	50.0	"	"	"	---	112	"	---	---	
Vinyl chloride	1180	---	25.0	"	"	"	---	118	"	---	---	
m,p-Xylene	2200	---	50.0	"	"	2000	---	110	"	---	---	
o-Xylene	1060	---	25.0	"	"	1000	---	106	"	---	---	

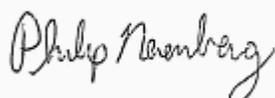
Surr: Dibromofluoromethane (Surr)	Recovery: 96 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	107 %	70-130 %	"
Toluene-d8 (Surr)	98 %	70-130 %	"
4-Bromofluorobenzene (Surr)	98 %	70-130 %	"

Matrix Spike (1208298-MS1)

Prepared: 08/14/12 16:25 Analyzed: 08/15/12 05:32

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208298 - EPA 5035A						Soil						
Matrix Spike (1208298-MS1)						Prepared: 08/14/12 16:25 Analyzed: 08/15/12 05:32						
QC Source Sample: MW02-17 (A12H247-01)												
5035/8260B												
Acetone	1640	---	1230	ug/kg dry	50	2460	ND	67	65-135%	---	---	
Benzene	1420	---	15.4	"	"	1230	ND	115	"	---	---	
Bromobenzene	1240	---	30.8	"	"	"	ND	101	"	---	---	
Bromochloromethane	1410	---	30.8	"	"	"	ND	114	"	---	---	
Bromodichloromethane	1280	---	30.8	"	"	"	ND	104	"	---	---	
Bromoform	1220	---	123	"	"	"	ND	99	"	---	---	
Bromomethane	1150	---	616	"	"	"	ND	94	"	---	---	
2-Butanone (MEK)	2530	---	616	"	"	2460	ND	102	"	---	---	
n-Butylbenzene	1370	---	61.6	"	"	1230	ND	111	"	---	---	
sec-Butylbenzene	1420	---	61.6	"	"	"	ND	115	"	---	---	
tert-Butylbenzene	1220	---	61.6	"	"	"	ND	99	"	---	---	
Carbon tetrachloride	1120	---	30.8	"	"	"	ND	90	"	---	---	
Chlorobenzene	1240	---	30.8	"	"	"	ND	101	"	---	---	
Chloroethane	1380	---	616	"	"	"	ND	112	"	---	---	
Chloroform	1180	---	61.6	"	"	"	ND	96	"	---	---	
Chloromethane	1390	---	308	"	"	"	ND	113	"	---	---	
2-Chlorotoluene	1330	---	61.6	"	"	"	ND	108	"	---	---	
4-Chlorotoluene	1300	---	61.6	"	"	"	ND	105	"	---	---	
1,2-Dibromo-3-chloropropane	1410	---	308	"	"	"	ND	114	"	---	---	
Dibromochloromethane	1240	---	123	"	"	"	ND	101	"	---	---	
1,2-Dibromoethane (EDB)	1240	---	30.8	"	"	"	ND	100	"	---	---	
Dibromomethane	1320	---	61.6	"	"	"	ND	107	"	---	---	
1,2-Dichlorobenzene	1280	---	30.8	"	"	"	ND	104	"	---	---	
1,3-Dichlorobenzene	1360	---	30.8	"	"	"	ND	110	"	---	---	
1,4-Dichlorobenzene	1180	---	30.8	"	"	"	ND	96	"	---	---	
Dichlorodifluoromethane	1000	---	123	"	"	"	ND	81	"	---	---	
1,1-Dichloroethane	1270	---	30.8	"	"	"	ND	103	"	---	---	
1,2-Dichloroethane (EDC)	1070	---	30.8	"	"	"	ND	87	"	---	---	
1,1-Dichloroethene	1480	---	30.8	"	"	"	ND	120	"	---	---	
cis-1,2-Dichloroethene	1250	---	30.8	"	"	"	ND	101	"	---	---	
trans-1,2-Dichloroethene	1340	---	30.8	"	"	"	ND	109	"	---	---	
1,2-Dichloropropane	1400	---	30.8	"	"	"	ND	113	"	---	---	
1,3-Dichloropropane	1330	---	30.8	"	"	"	ND	108	"	---	---	

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

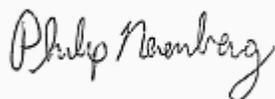
Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208298 - EPA 5035A						Soil						
Matrix Spike (1208298-MS1)						Prepared: 08/14/12 16:25 Analyzed: 08/15/12 05:32						
QC Source Sample: MW02-17 (A12H247-01)												
2,2-Dichloropropane	885	---	61.6	ug/kg dry	"	"	ND	72	"	---	---	
1,1-Dichloropropene	1280	---	61.6	"	"	"	ND	103	"	---	---	
cis-1,3-Dichloropropene	1170	---	61.6	"	"	"	ND	95	"	---	---	
trans-1,3-Dichloropropene	1100	---	123	"	"	"	ND	89	"	---	---	
Ethylbenzene	1250	---	30.8	"	"	"	ND	101	"	---	---	
Hexachlorobutadiene	1200	---	123	"	"	"	ND	97	"	---	---	
2-Hexanone	2240	---	616	"	"	2460	ND	91	"	---	---	ESTa
Isopropylbenzene	1250	---	61.6	"	"	1230	ND	101	"	---	---	
4-Isopropyltoluene	1350	---	61.6	"	"	"	ND	110	"	---	---	
4-Methyl-2-pentanone (MiBK)	2840	---	616	"	"	2460	ND	115	"	---	---	
Methyl tert-butyl ether (MTBE)	1220	---	61.6	"	"	1230	ND	99	"	---	---	
Methylene chloride	1250	---	308	"	"	"	ND	101	"	---	---	
Naphthalene	1690	---	123	"	"	"	214	120	"	---	---	
n-Propylbenzene	1410	---	30.8	"	"	"	ND	114	"	---	---	
Styrene	1330	---	61.6	"	"	"	ND	108	"	---	---	
1,1,1,2-Tetrachloroethane	1130	---	30.8	"	"	"	ND	92	"	---	---	
1,1,2,2-Tetrachloroethane	1540	---	30.8	"	"	"	ND	125	"	---	---	
Tetrachloroethene (PCE)	1110	---	30.8	"	"	"	ND	90	"	---	---	
Toluene	1260	---	61.6	"	"	"	ND	103	"	---	---	
1,2,3-Trichlorobenzene	1250	---	308	"	"	"	ND	101	"	---	---	
1,2,4-Trichlorobenzene	1360	---	308	"	"	"	ND	110	"	---	---	
1,1,1-Trichloroethane	1150	---	30.8	"	"	"	ND	93	"	---	---	
1,1,2-Trichloroethane	1350	---	30.8	"	"	"	ND	109	"	---	---	
Trichloroethene (TCE)	1270	---	30.8	"	"	"	ND	103	"	---	---	
Trichlorofluoromethane	1400	---	123	"	"	"	ND	113	"	---	---	
1,2,3-Trichloropropane	1330	---	61.6	"	"	"	ND	108	"	---	---	
1,2,4-Trimethylbenzene	1330	---	61.6	"	"	"	47.9	104	"	---	---	
1,3,5-Trimethylbenzene	1380	---	61.6	"	"	"	ND	112	"	---	---	
Vinyl chloride	1440	---	30.8	"	"	"	ND	117	"	---	---	
m,p-Xylene	2540	---	61.6	"	"	2460	ND	103	"	---	---	
o-Xylene	1280	---	30.8	"	"	1230	ND	104	"	---	---	

Surr: Dibromofluoromethane (Surr) Recovery: 98 % Limits: 70-130 % Dilution: 1x
 1,4-Difluorobenzene (Surr) 108 % 70-130 % "
 Toluene-d8 (Surr) 98 % 70-130 % "

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: **Troutdale Riverfront**

Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1208298 - EPA 5035A

Soil

Matrix Spike (1208298-MS1)

Prepared: 08/14/12 16:25 Analyzed: 08/15/12 05:32

QC Source Sample: MW02-17 (A12H247-01)

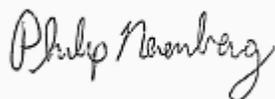
Surr: 4-Bromofluorobenzene (Surr)

Recovery: 95 % Limits: 70-130 %

Dilution: 1x

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 7376 SW Durham Road
 Portland, OR 97224

Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

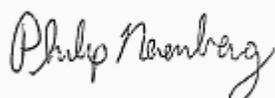
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208349 - EPA 5035A						Soil						
Blank (1208349-BLK1)						Prepared: 08/17/12 09:00 Analyzed: 08/17/12 13:30						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	---
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	---
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromochloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
Bromoform	ND	---	66.7	"	"	---	---	---	---	---	---	---
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	---
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	---
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	---
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	---
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	---
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	---
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	---

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Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208349 - EPA 5035A						Soil						
Blank (1208349-BLK1)						Prepared: 08/17/12 09:00 Analyzed: 08/17/12 13:30						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	66.7	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 102 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	103 %	70-130 %	"
Toluene-d8 (Surr)	98 %	70-130 %	"
4-Bromofluorobenzene (Surr)	102 %	70-130 %	"

LCS (1208349-BS1)

Prepared: 08/17/12 09:00 Analyzed: 08/17/12 12:38

Apex Laboratories

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Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

