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SUBSURFACE INVESTIGATION REPORT
GRAPHIC PACKAGING INTERNATIONAL, INC.
3400 NORTH MARINE DRIVE
PORTLAND, OREGON

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1. EXECUTIVE SUMMARY

The Graphic Packaging International Incorporated (GPII) site, located at 3400 North Marine Drive, in Portland, Oregon (Figure 1), has been an active industrial facility since approximately 1919. Historic on-site spills, wastewater discharges, and releases associated with aboveground storage tanks (ASTs), underground storage tanks (USTs), and subgrade features/piping have been documented at the site by the former operator, James River Corporation, and several subsurface investigation and remediation activities were conducted at the site beginning in 1989 to address known areas of soil, soil vapor, and groundwater impacts. From 1989 to 1999, investigations/remediation activities were conducted with oversight by the Oregon Department of Environmental Quality (ODEQ).

In 2013, GPII retained Ramboll Environ US Corporation (Ramboll Environ), formerly known as ENVIRON International Corporation (ENVIRON) to conduct a screening level assessment of the results from historic investigations, and identify Areas of Concern (AOCs) that may require additional investigation to adequately delineate subsurface impacts, or remedial action. Based on its screening level assessment, Ramboll Environ recommended that additional soil and/or groundwater investigations be conducted in several areas. Ramboll Environ also recommended conducting a visual and geophysical survey in the vicinity of the former drywell, and obtaining groundwater samples from the network of existing monitoring wells at the site (shallow and deep groundwater zones), many of which had not been sampled in more than ten years. Ramboll Environ conducted additional soil and/or groundwater sampling in August 2014 and April 2015 that included advancing 43 soil borings to collect soil and groundwater samples; sampling groundwater from 17 existing shallow monitoring wells and 3 deep monitoring wells; and evaluating the former drywell.

This report summarizes the historic sampling results and Ramboll Environ's screening level assessment, and the results of further investigation conducted in 2014 and 2015. The results indicate that there were no exceedances of vapor intrusion criteria, and only a few isolated exceedances of other applicable Risk Based Concentrations (RBCs) established by ODEQ. Based on the results of the additional investigation, no further investigation or remedial action is warranted, and Ramboll Environ provides the following additional conclusions:

- Volatile Organic Compounds (VOCs) in shallow groundwater have naturally attenuated at the site to concentrations that are below the most stringent RBCs, except at a few isolated locations in the USTA (AOC 5) and the Intelicoat Area, where concentrations of benzene, ethylbenzene, and TCE slightly exceeded the RBC for the ingestion/inhalation pathway. However, the limited exceedances are not indicative of widespread contamination or an ongoing source of impacts. Furthermore, the contaminants are not present at concentrations which give rise to vapor intrusion concerns (e.g., below respective RBCs for vapor intrusion into buildings), and none of the contaminants were identified above laboratory detection limits in the downgradient wells. Additionally, VOCs in deep groundwater are similar to historical results obtained in the 1990s and early 2000s, which demonstrated chlorinated solvents (e.g., PCE, and TCE) at concentrations above the MCLs. Given the current and anticipated future site uses (industrial) and the absence of drinking water uses at the site, the limited detections in groundwater (shallow and deep zones) do not pose a significant risk to current or future site occupants, and additional investigation or remediation is not warranted. The presence of

VOCs in deep groundwater beneath the site appears to be related to an area-wide (off-site) source that has been identified in the site vicinity and has been acknowledged by ODEQ.

- The former dry well (AOC 4) located adjacent to the former boiler house does not require further action. During Ramboll Environ's investigation, a subsurface anomaly was identified in a circular area, approximately 6 feet in diameter, at the suspected location of the former dry well. A groundwater sample from JR-15, located immediately downgradient from this area was analyzed for VOCs as part of the recent sampling event, and no analytes were detected above laboratory reporting limits. Since the area is currently not in use (except as a driveway), is covered with asphalt, and groundwater has not been impacted, the former dry well location does not represent an environmental concern, and no additional investigation or remediation is warranted.
- Residual soil contaminant concentrations at the GPII site do not exceed ODEQ RBCs except in two areas:
 - Wax Trench Area ("WTA") (AOC 8)

The only metals detected in soil near the WTA at concentrations above RBCs were total lead (up to 1,200 milligrams per kilogram [mg/kg]) and total arsenic (up to 4.2 mg/kg). Although total arsenic concentrations exceeding the ingestion/inhalation/contact RBC (1.7 mg/kg, occupational exposure) have been identified, concentrations appear to be reflective of background soil concentrations (4.4 mg/kg) for native soil in Oregon, and therefore do not warrant further investigation or remediation. Total lead concentrations in shallow soil (2-4 feet bgs) exceed the ingestion/inhalation/contact RBC (800 mg/kg for occupational, and construction/excavation worker exposure) and leaching to groundwater RBC (30 mg/kg). However, risks to current or future site occupants associated with the elevated lead in soil are mitigated by the current asphalt/concrete surface covering the entire WTA, and the absence of drinking water wells at the site. The existing protective cover (concrete and asphalt) provides a sufficient barrier to minimize potential contact by current or future site occupants with shallow soil. Therefore, no further investigation or remedial action is recommended for the WTA.