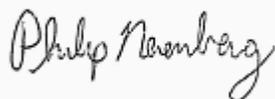
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208349 - EPA 5035A						Soil						
LCS (1208349-BS1)						Prepared: 08/17/12 09:00 Analyzed: 08/17/12 12:38						
5035/8260B												
Acetone	1540	---	1000	ug/kg wet	50	2000	---	77	65-135%	---	---	
Benzene	1060	---	12.5	"	"	1000	---	106	"	---	---	
Bromobenzene	1020	---	25.0	"	"	"	---	102	"	---	---	
Bromochloromethane	1270	---	25.0	"	"	"	---	127	"	---	---	
Bromodichloromethane	1170	---	25.0	"	"	"	---	117	"	---	---	
Bromoform	1190	---	100	"	"	"	---	119	"	---	---	
Bromomethane	1420	---	500	"	"	"	---	142	"	---	---	EST
2-Butanone (MEK)	1950	---	500	"	"	2000	---	98	"	---	---	
n-Butylbenzene	1010	---	50.0	"	"	1000	---	101	"	---	---	
sec-Butylbenzene	1030	---	50.0	"	"	"	---	103	"	---	---	
tert-Butylbenzene	943	---	50.0	"	"	"	---	94	"	---	---	
Carbon tetrachloride	1120	---	25.0	"	"	"	---	112	"	---	---	
Chlorobenzene	1090	---	25.0	"	"	"	---	109	"	---	---	
Chloroethane	1100	---	500	"	"	"	---	110	"	---	---	
Chloroform	1180	---	50.0	"	"	"	---	118	"	---	---	
Chloromethane	952	---	250	"	"	"	---	95	"	---	---	
2-Chlorotoluene	996	---	50.0	"	"	"	---	100	"	---	---	
4-Chlorotoluene	1040	---	50.0	"	"	"	---	104	"	---	---	
1,2-Dibromo-3-chloropropane	1130	---	250	"	"	"	---	113	"	---	---	
Dibromochloromethane	1160	---	100	"	"	"	---	116	"	---	---	
1,2-Dibromoethane (EDB)	1070	---	25.0	"	"	"	---	107	"	---	---	
Dibromomethane	1060	---	50.0	"	"	"	---	106	"	---	---	
1,2-Dichlorobenzene	1050	---	25.0	"	"	"	---	105	"	---	---	
1,3-Dichlorobenzene	1090	---	25.0	"	"	"	---	109	"	---	---	
1,4-Dichlorobenzene	1010	---	25.0	"	"	"	---	101	"	---	---	
Dichlorodifluoromethane	881	---	100	"	"	"	---	88	"	---	---	
1,1-Dichloroethane	1190	---	25.0	"	"	"	---	119	"	---	---	
1,2-Dichloroethane (EDC)	981	---	25.0	"	"	"	---	98	"	---	---	
1,1-Dichloroethene	972	---	25.0	"	"	"	---	97	"	---	---	
cis-1,2-Dichloroethene	1190	---	25.0	"	"	"	---	119	"	---	---	
trans-1,2-Dichloroethene	1210	---	25.0	"	"	"	---	121	"	---	---	
1,2-Dichloropropane	971	---	25.0	"	"	"	---	97	"	---	---	
1,3-Dichloropropane	1020	---	25.0	"	"	"	---	102	"	---	---	
2,2-Dichloropropane	1190	---	50.0	"	"	"	---	119	"	---	---	

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Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208349 - EPA 5035A						Soil						
LCS (1208349-BS1)						Prepared: 08/17/12 09:00 Analyzed: 08/17/12 12:38						
1,1-Dichloropropene	1020	---	50.0	ug/kg wet	"	"	---	102	"	---	---	
cis-1,3-Dichloropropene	966	---	50.0	"	"	"	---	97	"	---	---	
trans-1,3-Dichloropropene	982	---	100	"	"	"	---	98	"	---	---	
Ethylbenzene	1020	---	25.0	"	"	"	---	102	"	---	---	
Hexachlorobutadiene	1080	---	100	"	"	"	---	108	"	---	---	
2-Hexanone	1750	---	500	"	"	2000	---	87	"	---	---	
Isopropylbenzene	1080	---	50.0	"	"	1000	---	108	"	---	---	
4-Isopropyltoluene	1030	---	50.0	"	"	"	---	103	"	---	---	
4-Methyl-2-pentanone (MiBK)	2020	---	500	"	"	2000	---	101	"	---	---	
Methyl tert-butyl ether (MTBE)	1240	---	50.0	"	"	1000	---	124	"	---	---	
Methylene chloride	1210	---	250	"	"	"	---	121	"	---	---	
Naphthalene	1180	---	100	"	"	"	---	118	"	---	---	
n-Propylbenzene	1020	---	25.0	"	"	"	---	102	"	---	---	
Styrene	1100	---	50.0	"	"	"	---	110	"	---	---	
1,1,1,2-Tetrachloroethane	1030	---	25.0	"	"	"	---	103	"	---	---	
1,1,2,2-Tetrachloroethane	1220	---	25.0	"	"	"	---	122	"	---	---	
Tetrachloroethene (PCE)	972	---	25.0	"	"	"	---	97	"	---	---	
Toluene	970	---	50.0	"	"	"	---	97	"	---	---	
1,2,3-Trichlorobenzene	1170	---	250	"	"	"	---	117	"	---	---	
1,2,4-Trichlorobenzene	1210	---	250	"	"	"	---	121	"	---	---	
1,1,1-Trichloroethane	1110	---	25.0	"	"	"	---	111	"	---	---	
1,1,2-Trichloroethane	1050	---	25.0	"	"	"	---	105	"	---	---	
Trichloroethene (TCE)	1000	---	25.0	"	"	"	---	100	"	---	---	
Trichlorofluoromethane	1150	---	100	"	"	"	---	115	"	---	---	
1,2,3-Trichloropropane	1180	---	50.0	"	"	"	---	118	"	---	---	
1,2,4-Trimethylbenzene	1050	---	50.0	"	"	"	---	105	"	---	---	
1,3,5-Trimethylbenzene	1050	---	50.0	"	"	"	---	105	"	---	---	
Vinyl chloride	1280	---	25.0	"	"	"	---	128	"	---	---	
m,p-Xylene	2090	---	50.0	"	"	2000	---	105	"	---	---	
o-Xylene	1020	---	25.0	"	"	1000	---	102	"	---	---	

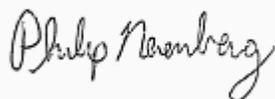
Surr: Dibromofluoromethane (Surr)	Recovery: 105 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	99 %	70-130 %	"
Toluene-d8 (Surr)	89 %	70-130 %	"
4-Bromofluorobenzene (Surr)	98 %	70-130 %	"

Duplicate (1208349-DUP1)

Prepared: 08/16/12 13:08 Analyzed: 08/17/12 14:22

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208349 - EPA 5035A						Soil						
Duplicate (1208349-DUP1)						Prepared: 08/16/12 13:08 Analyzed: 08/17/12 14:22						
QC Source Sample: MW01-19 (A12H247-03)												
5035/8260B												
Acetone	ND	---	1110	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	---	13.8	"	"	---	ND	---	---	---	30%	
Bromobenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Bromoform	ND	---	111	"	"	---	ND	---	---	---	30%	
Bromomethane	ND	---	553	"	"	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	553	"	"	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	---	553	"	"	---	ND	---	---	---	30%	
Chloroform	ND	---	55.3	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	---	276	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	276	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	111	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	---	55.3	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	111	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	27.6	"	"	---	ND	---	---	---	30%	

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Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

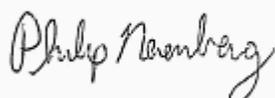
Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208349 - EPA 5035A						Soil						
Duplicate (1208349-DUP1)						Prepared: 08/16/12 13:08 Analyzed: 08/17/12 14:22						
QC Source Sample: MW01-19 (A12H247-03)												
2,2-Dichloropropane	ND	---	55.3	ug/kg dry	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	111	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	---	111	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	---	553	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	553	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	55.3	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	---	276	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	111	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Styrene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Toluene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	276	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	276	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	27.6	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	111	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	55.3	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	27.6	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	55.3	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	---	27.6	"	"	---	ND	---	---	---	30%	

Surr: Dibromofluoromethane (Surr) Recovery: 101 % Limits: 70-130 % Dilution: 1x
 1,4-Difluorobenzene (Surr) 98 % 70-130 % "
 Toluene-d8 (Surr) 90 % 70-130 % "

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 Portland, OR 97224

Project: **Troutdale Riverfront**
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-----------------	-------	------	--------------	---------------	------	-------------	-----	-----------	-------

Batch 1208349 - EPA 5035A

Soil

Duplicate (1208349-DUP1)

Prepared: 08/16/12 13:08 Analyzed: 08/17/12 14:22

QC Source Sample: MW01-19 (A12H247-03)

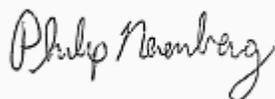
Surr: 4-Bromofluorobenzene (Surr)

Recovery: 113 % Limits: 70-130 %

Dilution: 1x

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Portland, OR 97224

Project: Troutdale Riverfront
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208511 - EPA 3546						Soil						
Blank (1208511-BLK1)						Prepared: 08/24/12 08:12 Analyzed: 08/25/12 14:04						
EPA 8270D (SIM)												
Acenaphthene	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Benzo(b+k)fluoranthene(s)	ND	---	13.3	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Chrysene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	---	6.67	"	"	---	---	---	---	---	---	---
Fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Fluorene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	6.67	"	"	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Naphthalene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Phenanthrene	ND	---	6.67	"	"	---	---	---	---	---	---	---
Pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr) Recovery: 89 % Limits: 45-120 % Dilution: 1x
p-Terphenyl-d14 (Surr) 117 % 30-120 % "

LCS (1208511-BS1)

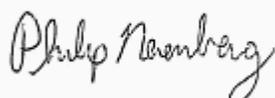
Prepared: 08/24/12 08:12 Analyzed: 08/25/12 14:30

EPA 8270D (SIM)

Acenaphthene	751	---	10.0	ug/kg wet	1	800	---	94	45-125%	---	---
Acenaphthylene	740	---	10.0	"	"	"	---	93	"	---	---
Anthracene	739	---	10.0	"	"	"	---	92	55-125%	---	---
Benz(a)anthracene	731	---	10.0	"	"	"	---	91	50-125%	---	---
Benzo(a)pyrene	786	---	10.0	"	"	"	---	98	"	---	---
Benzo(b)fluoranthene	782	---	10.0	"	"	"	---	98	45-125%	---	---
Benzo(k)fluoranthene	753	---	10.0	"	"	"	---	94	"	---	---
Benzo(b+k)fluoranthene(s)	1530	---	20.0	"	"	1600	---	96	"	---	---
Benzo(g,h,i)perylene	713	---	10.0	"	"	800	---	89	40-125%	---	---