Vacant Field (AOC 9)

In August 2014, Ramboll Environ collected six surface soil samples from the Vacant Field area. One of the six sample locations (AOC9-06-SB) contained arsenic (12 mg/kg) at a concentration above the RBC (1.7 mg/kg, ingestion/inhalation/contact pathway). To further evaluate the distribution of arsenic in soil in the vicinity of AOC9-06-SB, in April 2015, Ramboll Environ collected surface soil samples and soil samples from approximately 1.5 feet below ground surface to the north, east, south, and west of AOC9-06-SB. The arsenic concentrations in each of the additional surface soil samples were lower than the concentration from AOC9-06-SB, ranging from approximately 2.8 mg/kg to 3.4 mg/kg. Arsenic concentrations in the soil samples from 1.5 feet below ground surface were similar to the surface soil samples, although slightly more variable (ranging from approximately 2.7 mg/kg to 6.7 mg/kg). Although the detected arsenic concentrations in the surface soil and subsurface samples exceed the RBC for ingestion/inhalation/contact (1.7 mg/kg), the results of recent sampling suggest that the arsenic concentrations are reflective of

background soil concentrations (4.4 mg/kg) for native soil in Oregon, and therefore do not warrant further investigation or remediation.

Similar to the arsenic results, lead concentrations in the additional surface soil samples were all lower than the concentration from AOC9-06-SB (160 mg/kg), ranging from 21 mg/kg to 74 mg/kg. Lead concentrations in the soil samples from 1.5 feet below ground surface ranged from 19 mg/kg to 110 mg/kg. The identified lead concentrations are below the RBC for occupational ingestion/inhalation/contact (800 mg/kg), and therefore do not pose an unacceptable risk to current or future site occupants. Although lead concentrations in some samples slightly exceed the RBC for leaching to groundwater (30 mg/kg), due to the absence of drinking water uses at the site, and based on the results of Ramboll Environ's sampling, further investigation or remediation is not proposed with respect to lead.

Based on the above findings, Ramboll Environ recommends that GPII request a No Further Action determination for the site.

2. INTRODUCTION

2.1 Project Introduction

The Graphic Packaging International Incorporated (GPII) site, located at 3400 North Marine Drive, in Portland, Oregon (Figure 1), has been an active industrial facility since approximately 1919. Historic on-site spills, wastewater discharges, and releases associated with aboveground storage tanks (ASTs), underground storage tanks (USTs), and subgrade features/piping have been documented at the site, and several subsurface investigation and remediation activities were conducted at the site beginning in 1989 to address known areas of soil, soil vapor, and groundwater impacts. In 2013, GPII retained Ramboll Environ US Corporation (Ramboll Environ), formerly known as ENVIRON International Corporation (ENVIRON) to conduct a screening level assessment of the results from historic investigations, and identify Areas of Concern (AOCs) that may require additional investigation to adequately delineate subsurface impacts, or remedial action. Ramboll Environ reviewed the historical investigation reports, and compared the cumulative historical dataset (including soil, soil vapor, and groundwater data) to Risk Based Concentrations (RBCs) established by the Oregon Department of Environmental Quality (ODEQ). In addition, for groundwater, historic results were compared to Maximum Contaminant Levels (MCLs) established by the United States Environmental Protection Agency (USEPA). Based on Ramboll Environ's screening level assessment, a few AOCs were identified where historical sampling results exceeded one or more RBC/MCL, and Ramboll Environ recommended that additional investigation be conducted in those specific AOCs. In August 2014, Ramboll Environ conducted a subsurface investigation to evaluate soil and groundwater conditions in several AOCs, as well as groundwater sampling from the existing 21 shallow and three deep groundwater monitoring wells at the site, many of which had not been sampled in more than 10 years. This report includes a brief summary of the site background, prior investigations and Ramboll Environ's screening-level assessment, a description of the work conducted by Ramboll Environ in 2014, a discussion of the results, and recommendations for future actions.

2.2 Site Description

The GPII site is approximately 55 acres in size, and includes an approximately 25-acre undeveloped wetland on the southern portion of the site, and industrial operations on the northern portion of the site (see Figure 1). The northern and southern portions of the site are separated by an east/west running railroad line owned by the Peninsula Terminal Company. According to the City of Portland website, the site consists of four tax lots located in Section 33, Township 2 North, Range 1 East, Willamette Meridian: Lot 600 (13.5 acres); Lot 1100 (11 acres); Lot 1600 (17 acres); and Lot 200 (9.5 acres). The northern (i.e., "developed") portion of the site (Lots 600 and 1100) is improved with an approximately 530,000-square-foot single story building ("main building"), which houses production, storage, and office operations (Figure 1). Elevation of the developed portion of the site ranges from approximately 35 feet near its southeastern corner to approximately 30 feet near the northwestern property boundary. The developed portion of site is relatively flat, with a gentle downward slope to the northwest toward the Columbia River. Topography of the undeveloped portion of the site (wetland area) gradually declines from approximately 30 feet adjacent to the railroad, to approximately 10 feet along the southern margin of the

wetland. Regional topography slopes gently downward to the northeast, towards the Columbia River (Ramboll Environ, 2014).

The site is situated approximately 200 feet south of the Columbia River, and is accessed from two entrances on North Marine Drive along the northern site boundary. The access roads are surfaced with asphalt and lead to asphalt-paved parking areas present in the northwestern and northeastern portions of the site, and truck loading docks located northeast of the main building. An approximately 4-acre area of vacant, grass-covered land is also located on the developed portion of the site (southeastern corner). With the exception of the wetland and vacant grassy areas, and a small landscaped area along North Marine Drive, the entire site is developed with a building or asphalt/concrete cover.