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Portland, OR 97224

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Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208511 - EPA 3546												
Soil												
LCS (1208511-BS1)												
						Prepared: 08/24/12 08:12 Analyzed: 08/25/12 14:30						
Chrysene	743	---	10.0	ug/kg wet	"	"	---	93	55-125%	---	---	
Dibenz(a,h)anthracene	698	---	10.0	"	"	"	---	87	40-125%	---	---	
Dibenzofuran	694	---	10.0	"	"	"	---	87	50-125%	---	---	
Fluoranthene	773	---	10.0	"	"	"	---	97	55-125%	---	---	
Fluorene	739	---	10.0	"	"	"	---	92	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	695	---	10.0	"	"	"	---	87	40-125%	---	---	
1-Methylnaphthalene	778	---	10.0	"	"	"	---	97	45-125%	---	---	
2-Methylnaphthalene	734	---	10.0	"	"	"	---	92	"	---	---	
Naphthalene	706	---	10.0	"	"	"	---	88	40-125%	---	---	
Phenanthrene	755	---	10.0	"	"	"	---	94	50-125%	---	---	
Pyrene	803	---	10.0	"	"	"	---	100	45-125%	---	---	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 87 % Limits: 45-120 % Dilution: 1x
p-Terphenyl-d14 (Surr) 111 % 30-120 % "

Duplicate (1208511-DUP1)

Prepared: 08/24/12 08:12 Analyzed: 08/25/12 15:22

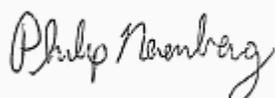
QC Source Sample: MW02-17 (A12H247-01)

EPA 8270D (SIM)

Acenaphthene	ND	---	443	ug/kg dry	50	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	443	"	"	---	ND	---	---	---	30%	
Anthracene	608	---	443	"	"	---	461	---	---	28	30%	
Benz(a)anthracene	1280	---	443	"	"	---	1020	---	---	23	30%	
Benzo(a)pyrene	870	---	443	"	"	---	738	---	---	16	30%	
Benzo(b+k)fluoranthene(s)	2210	---	886	"	"	---	1800	---	---	21	30%	Q-26
Benzo(g,h,i)perylene	525	---	443	"	"	---	505	---	---	4	30%	
Chrysene	2050	---	443	"	"	---	1580	---	---	26	30%	
Dibenz(a,h)anthracene	ND	---	443	"	"	---	ND	---	---	---	30%	
Dibenzofuran	ND	---	443	"	"	---	ND	---	---	---	30%	
Fluoranthene	4740	---	443	"	"	---	3310	---	---	36	30%	Q-17
Fluorene	ND	---	443	"	"	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	690	---	443	"	"	---	650	---	---	6	30%	
1-Methylnaphthalene	ND	---	443	"	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	---	443	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	443	"	"	---	ND	---	---	---	30%	
Phenanthrene	2990	---	443	"	"	---	2320	---	---	25	30%	
Pyrene	3890	---	443	"	"	---	2750	---	---	35	30%	Q-17

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 Project Number: 261M125850
 Project Manager: Joe Fassio

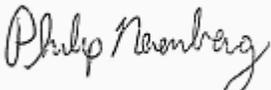
Reported:
 08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 1208511 - EPA 3546						Soil							
Duplicate (1208511-DUP1)						Prepared: 08/24/12 08:12 Analyzed: 08/25/12 15:22							
QC Source Sample: MW02-17 (A12H247-01)													
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 75 %		Limits: 45-120 %		Dilution: 50x							S-05
p-Terphenyl-d14 (Surr)		94 %		30-120 %		"							S-05

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Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

QUALITY CONTROL (QC) SAMPLE RESULTS

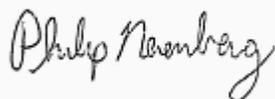
Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208391 - EPA 3051A						Soil						
Blank (1208391-BLK1)						Prepared: 08/20/12 11:53 Analyzed: 08/22/12 12:09						
EPA 6020												
Arsenic	ND	---	2.00	mg/kg wet	10	---	---	---	---	---	---	---
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	---
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	---
Chromium	ND	---	2.00	"	"	---	---	---	---	---	---	---
Iron	ND	---	50.0	"	"	---	---	---	---	---	---	---
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	---
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	---
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	---
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	---
Vanadium	ND	---	2.00	"	"	---	---	---	---	---	---	---

LCS (1208391-BS1)						Prepared: 08/20/12 11:53 Analyzed: 08/22/12 12:12						
EPA 6020												
Arsenic	52.8	---	2.00	mg/kg wet	10	50.0	---	106	80-120%	---	---	---
Barium	52.6	---	1.00	"	"	"	---	105	"	---	---	---
Cadmium	51.9	---	1.00	"	"	"	---	104	"	---	---	---
Chromium	51.4	---	2.00	"	"	"	---	103	"	---	---	---
Iron	5150	---	50.0	"	"	5000	---	103	"	---	---	---
Lead	51.3	---	1.00	"	"	50.0	---	103	"	---	---	---
Mercury	1.08	---	0.0800	"	"	1.00	---	108	"	---	---	---
Selenium	27.9	---	2.00	"	"	25.0	---	112	"	---	---	---
Silver	26.0	---	1.00	"	"	"	---	104	"	---	---	---
Vanadium	50.8	---	2.00	"	"	50.0	---	102	"	---	---	---

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Amec Environment & Infrastructure, Inc 7376 SW Durham Road Portland, OR 97224	Project: Troutdale Riverfront Project Number: 261M125850 Project Manager: Joe Fassio	Reported: 08/28/12 16:20
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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208346 - Total Solids (Dry Weight)							Soil					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Project: Troutdale Riverfront
 Project Number: 261M125850
 Project Manager: Joe Fassio

Reported:
 08/28/12 16:20

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208287							
A12H247-01RE1	Soil	5035/8260B	08/13/12 13:46	08/14/12 16:25	12.956g/10mL	10g/10mL	0.77
Batch: 1208349							
A12H247-03	Soil	5035/8260B	08/14/12 09:34	08/16/12 13:08	12.613g/10mL	10g/10mL	0.79

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208511							
A12H247-01	Soil	EPA 8270D (SIM)	08/13/12 13:46	08/24/12 08:12	11.26g/5mL	10g/5mL	0.89
A12H247-03	Soil	EPA 8270D (SIM)	08/14/12 09:34	08/24/12 08:12	10.29g/5mL	10g/5mL	0.97

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208391							
A12H247-01	Soil	EPA 6020	08/13/12 13:46	08/20/12 11:53	0.466g/50mL	0.5g/50mL	1.07
A12H247-03	Soil	EPA 6020	08/14/12 09:34	08/20/12 11:53	0.483g/50mL	0.5g/50mL	1.04

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc

Project: Troutdale Riverfront

7376 SW Durham Road
Portland, OR 97224

Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

Notes and Definitions

Qualifiers:

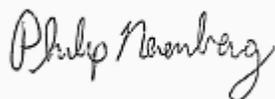
- EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- ESTa Result reported as an Estimated Value. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Data is likely biased low.
- Q-17 RPD between original and duplicate sample is outside of established control limits.
- Q-26 Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)Fluoranthenes.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- V-06 Sample aliquot was subsampled from a soil jar with minimal headspace. The subsampled aliquot was preserved within 48 hours of sampling.
- V-07 Sample aliquot was subsampled from a soil jar with minimal headspace. The subsampled aliquot was not preserved within 48 hours of sampling.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc

7376 SW Durham Road
Portland, OR 97224

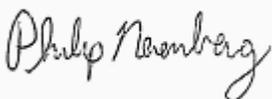
Project: **Troutdale Riverfront**

Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: **Troutdale Riverfront**
Project Number: 261M125850
Project Manager: Joe Fassio

Reported:
08/28/12 16:20

A12H2472033

CHAIN OF CUSTODY

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

PROJECT	REPORT TO	PROJECT MANAGER	SAMPLES NAME (please print)	SAMPLES QUANTITY	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	VOL.	ANALYSIS REQUESTED
Troutdale Riverfront	Joe Fassio	Joe Fassio	Troutdale Riverfront	4	8/13/12	1346	S	-	4	400	XXX
				4	8/13/12	1455	S	-	4	400	XXX
				2	8/14/12	0734	S	-	2	400	XXX
				2	8/14/12	0948	S	-	2	400	XXX

PROJECT NO: 261M125850
PACKAGE NO: 503637-3400
PROJECT NO: 503637-3400
PACKAGE NO: 503637-3400
PROJECT NO: 503637-3400
PACKAGE NO: 503637-3400

SAMPLES NAME (please print): Troutdale Riverfront
SAMPLES QUANTITY: 4
DATE: 8/13/12
TIME: 1346
MATRIX: S
PRESERVATIVE: -
CONTAINERS No.: 4
VOL.: 400

DATE: 8/13/12
TIME: 1455
MATRIX: S
PRESERVATIVE: -
CONTAINERS No.: 4
VOL.: 400

DATE: 8/14/12
TIME: 0734
MATRIX: S
PRESERVATIVE: -
CONTAINERS No.: 2
VOL.: 400

DATE: 8/14/12
TIME: 0948
MATRIX: S
PRESERVATIVE: -
CONTAINERS No.: 2
VOL.: 400

LABORATORY RECEIPT

TURNAROUND TIME
 0.5 HOUR
 24 HOUR
 1 WEEK
 2 WEEKS/FASTEST
 OTHER

OC Reporting Requirements
 YES
 NO

COMMENTS/INSTRUCTIONS
 PAGE 1 OF 1

LABORATORY: [Blank]
 SHIPPING ID / AIRBILL #: [Blank]
 CARRIER: [Blank]
 DOT REGISTRATION: [Blank]

RELINQUISHED BY / AFFILIATION: [Signature]
 DATE: 8/13/12
 TIME: 1455

ACCEPTED BY / AFFILIATION: [Signature]
 DATE: 8-14-12
 TIME: 14:55

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Wednesday, September 5, 2012