Surrounding properties include Flint Ink (formerly Crown-Zellerbach Inks Division) located adjacent to the northeastern corner of the site, and the Stockyards Commerce Center (a multi-tenant office complex that was formerly a stockyard/slaughtering operation, and also included a gasoline station, a restaurant, a truck stop/repair facility, and a truck cleaning operation) located to the east and southeast. Heron Lakes Golf Course (adjacent to the wetlands) and Columbia Slough are located south of the site. To the west of the site is a warehouse facility operated by Peninsula Terminal Company, beyond which is a railroad line, North Portland Road and various industrial properties (Les Schwab Tires, Western Container Transport).

2.3 Historical Operations and Ownership

The site was first developed by Western Waxed Paper Company in 1919 to manufacture waxed paper. In 1928, the site was acquired by Crown Willamette Paper company, which was later renamed the Crown-Zellerbach Company. Operations were expanded in the 1930s to include gummed tape and in the 1940s to include polyethylene plastic and polyethylene/wax blended film. Polyethylene extrusion was introduced in the 1950s, and from the 1960s to the 1990s, electrophotographic and electrographic coated paper (for copy machines) was produced. Crown-Zellerbach sold the facility to the James River Corporation (JRC) in 1986. At that time, the facility was operating as three separate divisions: Crown Zellerbach (CZ) Inks; Design Products West (coated paper); and Flexible Packaging Technologies (food product packaging). The CZ Inks division and the 2.44-acre parcel (adjacent to the northeastern corner of the site; see Figure 1) on which it was located were sold to Progressive Inks and later Flint Inks (the current owner of that site). The Design Products West division (copy paper business) underwent a number of sales (to Graphics Technology International in 1991, Rexam Graphics in 1993; InteliCoat in 2002), and operations continued at that portion of the facility (southwestern portion of the main building) until 2011, when InteliCoat began decommissioning efforts. JRC operated the Flexible Packaging Technologies division until 1997, when JRC merged with Fort Howard Corporation to form the Fort James Corporation. In 1999, the Fort James Corporation was sold to Graphic Packaging Corporation, which merged with Riverwood International Inc., ultimately operating the facility as GPII.

2.4 Current Operations

Current operations conducted at the facility consist of receiving, coating, extrusion, waxing printing, and finishing. Raw materials (e.g., paper, emulsions, resins, waxes, inks, films, and solvents) are received by truck or railcar and are stored in the warehouse area

(northwestern portion of the main building) or in ASTs located in the central portion of the site. Papers and films are loaded onto production equipment for coating with various waxes, resins (e.g., Latex-polyvinylidene chloride [PVDC] complex), and coatings. Other printing substrates are formed via an extrusion process, which involves melting low density polyethylene (LDPE) beads. The coated/extruded products are dried and rerolled for further finishing. GPII also conducts flexographic printing of certain coated papers, LDPE materials and packaging films. The printing uses water-based inks for coated paper products, and solvent-based (i.e., alcohols) inks for certain films. GPII produces its own printing plates in an on-site platemaking shop. Printing equipment is washed in place, with the wastewater collected in a tote. Printed paper/films are finished to specific widths using a slitting machine, and are then rerolled.

The facility performs packaging, shipping and administrative operations, none of which involve the use of significant quantities of chemicals. In addition, GPII conducts the following activities in support of the major operations: operation of a solvent recovery/distillation and ink recovery system; general building and machinery/equipment maintenance, including operations based in a maintenance area equipped with grinders, lathes, cutting machines, and welding equipment (acetylene and oxygen gases); operation of a quality control laboratory, in which physical tests of coated products are conducted; operation of one parts washer unit (containing a non-chlorinated, biodegradable degreaser) in the maintenance area; transfer of raw materials and finished products using approximately 16 propane-powered forklifts and one battery-operated forklift.

The primary raw materials used at the site include paper, wax, Latex-PVDC complex, LDPE beads, isopropyl alcohol, and inks (water and solvent based). GPII also uses maintenance-related materials, such as oils, lubricants, greases, non-chlorinated degreasers, welding gases, boiler treatment chemicals, refrigerant chemicals, and sanitizers and detergents.

According to facility personnel, GPII's operations have remained generally consistent during its period of occupancy at the facility. However, historical facility operations formerly used more solvent-based inks, which were stored in USTs and ASTs that have been removed or decommissioned from the site.

2.5 Regional Geologic Setting and Site Soils

The site lies within the Willamette Basin portion of the Columbia River Basin, which is characterized by broad floodplains. Regional soils generally consist of silt, sand and gravels overlying flood deposits from the Missoula Flood. Unconsolidated units are generally located to depths of approximately 100 feet. The Troutdale Gravel Aquifer (TGA), a partially cemented gravel unit (and regionally exploited groundwater supply aquifer) underlies the upper unconsolidated sediments, and can range in thickness from approximately 100 to 200 feet (ERM, 1999).

Intrusive investigations at the site have encountered medium-grained loose sand with fines and trace gravels in shallow soils, consistent with regional soil types. Shallow sands grade to fine grained, dark grey sandy silt (Willamette Silt) at depths ranging from approximately 10 to 20 feet bgs. During previous investigations, borings advanced to depths of approximately 160 feet beneath the site encountered the TGA at depths of approximately 110 feet.

2.6 Hydrogeology

Groundwater beneath the site is located in distinct shallow and deep water-bearing zones. The shallow zone is generally characterized as a layer of permeable sands extending to depths of approximately 15 to 20 feet below ground surface (bgs), and is unconfined. The deep groundwater zone consists of a gravel formation beginning at depths of approximately 110 feet bgs. The deep groundwater zone is under confined conditions. The two water bearing zones are not hydraulically connected – they are separated by a low permeability, fine-grained unit known as the Parkrose Aquitard (encountered at depths of approximately 30 feet bgs beneath the site), that prevents downward vertical migration from the shallow groundwater zone to the deeper groundwater zone, and also acts as a confining layer for groundwater in the deep zone.