Joe Fassio
Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

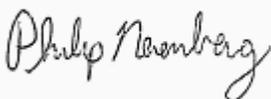
RE: City of Troutdale / [none]

Enclosed are the results of analyses for work order A12H376, which was received by the laboratory on 8/21/2012 at 3:50:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: **City of Troutdale**
Project Number: [none]
Project Manager: Joe Fassio

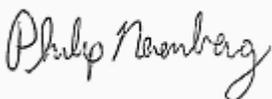
Reported:
09/05/12 16:26

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1-082112	A12H376-01	Water	08/21/12 09:20	08/21/12 15:50
MW2-082112	A12H376-02	Water	08/21/12 10:30	08/21/12 15:50

Apex Laboratories



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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: City of Troutdale
Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

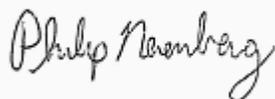
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW1-082112 (A12H376-01)			Matrix: Water		Batch: 1208432			
Acetone	ND	---	20.0	ug/L	1	08/21/12 22:18	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	3.80	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
7376 SW Durham Road
Portland, OR 97224

Project: City of Troutdale
Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

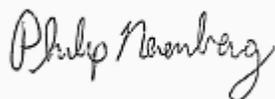
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW1-082112 (A12H376-01)			Matrix: Water		Batch: 1208432			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	0.850	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>102 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

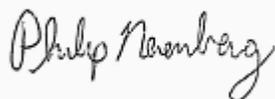
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW2-082112 (A12H376-02)			Matrix: Water		Batch: 1208432			
Acetone	ND	---	20.0	ug/L	1	08/21/12 22:46	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

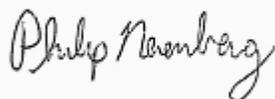
ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW2-082112 (A12H376-02)			Matrix: Water		Batch: 1208432			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	ND	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>104 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>101 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>101 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc 7376 SW Durham Road Portland, OR 97224	Project: City of Troutdale Project Number: [none] Project Manager: Joe Fassio	Reported: 09/05/12 16:26
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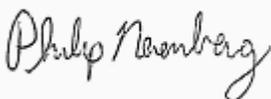
ANALYTICAL SAMPLE RESULTS

Anions by EPA 300.0/9056A (Ion Chromatography)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-082112 (A12H376-01)			Matrix: Water					
Batch: 1208454								
Sulfate	40.5	---	2.00	mg/L	2	08/22/12 16:16	EPA 300.0	
MW1-082112 (A12H376-01RE1)			Matrix: Water					
Batch: 1208454								
Nitrate-Nitrogen	ND	---	0.250	mg/L	1	08/22/12 18:39	EPA 300.0	
Nitrite-Nitrogen	ND	---	0.250	"	"	"	"	
MW2-082112 (A12H376-02)			Matrix: Water					
Batch: 1208454								
Nitrate-Nitrogen	0.754	---	0.250	mg/L	1	08/22/12 15:15	EPA 300.0	
Nitrite-Nitrogen	ND	---	0.250	"	"	"	"	
Sulfate	15.5	---	1.00	"	"	"	"	

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AmeC Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: **City of Troutdale**
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

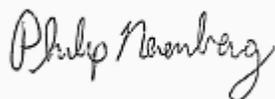
ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-082112 (A12H376-01)			Matrix: Water	Batch: 1208478				
Acenaphthene	ND	---	0.0388	ug/L	1	08/25/12 19:49	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0388	"	"	"	"	
Anthracene	ND	---	0.0388	"	"	"	"	
Benz(a)anthracene	ND	---	0.0388	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0388	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0388	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0388	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0388	"	"	"	"	
Chrysene	ND	---	0.0388	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0388	"	"	"	"	
Fluoranthene	ND	---	0.0388	"	"	"	"	
Fluorene	ND	---	0.0388	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0388	"	"	"	"	
Naphthalene	ND	---	0.0777	"	"	"	"	
Phenanthrene	ND	---	0.0388	"	"	"	"	
Pyrene	ND	---	0.0388	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 52 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>94 %</i>	<i>Limits: 30-120 %</i>	"	"	"	

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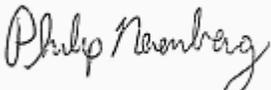
Reported:
 09/05/12 16:26

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW2-082112 (A12H376-02)			Matrix: Water	Batch: 1208478				
Acenaphthene	ND	---	0.0377	ug/L	1	08/25/12 20:17	EPA 8270D (SIM)	
Acenaphthylene	ND	---	0.0377	"	"	"	"	
Anthracene	ND	---	0.0377	"	"	"	"	
Benz(a)anthracene	ND	---	0.0377	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0377	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0377	"	"	"	"	
Chrysene	ND	---	0.0377	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0377	"	"	"	"	
Fluoranthene	ND	---	0.0377	"	"	"	"	
Fluorene	ND	---	0.0377	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0377	"	"	"	"	
Naphthalene	ND	---	0.0755	"	"	"	"	
Phenanthrene	ND	---	0.0377	"	"	"	"	
Pyrene	ND	---	0.0377	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 53 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>96 %</i>	<i>Limits: 30-120 %</i>	"	"	"	

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Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

ANALYTICAL SAMPLE RESULTS

Total Hardness (Calculated) by EPA 6020

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-082112 (A12H376-01)			Matrix: Water		Batch: [CALC]			
Hardness (Calc by 6020)	89.1	---	0.250	mg CaCO3/L	1	08/30/12 15:32	6020 Calc	
MW2-082112 (A12H376-02)			Matrix: Water		Batch: [CALC]			
Hardness (Calc by 6020)	82.2	---	0.456	mg CaCO3/L	1	08/31/12 11:14	6020 Calc	

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 Project Number: [none]
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 09/05/12 16:26

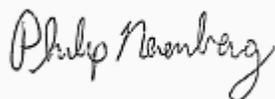
ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-082112 (A12H376-01) Matrix: Water								
Batch: 1208647								
Arsenic	11.5	---	2.00	ug/L	1	08/30/12 15:32	EPA 6020	
Barium	222	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Calcium	35700	---	100	"	"	"	"	
Chromium	14.0	---	2.00	"	"	"	"	
Iron	46300	---	50.0	"	"	"	"	
Lead	4.62	---	1.00	"	"	"	"	
Manganese	1840	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	"	"	
Potassium	8510	---	100	"	"	"	"	
Selenium	ND	---	2.00	"	"	"	"	
Silver	ND	---	1.00	"	"	"	"	
Sodium	77100	---	1000	"	10	08/30/12 16:56	"	
MW2-082112 (A12H376-02) Matrix: Water								
Batch: 1208647								
Arsenic	9.40	---	2.00	ug/L	1	08/30/12 15:35	EPA 6020	
Barium	34.4	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Calcium	20600	---	100	"	"	"	"	
Chromium	ND	---	2.00	"	"	"	"	
Iron	4890	---	50.0	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Manganese	862	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	"	"	
Potassium	4460	---	100	"	"	"	"	
Selenium	ND	---	2.00	"	"	"	"	
Silver	ND	---	1.00	"	"	"	"	
Sodium	27100	---	100	"	"	"	"	
MW2-082112 (A12H376-02RE1) Matrix: Water								
Batch: 1208647								
Magnesium	7480	---	50.0	ug/L	1	08/31/12 11:14	EPA 6020	

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Project Number: [none]
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09/05/12 16:26

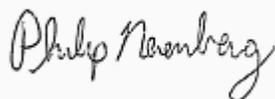
ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-082112 (A12H376-01)			Matrix: Water					
Batch: 1208474								
Orthophosphate Phosphorous	ND	---	0.020	mg/L	1	08/22/12 17:59	SM 4500 P E	
Batch: 1208496								
Total Suspended Solids	276	---	5.00	"	"	08/24/12 12:04	SM 2540 D	
Batch: 1208497								
Total Dissolved Solids	391	---	10.0	"	"	08/24/12 17:55	SM 2540 C	
Batch: 1208555								
Total Alkalinity	251	---	20.0	mg CaCO3/L	"	08/29/12 11:59	SM 2320 B	
Bicarbonate Alkalinity	251	---	20.0	"	"	"	"	
Carbonate Alkalinity	ND	---	20.0	"	"	"	"	
Hydroxide Alkalinity	ND	---	20.0	"	"	"	"	
Batch: 1208583								
Chemical Oxygen Demand	ND	---	10.0	mg/L	"	08/28/12 15:43	EPA 410.4	
Batch: 1208593								
Phosphorus	1.10	---	0.100	"	"	08/29/12 16:20	SM 4500 P B	
Batch: 1208615								
Total Organic Carbon	6.17	---	2.00	"	"	08/29/12 18:31	SM 5310 B	
Batch: 1208683								
Conductivity	618	---	2.50	umhos/cm	"	08/31/12 13:16	SM 2510 B	
MW1-082112 (A12H376-01RE2)			Matrix: Water					
Batch: 1208509								
Ammonia as N	4.50	---	0.400	mg/L	20	08/23/12 19:26	E350.1/SM4500-N H3	
MW2-082112 (A12H376-02)			Matrix: Water					
Batch: 1208474								
Orthophosphate Phosphorous	ND	---	0.020	mg/L	1	08/22/12 17:59	SM 4500 P E	
Batch: 1208496								
Total Suspended Solids	12.0	---	5.00	"	"	08/24/12 12:04	SM 2540 D	
Batch: 1208497								
Total Dissolved Solids	204	---	10.0	"	"	08/24/12 17:55	SM 2540 C	
Batch: 1208509								
Ammonia as N	0.880	---	0.0400	"	2	08/23/12 18:52	E350.1/SM4500-N H3	
Batch: 1208555								
Total Alkalinity	110	---	20.0	mg CaCO3/L	1	08/29/12 11:59	SM 2320 B	
Bicarbonate Alkalinity	110	---	20.0	"	"	"	"	
Carbonate Alkalinity	ND	---	20.0	"	"	"	"	