Twenty-seven groundwater monitoring wells have been advanced at the site, the majority of which are shallow monitoring wells that have been installed as part of various environmental investigations conducted at the site since 1989. Fifteen of the shallow groundwater monitoring wells are no longer accessible, or could not be located during the recent investigation. The existing wells include three deep groundwater monitoring wells and three production wells (for industrial processes only: non-contact cooling water and fire suppression; extraction rates range from approximately 0.9 to 1.3 million gallons per day) that are screened in the deep gravel unit.

The shallow groundwater flow direction beneath the site is variable (primarily due to influence by the Columbia River tides), but historical groundwater monitoring events have shown that flow direction has consistently been towards the river. The groundwater flow direction in the deep groundwater zone is also towards the river, however significant pumping from the on-site deep production wells has resulted in a localized groundwater trough beneath the central portion of the site (Brown and Caldwell, 1992). The development of a groundwater trough in the deep zone suggests that deep groundwater beneath various properties in the vicinity of the site migrates beneath the site. Pumping in the deep zone does not appear to impact the flow direction in the shallow zone, which further suggests these two groundwater zones are not hydraulically connected, and that the Parkrose Aquitard prevents migration of shallow groundwater to the deeper water bearing unit.

2.7 Regulatory Framework

As described above, in 2013 Ramboll Environ conducted a screening-level assessment of subsurface conditions at the GPII site. Ramboll Environ's assessment included evaluating historic data to identify areas of the site where known chemical concentrations in soil, groundwater, or soil vapor exceeded RBCs established by ODEQ. For the screening-level assessment, Ramboll Environ assumed that the site use would remain industrial, and that the underlying groundwater would not be used as a drinking water source. Thus, Ramboll Environ limited its comparison to the "occupational" (i.e., industrial) receptor, and potential on-site construction/excavation workers, and compared the available data to RBCs for the following media and exposure pathways:

Soil: dermal contact/ingestion/inhalation; vapor intrusion into buildings; volatilization to outdoor air; leaching to groundwater.

Groundwater: vapor intrusion into buildings; volatilization to outdoor air.¹

Soil vapor: vapor intrusion into buildings.

For reference purposes, groundwater results were also compared to ODEQ RBCs for ingestion/inhalation and federal MCLs, which are federally-enforceable standards for maximum allowable concentrations of contaminants in drinking water; as noted above, there is no current or likely future use of groundwater beneath the site for drinking purposes.

The results of the recent investigation are screened against the same criteria established by ODEQ and USEPA (Section 4).

2.8 Regulatory History

From approximately 1989 to 1999, ODEQ reviewed several investigation reports (mostly in relation to three Leaking Underground Storage Tank [LUST] files for the site), and in 1999, ODEQ conducted a Preliminary Site Assessment (PA) on behalf of the USEPA. Based on the results of the PA, the site was archived as a Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)-No Further Remedial Action Planned (NFRAP) site in 2000. However, ODEQ placed the site on its Environmental Cleanup Site Information (ECSI) Database and indicated that additional investigation and/or cleanup was necessary. According to the ECSI listing, the site is impacted with chlorinated solvents including trichloroethene (TCE), tetrachloroethene (PCE), and dichloroethene (DCE); benzene, toluene, ethylbenzene, and xylene (BTEX) compounds; and metals.

In 2000, ODEQ reportedly contacted the site and requested that a site-wide remedial investigation (RI) be conducted to determine the extent, magnitude, and sources of chlorinated solvents, BTEX and metals in soil and shallow groundwater beneath the site, as well as the sources of chlorinated solvents in deep groundwater. ODEQ further reportedly indicated that the site had been categorized as a medium priority site, which signified that ODEQ was unlikely to pursue immediate cleanup action for the site. ODEQ recommended that GPII voluntarily work with the agency to address on-site environmental issues. GPII has not conducted a site-wide RI, however, the numerous investigations which have been conducted at the site since 1989 have addressed impacts in several identified areas of concern (AOCs). In 2006, ENSR conducted an Environmental Site Assessment and Compliance Review, which included identification of eleven AOCs at the site associated with known or suspected impacts from historic spills, releases, ASTs, USTs or other subsurface features. ENSR concluded that most of the impacts had been delineated, that contamination was isolated and was naturally attenuating, and that there were no remaining significant sources of contamination that warranted remediation. However, the results of ENSR's review in 2006 and limited soil and groundwater sampling conducted at the site since 2000 have not been submitted to ODEQ. Since 1999/2000, there has not been significant regulatory involvement with regards to subsurface conditions.

¹ Ramboll Environ's assessment assumed that groundwater is not used for potable purposes. However, Ramboll Environ considered drinking water criteria as a conservative screening tool, and in those cases where such criteria were exceeded, additional assessment was conducted.

3. PREVIOUS INVESTIGATIONS AND SCREENING LEVEL ASSESSMENT

Several investigations (soil, soil vapor, and groundwater) and limited remedial activities (soil excavation including on-site treatment and off-site disposal; operation of a soil-vapor extraction system) were conducted at the site between 1989 and 2006. In 2006, ENSR conducted an Environmental Site Assessment (ESA) and Compliance Review that included a review of historical investigations to that point, and identified 11 AOCs at the site. From 2006 to May 2014, site investigations were limited to occasional groundwater sampling from select shallow monitoring wells, testing of stained concrete located beneath former processing equipment used in the former IntelliCoat area, and one soil sample obtained from beneath hydraulic oil-containing equipment formerly used by IntelliCoat. A summary of the historical investigations relating to the 11 AOCs identified by ENSR, and investigations within the former IntelliCoat area is provided below.

3.1 AOCs 1, 2 and 3 (Intermediate Storage Tank Area [ISTA], Solvent Recovery Area [SRA], and 20,000-Gallon Diesel UST) Previous Investigation Activities

The ISTA, SRA, and 20,000-gallon diesel UST are located in the northwestern portion of the site along the property boundary (Figures 1, 2a, 2b and 3). Several shallow monitoring wells are located in the general vicinity of all three AOCs. Hence, the summary of previous activities in these areas is presented in one section.

ISTA (AOC 1)

Six ASTs, including three containing toluene, and three containing ethyl alcohol or isopropyl alcohol, were previously located in a concrete-walled dike in the ISTA. The tanks were between 1,300 to 2,800-gallons in size and installed between 1979 and 1989. In February 1989, during the installation of one of the tanks, odors were noted in underlying soil. Shallow soil samples collected from approximately 1.5 to 2 feet bgs beneath the central portion of the ISTA (locations "A" and "B") identified toluene at concentrations up to 2,261 milligrams per kilogram (mg/kg), PCE at concentrations up to 3.1 mg/kg, ethylbenzene at concentrations up to 38 mg/kg, and xylene at concentrations up to 610 mg/kg (Table 1). Several borings were advanced within the ISTA in May 1989, and soil samples were collected to depths of up to 9 feet bgs and analyzed for VOCs (Figure 2a). In the data from the two events, with the exception of ethylbenzene and xylene, concentrations of detected analytes were below the current RBCs for soil (all exposure pathways and receptor scenarios evaluated). At three locations (A, B, B-2A), ethylbenzene concentrations (ranging from 22 mg/kg to 52 mg/kg) exceeded the RBCs for vapor intrusion into buildings (12 mg/kg) and leaching to groundwater (0.9 mg/kg). At a fourth location (B-4), the ethylbenzene concentration (5 mg/kg) exceeded only the RBC for leaching to groundwater. Xylene concentrations for boring locations A and B (610 mg/kg and 263 mg/kg, respectively) also exceeded the RBC for leaching to groundwater.

During the investigation in May 1989, a groundwater sample collected from a temporary well (B-1/GW-3) contained toluene, ethylbenzene, and xylenes at concentrations up to 166,000

micrograms per liter ($\mu\text{g/L}$), 1,200 $\mu\text{g/L}$, and 2,400 $\mu\text{g/L}$, respectively (Table 2, Figure 2b). The toluene concentration exceeded the groundwater RBC (ingestion/inhalation; 9,200 $\mu\text{g/L}$) and the MCL (1,000 $\mu\text{g/L}$). Similarly, the ethylbenzene concentration exceeded the RBC (ingestion/inhalation; 7.8 $\mu\text{g/L}$) and the MCL (700 $\mu\text{g/L}$). The xylene concentration exceeded the most stringent RBC (ingestion/inhalation; 850 $\mu\text{g/L}$), but was below the MCL (10,000 $\mu\text{g/L}$).

Based on the soil and groundwater results from February and May 1989, six additional soil borings were advanced (in September 1989) around the perimeter of the ISTA, four of which were converted to groundwater monitoring wells (JR-10, JR-12, JR-14, JR-15). Soil samples collected from the borings were analyzed for VOCs, and no analytes were detected above laboratory reporting limits (which were below current RBCs) except for toluene in one sample (0.1 mg/kg; well below RBCs). Groundwater samples were collected from the four wells during four quarterly sampling events that occurred from May 1991 to March 1992, and single events in 1997 and 2001, and were analyzed for VOCs. Benzene was detected during the May 1991 event (JR-10, located west of the ISTA) at a concentration of 5.3 $\mu\text{g/L}$, which is above the most stringent groundwater RBC (ingestion/inhalation; 2.2 $\mu\text{g/L}$) and the MCL (5 $\mu\text{g/L}$). Benzene was not detected in the subsequent rounds of sampling in any of the wells. PCE, cis-1,2-DCE, xylene, trichlorofluoromethane (Freon 11), and chloroform were also sporadically detected, at concentrations less than applicable RBCs and MCLs, except for one detection of chloroform, which was identified at a concentration of 5.5 $\mu\text{g/L}$ (JR-15, December 1991), above the most stringent groundwater RBC (ingestion/inhalation; 0.99 $\mu\text{g/L}$). According to the ENSR report, groundwater samples were collected also from the wells in May 2006, and the only VOCs detected were PCE (2.35 $\mu\text{g/L}$ in JR-15) and cis-1,2-DCE (5.07 $\mu\text{g/L}$ in JR-12), both at concentrations lower than the previous sampling event (i.e., below applicable RBCs and MCLs).