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 7376 SW Durham Road
 Portland, OR 97224

Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW2-082112 (A12H376-02)			Matrix: Water					
Hydroxide Alkalinity Batch: 1208583	ND	---	20.0	mg CaCO3/L	1	"	SM 2320 B	
Chemical Oxygen Demand Batch: 1208593	ND	---	10.0	mg/L	"	08/28/12 15:43	EPA 410.4	
Phosphorus Batch: 1208615	0.108	---	0.100	"	"	08/29/12 16:20	SM 4500 P B	
Total Organic Carbon Batch: 1208683	2.49	---	2.00	"	"	08/29/12 18:31	SM 5310 B	
Conductivity	292	---	2.50	umhos/cm	"	08/31/12 13:16	SM 2510 B	

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Amec Environment & Infrastructure, Inc
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Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
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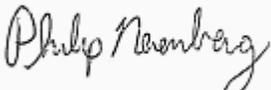
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ANALYTICAL SAMPLE RESULTS (Subcontracted)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW1-082112 (A12H376-01)			Matrix: Water		Batch: W2H1121			
Batch: W2H1121								
Sulfide, Total	ND	---	0.10	mg/l	1	08/27/12 13:14	SM 4500S2-D	
Batch: W2H1205								
TKN	4.6	---	0.20	"	2	09/04/12 14:39	EPA 351.2	
MW2-082112 (A12H376-02)			Matrix: Water		Batch: W2H1121			
Batch: W2H1121								
Sulfide, Total	ND	---	0.10	mg/l	1	08/27/12 13:14	SM 4500S2-D	
Batch: W2H1205								
TKN	0.87	---	0.10	"	"	09/04/12 14:28	EPA 351.2	

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Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

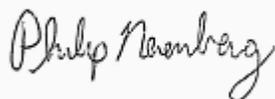
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208432 - EPA 5030B						Water						
Blank (1208432-BLK1)						Prepared: 08/21/12 16:10 Analyzed: 08/21/12 18:59						
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	---
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	---
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	---
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	---
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	---
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	---
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	---
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	---
cis-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	---
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	---

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Portland, OR 97224

Project: City of Troutdale
Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208432 - EPA 5030B						Water						
Blank (1208432-BLK1)						Prepared: 08/21/12 16:10 Analyzed: 08/21/12 18:59						
1,1-Dichloropropene	ND	---	1.00	ug/L	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	

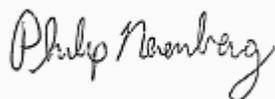
Surr: Dibromofluoromethane (Surr)	Recovery: 99 %	Limits: 80-120 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	98 %	80-120 %	"
Toluene-d8 (Surr)	97 %	80-120 %	"
4-Bromofluorobenzene (Surr)	98 %	80-120 %	"

LCS (1208432-BS1)

Prepared: 08/21/12 16:10 Analyzed: 08/21/12 18:04

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

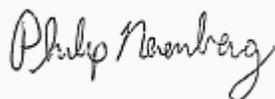
QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208432 - EPA 5030B						Water						
LCS (1208432-BS1)						Prepared: 08/21/12 16:10 Analyzed: 08/21/12 18:04						
EPA 8260B												
Acetone	41.4	---	20.0	ug/L	1	40.0	---	103	70-130%	---	---	
Benzene	21.2	---	0.250	"	"	20.0	---	106	"	---	---	
Bromobenzene	21.7	---	0.500	"	"	"	---	108	"	---	---	
Bromochloromethane	20.8	---	1.00	"	"	"	---	104	"	---	---	
Bromodichloromethane	21.8	---	1.00	"	"	"	---	109	"	---	---	
Bromoform	19.9	---	1.00	"	"	"	---	100	"	---	---	
Bromomethane	17.6	---	5.00	"	"	"	---	88	"	---	---	
2-Butanone (MEK)	41.7	---	10.0	"	"	40.0	---	104	"	---	---	
n-Butylbenzene	22.1	---	1.00	"	"	20.0	---	110	"	---	---	
sec-Butylbenzene	22.5	---	1.00	"	"	"	---	112	"	---	---	
tert-Butylbenzene	22.3	---	1.00	"	"	"	---	112	"	---	---	
Carbon tetrachloride	21.5	---	0.500	"	"	"	---	107	"	---	---	
Chlorobenzene	21.4	---	0.500	"	"	"	---	107	"	---	---	
Chloroethane	19.8	---	5.00	"	"	"	---	99	"	---	---	
Chloroform	21.8	---	1.00	"	"	"	---	109	"	---	---	
Chloromethane	16.7	---	5.00	"	"	"	---	83	"	---	---	
2-Chlorotoluene	22.8	---	1.00	"	"	"	---	114	"	---	---	
4-Chlorotoluene	22.1	---	1.00	"	"	"	---	110	"	---	---	
1,2-Dibromo-3-chloropropane	22.0	---	5.00	"	"	"	---	110	"	---	---	
Dibromochloromethane	21.6	---	1.00	"	"	"	---	108	"	---	---	
1,2-Dibromoethane (EDB)	21.7	---	0.500	"	"	"	---	108	"	---	---	
Dibromomethane	21.2	---	1.00	"	"	"	---	106	"	---	---	
1,2-Dichlorobenzene	21.5	---	0.500	"	"	"	---	107	"	---	---	
1,3-Dichlorobenzene	21.8	---	0.500	"	"	"	---	109	"	---	---	
1,4-Dichlorobenzene	21.3	---	0.500	"	"	"	---	106	"	---	---	
Dichlorodifluoromethane	19.0	---	1.00	"	"	"	---	95	"	---	---	
1,1-Dichloroethane	21.7	---	0.500	"	"	"	---	108	"	---	---	
1,2-Dichloroethane (EDC)	20.5	---	0.500	"	"	"	---	103	"	---	---	
1,1-Dichloroethene	20.2	---	0.500	"	"	"	---	101	"	---	---	
cis-1,2-Dichloroethene	21.2	---	0.500	"	"	"	---	106	"	---	---	
trans-1,2-Dichloroethene	20.7	---	0.500	"	"	"	---	103	"	---	---	
1,2-Dichloropropane	21.8	---	0.500	"	"	"	---	109	"	---	---	
1,3-Dichloropropane	22.1	---	1.00	"	"	"	---	110	"	---	---	
2,2-Dichloropropane	23.3	---	1.00	"	"	"	---	116	"	---	---	

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Portland, OR 97224

Project: City of Troutdale
Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

QUALITY CONTROL (QC) SAMPLE RESULTS

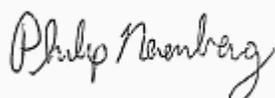
Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208432 - EPA 5030B												
Water												
LCS (1208432-BS1)												
						Prepared: 08/21/12 16:10 Analyzed: 08/21/12 18:04						
1,1-Dichloropropene	21.5	---	1.00	ug/L	"	"	---	108	"	---	---	
cis-1,3-Dichloropropene	21.3	---	1.00	"	"	"	---	107	"	---	---	
trans-1,3-Dichloropropene	21.7	---	1.00	"	"	"	---	109	"	---	---	
Ethylbenzene	22.2	---	0.500	"	"	"	---	111	"	---	---	
Hexachlorobutadiene	22.6	---	5.00	"	"	"	---	113	"	---	---	
2-Hexanone	42.8	---	10.0	"	"	40.0	---	107	"	---	---	
Isopropylbenzene	22.4	---	1.00	"	"	20.0	---	112	"	---	---	
4-Isopropyltoluene	23.0	---	1.00	"	"	"	---	115	"	---	---	
4-Methyl-2-pentanone (MiBK)	43.6	---	10.0	"	"	40.0	---	109	"	---	---	
Methyl tert-butyl ether (MTBE)	20.4	---	1.00	"	"	20.0	---	102	"	---	---	
Methylene chloride	20.7	---	5.00	"	"	"	---	103	"	---	---	
Naphthalene	22.3	---	2.00	"	"	"	---	112	"	---	---	
n-Propylbenzene	22.3	---	0.500	"	"	"	---	112	"	---	---	
Styrene	22.6	---	1.00	"	"	"	---	113	"	---	---	
1,1,1,2-Tetrachloroethane	22.0	---	0.500	"	"	"	---	110	"	---	---	
1,1,2,2-Tetrachloroethane	21.3	---	0.500	"	"	"	---	107	"	---	---	
Tetrachloroethene (PCE)	22.7	---	0.500	"	"	"	---	113	"	---	---	
Toluene	21.0	---	1.00	"	"	"	---	105	"	---	---	
1,2,3-Trichlorobenzene	21.8	---	2.00	"	"	"	---	109	"	---	---	
1,2,4-Trichlorobenzene	22.3	---	2.00	"	"	"	---	112	"	---	---	
1,1,1-Trichloroethane	21.4	---	0.500	"	"	"	---	107	"	---	---	
1,1,2-Trichloroethane	22.1	---	0.500	"	"	"	---	110	"	---	---	
Trichloroethene (TCE)	22.0	---	0.500	"	"	"	---	110	"	---	---	
Trichlorofluoromethane	18.6	---	2.00	"	"	"	---	93	"	---	---	
1,2,3-Trichloropropane	20.8	---	1.00	"	"	"	---	104	"	---	---	
1,2,4-Trimethylbenzene	22.4	---	1.00	"	"	"	---	112	"	---	---	
1,3,5-Trimethylbenzene	22.3	---	1.00	"	"	"	---	112	"	---	---	
Vinyl chloride	21.0	---	0.500	"	"	"	---	105	"	---	---	
m,p-Xylene	44.2	---	1.00	"	"	40.0	---	110	"	---	---	
o-Xylene	22.5	---	0.500	"	"	20.0	---	112	"	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 99 %	Limits: 80-120 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	99 %	80-120 %	"
Toluene-d8 (Surr)	100 %	80-120 %	"
4-Bromofluorobenzene (Surr)	101 %	80-120 %	"