SRA and 20,000-Gallon Diesel UST (AOCs 2 and 3)

The SRA is located immediately adjacent to the ISTA (to the west and south). Until 1989, an underground ethanol distribution line (EDL) was used to transfer ethanol between the SRA and Building No. 6 (located southeast of the SRA, formerly occupied by InteliCoat until September 2011). In May 1989, routine monitoring (product reconciliation) identified a loss of approximately 1,800 gallons of ethanol from the EDL. Soil sampling was conducted at four locations (JR-1², ADL-1 to ADL-3 at depths of approximately 3.5 feet to 4.5 ft bgs; see Figure 3) along the EDL where a soil vapor field screening survey had indicated the presence of subsurface combustible gases. Soil samples were analyzed for BTEX compounds, ethyl alcohol, isopropanol [IPA], acetone, methyl ethyl ketone (MEK), and methyl isobutyl ketone (MIBK). Toluene, ethylbenzene, and xylene were identified at concentrations below the most stringent soil RBCs (Table 3), except for one sample from boring JR-1, where ethylbenzene (11 mg/kg) exceeded the RBC (leaching to groundwater; 0.9 mg/kg). However, as discussed below, a subsequent excavation in the SRA removed impacted soil from this area. Acetone, MIBK, MEK, IPA, and ethanol were also detected, but ODEQ has not established

² Soil sampling location JR-1 in AOC 2 is a different location than monitoring well JR-1, installed in the northeastern portion of the site (Press Room Area - AOC 6).

RBCs for those analytes.³ Based on the results, the location of the ethanol leak was not identified, but the underground EDL was decommissioned (replaced with an aboveground line).

Additional soil investigations were conducted in 1997 and 1998, related to removal/decommissioning of five USTs in the area. A 20,000-gallon diesel UST (separately identified herein as AOC 3) was closed in-place, three 10,000-gallon USTs were removed (two containing toluene and one containing 2% ethanol/water mixture), and a fourth 10,000-gallon UST containing a 2% ethanol/water mixture was closed in-place (LUST # 26 98 0092). According to the UST Decommissioning Report (SECOR, 1998), approximately 220 yards of contaminated soils were removed (although excavation was limited by the building foundation adjacent to the area and pipe supports), and soil samples collected from borings adjacent to the USTs (B-1, B-2, B-3) and from excavation sidewall samples (CS-1 to CS-13) identified toluene, xylenes, diesel, and heavy oil range petroleum hydrocarbons in soil at concentrations below the ODEQ cleanup levels in-place at the time, and below the current most stringent soil RBCs. Soil excavated during the 1998 UST decommissioning activities included the area where boring JR 1 was advanced in 1989.

Groundwater samples collected during the UST decommissioning activities identified toluene as high as 22,000 µg/L, which exceeded the most stringent groundwater RBC (ingestion/inhalation; 9,200 µg/L) and the MCL (1,000 µg/L; Table 4). Additional investigation (in July 1998) to better define the lateral extent of impacted groundwater (particularly BTEX compounds that might have been released from the former USTs) was conducted, including advancing eleven direct-push borings (B-1 to B-11) to the east and north of the SRA/ISTA. Groundwater samples were collected from each boring and analyzed in an on-site mobile laboratory for BTEX compounds. Benzene, toluene, and xylene were identified in groundwater samples in several borings immediately east of the SRA/ISTA (see Table 4 and Figure 2b). Benzene concentrations at three locations (B1, B6, and B11) exceeded the most stringent groundwater RBC (occupational ingestion/inhalation; 2.2 µg/L) and MCL (5 µg/L). Toluene and xylene concentrations were below the most stringent groundwater RBCs. Based on the groundwater investigation, three monitoring wells (JR-20, JR-21, and JR-22) were installed downgradient of the SRA and former diesel UST. The 2006 ENSR report indicates that the wells were sampled in May 2006 for VOCs and the only detection was cis-1,2-DCE at a concentration of 6.76 µg/L (JR-22), well below the most stringent groundwater RBCs (occupational ingestion/inhalation; 290 µg/L) and the MCL (70 µg/L).

Recommendations for Additional Investigation – AOC1, AOC2 and AOC3

Based on the information provided in the previous reports, it is possible that residual concentrations of VOCs, diesel, and heavy oil range petroleum hydrocarbons remain in soil beneath a localized area in the vicinity of the former ASTs and USTs used in the ISTA and SRA (AOCs 1 through 3). The soil concentrations identified in the previous investigations are lower than the current ODEQ RBCs, with the exception of ethylbenzene concentrations beneath one portion of the ISTA, which exceed the RBC for leaching to groundwater (0.9

³ Results for acetone, MIBK, MEK, and IPA were below their respective USEPA Region 9 Industrial Soil Screening Levels (I-SSL). An I-SSL has not been established for ethanol.

mg/kg) and the RBC for vapor intrusion into buildings (12 mg/kg). However, there are no drinking water wells at the site, and there are no buildings on this portion of the site (former buildings and an outdoor AST storage area were demolished in 2013). There are no plans to construct a building in this area, which mitigates potential risks associated with vapor intrusion into buildings.

Nevertheless, toluene, and PCE concentrations in soil were not vertically delineated beneath the ISTA and no sampling was conducted immediately east of the diesel UST. While the results of groundwater sampling do not suggest that a significant source of toluene, PCE, or other VOCs or petroleum hydrocarbons is present in the ISTA/SRA, Ramboll Environ recommended additional soil investigation to provide better vertical delineation of soil impacts in the former ISTA, and collection of groundwater samples from one location adjacent to the former 20,000-gallon diesel UST and existing monitoring wells in the vicinity of the ISTA/SRA. Discussion of the additional work is provided in Sections 4 and 5.

3.2 AOC 4 (Drywell near JR-15)

Previous Investigation Activities

A dry well located outdoors adjacent to the boiler room in the SRA (Figure 3) was used for disposal of boiler blow-down water until approximately 1991. The dry well was located slightly southwest of monitoring well JR-15. Historic groundwater elevations suggest that a localized groundwater mound existed in the vicinity of JR-15, which was likely due to the dry well providing a preferential pathway for infiltration of precipitation into the shallow subsurface. Between 1989 and 2001, groundwater sampling at JR-15 revealed detections of only two target analytes: one detection of Freon 11 (5.3 µg/L in May 1991) and one detection of chloroform (5.5 µg/L in December 1991) (Table 4). The concentration of Freon 11 was well below the most stringent groundwater RBCs (ingestion/inhalation; 5,400 µg/L). The concentration of chloroform detected in 1991 exceeded the most stringent groundwater RBC (ingestion/inhalation; 0.99 µg/L). Although chloroform was not reported above the laboratory detection limit (2 µg/L) in May and September of 1991 and March of 1992, the laboratory detection limit exceeded the most stringent groundwater RBC (ingestion/inhalation; 0.99 µg/L). The 2 µg/L detection limit is below the RBCs for volatilization into outdoor air, groundwater in excavations, and vapor intrusion into buildings. There are no MCLs established for Freon 11 or chloroform.

Recommendations for Additional Investigation – AOC 4

The most recent groundwater sampling in the vicinity of the drywell location (i.e., monitoring well JR-15) did not identify any constituents above laboratory reporting levels. The dry well, therefore, does not represent a significant source of contamination at the site. Chloroform, which was detected in sampling conducted in 1991, is a common laboratory chemical, and the presence in groundwater samples may be the result of cross-contamination. Although the detection limit for chloroform (2 µg/L) in sampling events until 1992 slightly exceeds the most stringent RBC (ingestion/inhalation; 0.99 µg/L), there is no anticipated use of groundwater that would result in an ingestion/inhalation exposure. Given the absence of any detection in subsequent sampling events in the 1990s, and the amount of time that has since passed, no additional soil or groundwater sampling was recommended.

3.3 AOC 5 (Building 14 Underground Storage Tank Area [USTA])

Previous Investigation Activities

The USTA is located within the area of the site formerly leased by IntelliCoat (southwestern portion of the site building) (Figure 1). Ten USTs were located in the northwestern portion of this area of the site (Figure 4a). Eight of the ten USTs were 3,000-gallon tanks containing alcohol and toluene and were located beneath the floor slab along western portion of Building No. 14. These eight tanks were installed in 1969, taken out of service in 1989 and decommissioned in-place in November/December of 1990. The 2006 ENSR report indicates that as part of the decommissioning, 20 cubic yards of contaminated soil was removed from beneath the concrete building slab. The remaining two USTs were 10,000 gallon tanks, containing toluene and alcohol, installed outdoors in this area in 1979 and removed in 1989. During removal of the two outdoor USTs, toluene was identified in a soil sample collected from beneath the UST at a concentration of 350 mg/kg, and a soil vapor survey was reportedly conducted that identified toluene in soil vapor.

To evaluate toluene impacts in soil, four soil borings were installed in April 1990 (three of which were converted to monitoring wells [JR-16, JR-17, and JR-18] and the fourth to a vapor extraction well [JR-19]). Soil sampling during the investigation identified toluene at a maximum concentration of 17 mg/kg (in JR-19, 10 ft bgs), which is below the most stringent soil RBC for toluene (Table 5). Toluene was detected in groundwater from one of the wells (JR-18) at a concentration of 29,000 µg/L (JR-18), which exceeded the groundwater RBC (ingestion/inhalation; 9,200 µg/L) and the MCL (1,000 µg/L; Table 6). Xylene was detected in groundwater from the same well at a concentration of 300 µg/L, below the most stringent groundwater RBC and MCL for xylene. Subsequent rounds of groundwater sampling of the three USTA wells (JR-16, JR-17, and JR-18) in 1991 and 1992 identified toluene and PCE at maximum concentrations of 2.2 µg/L (JR-18) and 3.6 µg/L (JR-16), respectively, below the most stringent groundwater RBC and MCLs for those constituents.

Although groundwater concentrations in 1992 were below RBCs, five additional monitoring wells (JR-23 to JR-27) were installed in 1993 to investigate the extent of toluene in groundwater near the USTA. According to the 2006 ENSR report, sampling results from 1993 and 1996 identified toluene concentrations as high as 400,000 µg/L (JR-27), above the groundwater RBCs for ingestion/inhalation (9,200 µg/L) and construction/excavation worker (210,000 µg/L) pathways, and the MCL (1,000 µg/L). Wells JR-16, JR-19⁴, JR-24 and JR-27 were resampled in 2006, and according to the 2006 ENSR report, VOCs detected included toluene, PCE, vinyl chloride, naphthalene, and 1,2,4-trimethylbenzene. PCE was detected at concentrations below the most stringent groundwater RBC and MCL (5 µg/L) in JR-16 (1.31 µg/L), JR-19 (1.13 µg/L), and JR-23 (1.32 µg/L). Vinyl chloride was detected in monitoring well JR-16 (1.78 µg/L) below the MCL, but slightly above the RBC for ingestion/inhalation (0.52 µg/L). Toluene was detected in monitoring wells JR-24 (11,800 µg/L) and JR-27

⁴ According to the 2006 ENSR report, a vapor extraction system was operated (using JR-19) from approximately June 1991 to November 1991, and from April 1992 to July 1992. No other information regarding the operation of this system has been identified. Although JR-19 appears to be a vapor well, the ENSR report indicated that a groundwater sample was collected from it in 2006.