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Portland, OR 97224

Project: City of Troutdale
Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

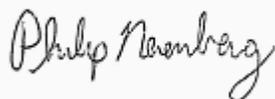
QUALITY CONTROL (QC) SAMPLE RESULTS

Anions by EPA 300.0/9056A (Ion Chromatography)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208454 - Method Prep: Aq						Water						
Blank (1208454-BLK1)						Prepared: 08/22/12 10:42 Analyzed: 08/22/12 14:34						
EPA 300.0												
Nitrate-Nitrogen	ND	---	0.250	mg/L	1	---	---	---	---	---	---	---
Nitrite-Nitrogen	ND	---	0.250	"	"	---	---	---	---	---	---	---
Sulfate	ND	---	1.00	"	"	---	---	---	---	---	---	---
LCS (1208454-BS1)						Prepared: 08/22/12 10:42 Analyzed: 08/22/12 14:55						
EPA 300.0												
Nitrate-Nitrogen	0.994	---	0.250	mg/L	1	1.00	---	99	90-110%	---	---	---
Nitrite-Nitrogen	0.981	---	0.250	"	"	"	---	98	"	---	---	---
Sulfate	3.92	---	1.00	"	"	4.00	---	98	"	---	---	---
Duplicate (1208454-DUP1)						Prepared: 08/22/12 10:42 Analyzed: 08/22/12 15:36						
QC Source Sample: MW2-082112 (A12H376-02)												
EPA 300.0												
Nitrate-Nitrogen	0.757	---	0.250	mg/L	1	---	0.754	---	---	0.4	15%	---
Nitrite-Nitrogen	ND	---	0.250	"	"	---	ND	---	---	---	15%	---
Sulfate	15.5	---	1.00	"	"	---	15.5	---	---	0.1	15%	---
Matrix Spike (1208454-MS1)						Prepared: 08/22/12 10:42 Analyzed: 08/22/12 15:56						
QC Source Sample: MW2-082112 (A12H376-02)												
EPA 300.0												
Nitrate-Nitrogen	1.86	---	0.278	mg/L	1	1.11	0.754	99	80-120%	---	---	---
Nitrite-Nitrogen	1.19	---	0.278	"	"	"	ND	107	"	---	---	---
Sulfate	19.9	---	1.11	"	"	4.44	15.5	99	"	---	---	---

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Portland, OR 97224

Project: City of Troutdale
Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208478 - EPA 3510C (Acid Extraction)						Water						
Blank (1208478-BLK1)						Prepared: 08/23/12 08:04 Analyzed: 08/25/12 11:54						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	0.0727	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Chrysene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.0364	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Fluorene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	B-02
Phenanthrene	ND	---	0.0364	"	"	---	---	---	---	---	---	
Pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 85 % Limits: 45-120 % Dilution: 1x
p-Terphenyl-d14 (Surr) 99 % 30-120 % "

LCS (1208478-BS1)

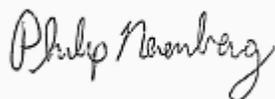
Prepared: 08/23/12 08:04 Analyzed: 08/25/12 12:22

EPA 8270D (SIM)

Acenaphthene	6.90	---	0.0400	ug/L	1	8.00	---	86	45-125%	---	---	
Acenaphthylene	6.87	---	0.0400	"	"	"	---	86	50-125%	---	---	
Anthracene	7.74	---	0.0400	"	"	"	---	97	55-125%	---	---	
Benz(a)anthracene	8.00	---	0.0400	"	"	"	---	100	"	---	---	
Benzo(a)pyrene	9.17	---	0.0400	"	"	"	---	115	"	---	---	
Benzo(b)fluoranthene	8.97	---	0.0400	"	"	"	---	112	45-125%	---	---	
Benzo(k)fluoranthene	8.40	---	0.0400	"	"	"	---	105	"	---	---	
Benzo(b+k)fluoranthene(s)	17.3	---	0.0800	"	"	16.0	---	108	"	---	---	
Benzo(g,h,i)perylene	9.43	---	0.0400	"	"	8.00	---	118	40-125%	---	---	

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Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

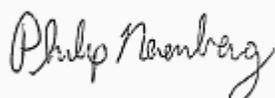
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208478 - EPA 3510C (Acid Extraction)												
Water												
LCS (1208478-BS1)												
						Prepared: 08/23/12 08:04 Analyzed: 08/25/12 12:22						
Chrysene	8.17	---	0.0400	ug/L	"	"	---	102	55-125%	---	---	
Dibenz(a,h)anthracene	9.59	---	0.0400	"	"	"	---	120	40-125%	---	---	
Dibenzofuran	7.35	---	0.0400	"	"	"	---	92	55-125%	---	---	
Fluoranthene	7.68	---	0.0400	"	"	"	---	96	"	---	---	
Fluorene	7.42	---	0.0400	"	"	"	---	93	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	9.50	---	0.0400	"	"	"	---	119	45-125%	---	---	
1-Methylnaphthalene	5.02	---	0.0800	"	"	"	---	63	"	---	---	
2-Methylnaphthalene	4.95	---	0.0800	"	"	"	---	62	"	---	---	
Naphthalene	5.39	---	0.0800	"	"	"	---	67	40-125%	---	---	
Phenanthrene	7.70	---	0.0400	"	"	"	---	96	50-125%	---	---	
Pyrene	7.84	---	0.0400	"	"	"	---	98	"	---	---	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 83 % Limits: 45-120 % Dilution: 1x
 p-Terphenyl-d14 (Surr) 95 % 30-120 % "

LCS Dup (1208478-BSD1)												
						Prepared: 08/23/12 08:04 Analyzed: 08/25/12 12:50						
EPA 8270D (SIM)												
Acenaphthene	7.15	---	0.0400	ug/L	1	8.00	---	89	45-125%	3	30%	
Acenaphthylene	6.97	---	0.0400	"	"	"	---	87	50-125%	1	30%	
Anthracene	8.06	---	0.0400	"	"	"	---	101	55-125%	4	30%	
Benz(a)anthracene	8.22	---	0.0400	"	"	"	---	103	"	3	30%	
Benzo(a)pyrene	9.47	---	0.0400	"	"	"	---	118	"	3	30%	
Benzo(b)fluoranthene	9.32	---	0.0400	"	"	"	---	117	45-125%	4	30%	
Benzo(k)fluoranthene	8.67	---	0.0400	"	"	"	---	108	"	3	30%	
Benzo(b+k)fluoranthene(s)	17.9	---	0.0800	"	"	16.0	---	112	"	4	30%	
Benzo(g,h,i)perylene	9.74	---	0.0400	"	"	8.00	---	122	40-125%	3	30%	
Chrysene	8.43	---	0.0400	"	"	"	---	105	55-125%	3	30%	
Dibenz(a,h)anthracene	9.77	---	0.0400	"	"	"	---	122	40-125%	2	30%	
Dibenzofuran	7.42	---	0.0400	"	"	"	---	93	55-125%	0.9	30%	
Fluoranthene	7.93	---	0.0400	"	"	"	---	99	"	3	30%	
Fluorene	7.54	---	0.0400	"	"	"	---	94	50-125%	2	30%	
Indeno(1,2,3-cd)pyrene	9.64	---	0.0400	"	"	"	---	120	45-125%	1	30%	
1-Methylnaphthalene	4.89	---	0.0800	"	"	"	---	61	"	3	30%	
2-Methylnaphthalene	4.80	---	0.0800	"	"	"	---	60	"	3	30%	
Naphthalene	5.02	---	0.0800	"	"	"	---	63	40-125%	7	30%	
Phenanthrene	8.08	---	0.0400	"	"	"	---	101	50-125%	5	30%	

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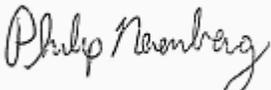
Reported:
 09/05/12 16:26

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208478 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (1208478-BSD1)						Prepared: 08/23/12 08:04 Analyzed: 08/25/12 12:50						Q-19
Pyrene	8.16	---	0.0400	ug/L	"	"	---	102	"	4	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 77 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>91 %</i>		<i>30-120 %</i>								

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Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208647 - EPA 3015A						Water						
Blank (1208647-BLK1)						Prepared: 08/30/12 11:52 Analyzed: 08/30/12 15:23						
EPA 6020												
Arsenic	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	
Calcium	ND	---	100	"	"	---	---	---	---	---	---	
Chromium	ND	---	2.00	"	"	---	---	---	---	---	---	
Iron	ND	---	50.0	"	"	---	---	---	---	---	---	
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	
Manganese	ND	---	1.00	"	"	---	---	---	---	---	---	
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	
Potassium	ND	---	100	"	"	---	---	---	---	---	---	
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	
Sodium	ND	---	100	"	"	---	---	---	---	---	---	
Blank (1208647-BLK2)						Prepared: 08/30/12 11:52 Analyzed: 08/31/12 11:02						
EPA 6020												
Magnesium	ND	---	50.0	ug/L	1	---	---	---	---	---	---	Q-16
LCS (1208647-BS1)						Prepared: 08/30/12 11:52 Analyzed: 08/30/12 15:26						
EPA 6020												
Arsenic	53.9	---	2.00	ug/L	1	55.6	---	97	85-115%	---	---	
Barium	55.7	---	1.00	"	"	"	---	100	80-120%	---	---	
Cadmium	55.9	---	1.00	"	"	"	---	101	"	---	---	
Calcium	5720	---	100	"	"	5560	---	103	"	---	---	
Chromium	54.4	---	2.00	"	"	55.6	---	98	"	---	---	
Iron	5480	---	50.0	"	"	5560	---	99	"	---	---	
Lead	55.7	---	1.00	"	"	55.6	---	100	"	---	---	
Manganese	55.1	---	1.00	"	"	"	---	99	"	---	---	
Mercury	1.04	---	0.0800	"	"	1.11	---	94	"	---	---	
Potassium	5600	---	100	"	"	5560	---	101	"	---	---	
Selenium	27.5	---	2.00	"	"	27.8	---	99	"	---	---	
Silver	28.1	---	1.00	"	"	"	---	101	"	---	---	
Sodium	5650	---	100	"	"	5560	---	102	"	---	---	
LCS (1208647-BS2)						Prepared: 08/30/12 11:52 Analyzed: 08/31/12 11:05						

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Project: **City of Troutdale**
 Project Number: [none]
 Project Manager: Joe Fassio

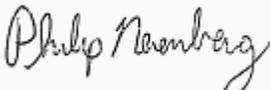
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208647 - EPA 3015A						Water						
LCS (1208647-BS2)						Prepared: 08/30/12 11:52 Analyzed: 08/31/12 11:05						
EPA 6020												
Magnesium	5870	---	50.0	ug/L	1	5560	---	106	80-120%	---	---	Q-16

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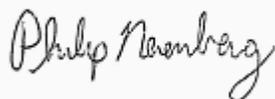
QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208474 - Method Prep: Aq						Water						
Blank (1208474-BLK1)						Prepared: 08/22/12 17:13 Analyzed: 08/22/12 17:59						
SM 4500 PE												
Orthophosphate Phosphorous	ND	---	0.020	mg/L	1	---	---	---	---	---	---	---
LCS (1208474-BS1)						Prepared: 08/22/12 17:13 Analyzed: 08/22/12 17:59						
SM 4500 PE												
Orthophosphate Phosphorous	0.281	---	0.020	mg/L	1	0.261	---	108	85-115%	---	---	---
Duplicate (1208474-DUP1)						Prepared: 08/22/12 17:13 Analyzed: 08/22/12 17:59						
QC Source Sample: MW2-082112 (A12H376-02)												
SM 4500 PE												
Orthophosphate Phosphorous	ND	---	0.020	mg/L	1	---	ND	---	---	---	---	20%
Matrix Spike (1208474-MS1)						Prepared: 08/22/12 17:13 Analyzed: 08/22/12 17:59						
QC Source Sample: MW2-082112 (A12H376-02)												
SM 4500 PE												
Orthophosphate Phosphorous	0.277	---	0.020	mg/L	1	0.261	ND	106	75-125%	---	---	---

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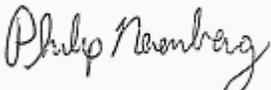
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QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208496 - Total Suspended Solids						Water						
Blank (1208496-BLK1)						Prepared: 08/23/12 14:23 Analyzed: 08/24/12 12:04						
SM 2540 D												
Total Suspended Solids	ND	---	5.00	mg/L	1	---	---	---	---	---	---	---
Duplicate (1208496-DUP1)						Prepared: 08/23/12 14:23 Analyzed: 08/24/12 12:04						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 2540 D												
Total Suspended Solids	279	---	5.00	mg/L	1	---	276	---	---	1	20%	
Reference (1208496-SRM1)						Prepared: 08/23/12 14:23 Analyzed: 08/24/12 12:04						
SM 2540 D												
Total Suspended Solids	96.0	---		mg/L	1	100		96	90-110%	---	---	

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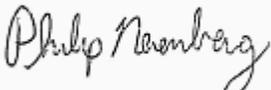
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QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208497 - Total Dissolved Solids						Water						
Blank (1208497-BLK1)						Prepared: 08/24/12 10:45 Analyzed: 08/24/12 17:55						
SM 2540 C												
Total Dissolved Solids	ND	---	10.0	mg/L	1	---	---	---	---	---	---	---
Duplicate (1208497-DUP1)						Prepared: 08/24/12 10:45 Analyzed: 08/24/12 17:55						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 2540 C												
Total Dissolved Solids	396	---	10.0	mg/L	1	---	391	---	---	1	20%	
Reference (1208497-SRM1)						Prepared: 08/24/12 10:45 Analyzed: 08/24/12 17:55						
SM 2540 C												
Total Dissolved Solids	994	---		mg/L	1	1000		99	90-110%	---	---	

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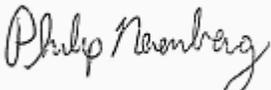
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QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208509 - Method Prep: Aq						Water						
Blank (1208509-BLK1)						Prepared: 08/23/12 16:40 Analyzed: 08/23/12 18:41						
E350.1/SM4500-NH3												
Ammonia as N	ND	---	0.0200	mg/L	1	---	---	---	---	---	---	---
LCS (1208509-BS1)						Prepared: 08/23/12 16:40 Analyzed: 08/23/12 18:43						
E350.1/SM4500-NH3												
Ammonia as N	0.364	---	0.0200	mg/L	1	0.375	---	97	90-110%	---	---	---
Duplicate (1208509-DUP3)						Prepared: 08/23/12 16:40 Analyzed: 08/23/12 19:33						
QC Source Sample: MW1-082112 (A12H376-01RE2)												
E350.1/SM4500-NH3												
Ammonia as N	4.48	---	0.400	mg/L	20	---	4.50	---	---	0.4	10%	---
Matrix Spike (1208509-MS3)						Prepared: 08/23/12 16:40 Analyzed: 08/23/12 19:35						
QC Source Sample: MW1-082112 (A12H376-01RE2)												
E350.1/SM4500-NH3												
Ammonia as N	12.0	---	0.416	mg/L	20	7.79	4.50	97	90-110%	---	---	---

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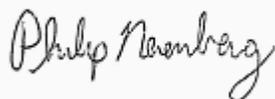
QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208555 - Method Prep: Aq						Water						
Blank (1208555-BLK1)						Prepared: 08/29/12 10:00 Analyzed: 08/29/12 11:59						
SM 2320 B												
Total Alkalinity	ND	---	20.0	mg CaCO3/L	1	---	---	---	---	---	---	---
Bicarbonate Alkalinity	ND	---	20.0	"	"	---	---	---	---	---	---	---
Carbonate Alkalinity	ND	---	20.0	"	"	---	---	---	---	---	---	---
Hydroxide Alkalinity	ND	---	20.0	"	"	---	---	---	---	---	---	---
LCS (1208555-BS1)						Prepared: 08/29/12 10:00 Analyzed: 08/29/12 11:59						
SM 2320 B												
Total Alkalinity	186	---	20.0	mg CaCO3/L	1	191	---	97	85-115%	---	---	---
Bicarbonate Alkalinity	ND	---	20.0	"	"	0.000100	---	---	0-200%	---	---	---
Carbonate Alkalinity	182	---	20.0	"	"	191	---	95	"	---	---	---
Hydroxide Alkalinity	ND	---	20.0	"	"	0.000100	---	---	"	---	---	---
Duplicate (1208555-DUP1)						Prepared: 08/29/12 10:00 Analyzed: 08/29/12 11:59						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 2320 B												
Total Alkalinity	257	---	20.0	mg CaCO3/L	1	---	251	---	---	3	20%	---
Bicarbonate Alkalinity	257	---	20.0	"	"	---	251	---	---	3	20%	---
Carbonate Alkalinity	ND	---	20.0	"	"	---	ND	---	---	---	20%	---
Hydroxide Alkalinity	ND	---	20.0	"	"	---	ND	---	---	---	20%	---

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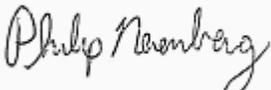
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QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208583 - Method Prep: Aq						Water						
Blank (1208583-BLK1)						Prepared: 08/28/12 09:49 Analyzed: 08/28/12 15:43						
EPA 410.4												
Chemical Oxygen Demand	ND	---	10.0	mg/L	1	---	---	---	---	---	---	---
LCS (1208583-BS1)						Prepared: 08/28/12 09:49 Analyzed: 08/28/12 15:43						
EPA 410.4												
Chemical Oxygen Demand	48.6	---	10.0	mg/L	1	50.0	---	97	90-110%	---	---	---

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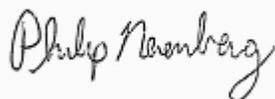
QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208593 - Method Prep: Aq						Water						
Blank (1208593-BLK1)						Prepared: 08/28/12 12:11 Analyzed: 08/29/12 16:20						
SM 4500 P B												
Phosphorus	ND	---	0.100	mg/L	1	---	---	---	---	---	---	---
LCS (1208593-BS1)						Prepared: 08/28/12 12:11 Analyzed: 08/29/12 16:20						
SM 4500 P B												
Phosphorus	0.678	---	0.100	mg/L	1	0.652	---	104	85-115%	---	---	---
Duplicate (1208593-DUP1)						Prepared: 08/28/12 12:11 Analyzed: 08/29/12 16:20						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 4500 P B												
Phosphorus	1.12	---	0.100	mg/L	1	---	1.10	---	---	1	25%	---
Matrix Spike (1208593-MS1)						Prepared: 08/28/12 12:11 Analyzed: 08/29/12 16:20						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 4500 P B												
Phosphorus	1.78	---	0.100	mg/L	1	0.652	1.10	104	75-125%	---	---	---

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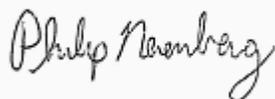
QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208615 - Method Prep: Aq						Water						
Blank (1208615-BLK1)						Prepared: 08/29/12 08:53 Analyzed: 08/29/12 18:31						
SM 5310 B												
Total Organic Carbon	ND	---	2.00	mg/L	1	---	---	---	---	---	---	---
LCS (1208615-BS1)						Prepared: 08/29/12 08:53 Analyzed: 08/29/12 18:31						
SM 5310 B												
Total Organic Carbon	20.0	---	2.00	mg/L	1	20.0	---	100	90-110%	---	---	---
Duplicate (1208615-DUP1)						Prepared: 08/29/12 08:53 Analyzed: 08/29/12 18:31						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 5310 B												
Total Organic Carbon	6.11	---	2.00	mg/L	1	---	6.17	---	---	1	20%	---
Matrix Spike (1208615-MS1)						Prepared: 08/29/12 08:53 Analyzed: 08/29/12 18:31						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 5310 B												
Total Organic Carbon	26.6	---	2.04	mg/L	1	20.4	6.17	100	75-125%	---	---	---

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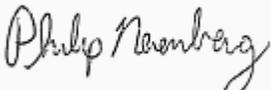
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QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1208683 - Method Prep: Aq						Water						
Blank (1208683-BLK1)						Prepared: 08/31/12 12:58 Analyzed: 08/31/12 13:16						
SM 2510 B												
Conductivity	ND	---	2.50	umhos/cm	1	---	---	---	---	---	---	---
Duplicate (1208683-DUP1)						Prepared: 08/31/12 12:58 Analyzed: 08/31/12 13:16						
QC Source Sample: MW1-082112 (A12H376-01)												
SM 2510 B												
Conductivity	619	---	2.50	umhos/cm	1	---	618	---	---	0.2	10%	
Reference (1208683-SRM1)						Prepared: 08/31/12 12:58 Analyzed: 08/31/12 13:16						
SM 2510 B												
Conductivity	1390	---		umhos/cm	1	1410		98	95-105%	---	---	

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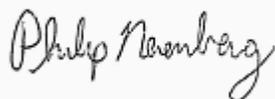
QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch W2H1121 - General Preparation						Water						
Blank (W2H1121-BLK1)						Prepared: 08/27/12 11:57 Analyzed: 08/27/12 13:14						
SM 4500S2-D												
Sulfide, Total	ND	---	0.10	mg/l	1	---	---	---	---	---	---	---
LCS (W2H1121-BS1)						Prepared: 08/27/12 11:57 Analyzed: 08/27/12 13:14						
SM 4500S2-D												
Sulfide, Total	0.100	---	0.10	mg/l	1	0.100	---	100	95-105%	---	---	---
Duplicate (W2H1121-DUP1)						Prepared: 08/27/12 11:57 Analyzed: 08/27/12 13:14						
QC Source Sample: A12H376-02 (A12H376-02)												
SM 4500S2-D												
Sulfide, Total	ND	---	0.10	mg/l	1	---	ND	---	---	---	200%	---

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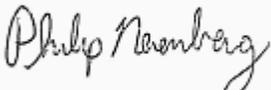
Weck Laboratories, Inc

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch W2H1205 - General Preparation						Water						
Blank (W2H1205-BLK1)						Prepared: 08/29/12 07:48 Analyzed: 09/04/12 14:02						
EPA 351.2												
TKN	ND	---	0.10	mg/l	1	---	---	---	---	---	---	---
LCS (W2H1205-BS1)						Prepared: 08/29/12 07:48 Analyzed: 09/04/12 14:03						
EPA 351.2												
TKN	0.988	---	0.10	mg/l	1	1.00	---	99	90-110%	---	---	---

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SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208432							
A12H376-01	Water	EPA 8260B	08/21/12 09:20	08/21/12 18:10	5mL/5mL	5mL/5mL	1.00
A12H376-02	Water	EPA 8260B	08/21/12 10:30	08/21/12 18:10	5mL/5mL	5mL/5mL	1.00

Anions by EPA 300.0/9056A (Ion Chromatography)

Prep: Method Prep: Ag

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208454							
A12H376-01	Water	EPA 300.0	08/21/12 09:20	08/22/12 10:42	10mL/10mL	10mL/10mL	1.00
A12H376-01RE1	Water	EPA 300.0	08/21/12 09:20	08/22/12 10:42	10mL/10mL	10mL/10mL	1.00
A12H376-01RE1	Water	EPA 300.0	08/21/12 09:20	08/22/12 14:39	10mL/10mL	10mL/10mL	1.00
A12H376-02	Water	EPA 300.0	08/21/12 10:30	08/22/12 10:42	10mL/10mL	10mL/10mL	1.00

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208478							
A12H376-01	Water	EPA 8270D (SIM)	08/21/12 09:20	08/23/12 08:07	1030mL/2mL	1000mL/2mL	0.97
A12H376-02	Water	EPA 8270D (SIM)	08/21/12 10:30	08/23/12 08:07	1060mL/2mL	1000mL/2mL	0.94

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208647							
A12H376-01	Water	EPA 6020	08/21/12 09:20	08/30/12 11:52	45mL/50mL	45mL/50mL	1.00
A12H376-02	Water	EPA 6020	08/21/12 10:30	08/30/12 11:52	45mL/50mL	45mL/50mL	1.00
A12H376-02RE1	Water	EPA 6020	08/21/12 10:30	08/30/12 11:52	45mL/50mL	45mL/50mL	1.00

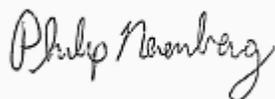
Conventional Chemistry Parameters

Prep: Method Prep: Ag

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1208474							
A12H376-01	Water	SM 4500 P E	08/21/12 09:20	08/22/12 17:13	25mL/25mL	25mL/25mL	1.00

Apex Laboratories

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
 Portland, OR 97224

Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

SAMPLE PREPARATION INFORMATION

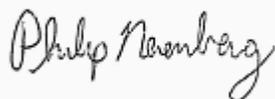
Conventional Chemistry Parameters

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A12H376-02	Water	SM 4500 P E	08/21/12 10:30	08/22/12 17:13	25mL/25mL	25mL/25mL	1.00
Batch: 1208509							
A12H376-01RE2	Water	E350.1/SM4500-NH 3	08/21/12 09:20	08/23/12 16:40	4mL/4mL	4mL/4mL	1.00
A12H376-02	Water	E350.1/SM4500-NH 3	08/21/12 10:30	08/23/12 16:40	4mL/4mL	4mL/4mL	1.00
Batch: 1208555							
A12H376-01	Water	SM 2320 B	08/21/12 09:20	08/29/12 10:00	50mL/50mL	50mL/50mL	NA
A12H376-02	Water	SM 2320 B	08/21/12 10:30	08/29/12 10:00	50mL/50mL	50mL/50mL	NA
Batch: 1208583							
A12H376-01	Water	EPA 410.4	08/21/12 09:20	08/28/12 09:49	2mL/2mL	2mL/2mL	1.00
A12H376-02	Water	EPA 410.4	08/21/12 10:30	08/28/12 09:49	2mL/2mL	2mL/2mL	1.00
Batch: 1208593							
A12H376-01	Water	SM 4500 P B	08/21/12 09:20	08/28/12 12:11	25mL/50mL	25mL/50mL	1.00
A12H376-02	Water	SM 4500 P B	08/21/12 10:30	08/28/12 12:11	25mL/50mL	25mL/50mL	1.00
Batch: 1208615							
A12H376-01	Water	SM 5310 B	08/21/12 09:20	08/29/12 08:53	40mL/40mL	50mL/50mL	1.00
A12H376-02	Water	SM 5310 B	08/21/12 10:30	08/29/12 08:53	40mL/40mL	50mL/50mL	1.00
Batch: 1208683							
A12H376-01	Water	SM 2510 B	08/21/12 09:20	08/31/12 12:58	40mL/40mL	40mL/40mL	NA
A12H376-02	Water	SM 2510 B	08/21/12 10:30	08/31/12 12:58	40mL/40mL	40mL/40mL	NA
Prep: Total Dissolved Solids					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 1208497							
A12H376-01	Water	SM 2540 C	08/21/12 09:20	08/24/12 10:45	1N/A/1N/A	1N/A/1N/A	NA
A12H376-02	Water	SM 2540 C	08/21/12 10:30	08/24/12 10:45	1N/A/1N/A	1N/A/1N/A	NA
Prep: Total Suspended Solids					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 1208496							
A12H376-01	Water	SM 2540 D	08/21/12 09:20	08/23/12 14:23	1N/A/1N/A	1N/A/1N/A	NA
A12H376-02	Water	SM 2540 D	08/21/12 10:30	08/23/12 14:23	1N/A/1N/A	1N/A/1N/A	NA

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc
 7376 SW Durham Road
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Project: City of Troutdale
 Project Number: [none]
 Project Manager: Joe Fassio

Reported:
 09/05/12 16:26

Weck Laboratories, Inc

SAMPLE PREPARATION INFORMATION

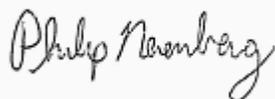
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Prep: General Preparation

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: W2H1121							
A12H376-01	Water	SM 4500S2-D	08/21/12 09:20	08/27/12 11:57	7.5ml/7.5ml	7.5ml/7.5ml	1.00
A12H376-02	Water	SM 4500S2-D	08/21/12 10:30	08/27/12 11:57	7.5ml/7.5ml	7.5ml/7.5ml	1.00
Batch: W2H1205							
A12H376-01	Water	EPA 351.2	08/21/12 09:20	08/29/12 07:48	20ml/40ml	20ml/40ml	1.00
A12H376-02	Water	EPA 351.2	08/21/12 10:30	08/29/12 07:48	20ml/40ml	20ml/40ml	1.00

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Philip Nerenberg, Lab Director

Amec Environment & Infrastructure, Inc

Project: City of Troutdale

7376 SW Durham Road
Portland, OR 97224

Project Number: [none]
Project Manager: Joe Fassio

Reported:
09/05/12 16:26

Notes and Definitions

Qualifiers:

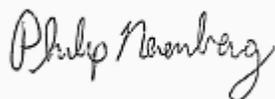
- B-02 Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- Q-16 Reanalysis of an original Batch QC sample.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Philip Nerenberg, Lab Director

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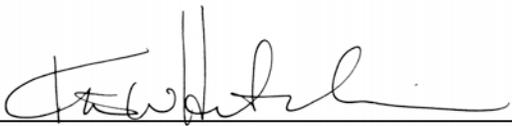
For: Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223
Attn: Philip Nerenberg

Received: 08.21.12
Tested: 08.21.12
Completed: 08.23.12

Lab #	Sample	Heterotrophic Plate Count CFU/ml
	Project: Apex120821-A12H376	
AP605	A12H376-01 MW1-082112 08.21.12 9:20	4,600
AP606	A12H376-02 MW2-082112 08.21.12 10:30	6,300

Method Reference:

Bacteriological Analytical Manual (BAM), FDA, 8th edition online, 2001:
Chapter 3: Aerobic Plate Count. Pour Plate method (AOAC Official Method 966.23)



Kim W. Hutchinson
Microbiologist/Principal