(19,600 µg/L), above the most stringent groundwater RBC (ingestion/inhalation; 9,200 µg/L) and MCL (1,000 µg/L), but at significantly lower concentrations than reported in 1993. In 2006, naphthalene and 1,2-4-trimethylbenzene were detected at concentrations of 446 µg/L and 330 µg/L (JR-27), respectively, which exceeded the most stringent groundwater RBCs (ingestion/inhalation; 0.72 µg/L and 61 µg/L). In 2010, JR-27 was resampled and the toluene concentration had decreased to 684 µg/L (from 19,600 µg/L in 2006), below applicable RBCs and the MCL. Naphthalene and benzene were detected at concentrations above their respective RBCs (ingestion/inhalation) and in the case of benzene (78.8 µg/L), at a concentration above the MCL (5 µg/L).

Recommendations for Additional Investigation – AOC 5

Previous soil and groundwater results suggest that VOCs have been released to soil and groundwater within the USTA, with impacts primarily identified in soil approximately 10 feet bgs and in groundwater beneath and to the east of the former USTs. Although the highest detections of toluene in soil are significantly less than the most stringent soil RBCs, the vertical extent of toluene impacts in soil has not been established beneath the former UST area, and the extent of soil impacts to the east of the former USTs has not been evaluated. Significant concentrations of toluene in groundwater have been observed east of the former USTs, specifically in monitoring well JR-27 (up to 400,000 µg/L in 1996), which suggests that toluene impacts in soil may extend further east than the immediate vicinity of the USTs, where borings had previously been advanced.

Based on data from monitoring well JR-27 in 2006, toluene concentrations (19,600 µg/L) in groundwater had significantly decreased over time, but still exceeded the most stringent groundwater RBC (occupational ingestion/inhalation; 9,200 µg/L) and MCL (1,000 µg/L). Analytical results from JR-27 in 2010 demonstrated continued declining toluene concentrations (684 µg/L), but exceedances of RBC/MCL values for other constituents were noted. Based on these results, Ramboll Environ recommended additional evaluation of the lateral and vertical extent of VOCs in soil and groundwater in the vicinity of existing wells JR-18, JR-19, JR-24 and JR-27, as discussed further in Sections 4 and 5.

3.4 AOC 6 (Press Room Area [PRA])

Previous Investigation Activities

Historical documents indicate that a gasoline UST was removed from the PRA in 1984, but no documentation (e.g., closure report, confirmation soil sampling data) is available regarding the closure activities. The UST was reportedly located in the Press Room, in an area that was evaluated during subsequent activities related to closure of several solvent-containing USTs as described further below.

In April 1989, five 6,000-gallon USTs (formerly used to store alcohols, toluene, acetone, and MIBK) were removed from the PRA (LUST #26-89-0064). During the removal, the USTs were observed to be in good condition with no holes or apparent leaks. Confirmation soil samples collected from the excavation base (P-1 to P-9) indicated the presence of toluene (up to 1 mg/kg), alcohols (up to 4,200 mg/kg), acetone (up to 33 mg/kg), and MIBK (up to 770 mg/kg) (Table 7). The reported toluene concentrations were below the most stringent soil

RBCs. ODEQ has not established RBCs for alcohols, acetone, or MIBK.⁵ Approximately 150 cubic yards of soil were removed from the excavation, and aerated on-site (at the vacant field). Based on confirmation testing (which included analysis for BTEX compounds, acetone, IPA, and ethanol), the aerated soils were approved for reuse as fill material by ODEQ.

In 1989, three borings were installed in the vicinity of the PRA and converted to monitoring wells (JR-1, JR-2 and JR-3). Two borings (B-2 and B-3) were advanced in 1993. Several VOCs were identified in soil samples collected from the five borings including PCE, TCE, toluene, acetone, MIBK, cis-1,2-DCE, IPA, 1,1-dichloroethane (1,1-DCA), and 1,1,1-trichloroethane (1,1,1-TCA). With the exception of PCE in one sample, none of the detected analytes exceeded the most stringent soil RBCs (for those analytes where RBCs have been established).⁶ PCE was reported at a concentration of 7.8 mg/kg (B-3 at 7.5 ft bgs), above the soil RBC (leaching to groundwater; 3.7 mg/kg).

Between 1989 and 2006, several rounds of groundwater sampling of the PRA wells (JR-1, JR-2, JR-3) were conducted. VOCs detected included PCE, TCE, cis-1,2-DCE, 1,1,1-TCA, 1,1-DCA, IPA, ethanol, acetone, MEK, and MIBK (Table 8). None of the detections exceeded applicable groundwater RBCs or MCLs.

Soil vapor sampling was conducted near the PRA in 1989 and 1991. In 1989, soil vapor samples were collected from 8 locations (Figure 5b) beneath the former USTs and to the north, south and east (depths were not specified in previous reports). The soil vapor samples were tested for the presence of total combustible gases, and concentrations ranging from 130,000 ppbv to >10,000,000 ppbv were recorded. In 1991, a vapor extraction test (VET) was conducted using monitoring well JR-2 as an extraction point to evaluate presence of VOCs beneath a portion of the main building adjacent to the PRA. Several VOCs were detected including PCE, TCE, cis-1,2-DCE, vinyl chloride, BTEX compounds, IPA, methanol, and acetone; all of the detected VOCs were below the most stringent soil vapor RBCs (Table 9). The VET report concluded that the source of VOCs in the vapor samples was unknown, and may not be related to the former USTs in the PRA.

Recommendations for Additional Investigation – AOC 6

A limited amount of impacted soils were excavated from this area during the UST removal process in 1989. The USTs removed were observed to be in good condition, and confirmation soil sampling from beneath the USTs after removal identified concentrations of non-halogenated VOCs below ODEQ RBCs. Subsequent soil sampling in 1993 identified PCE (7.8 mg/kg), above the most stringent soil RBC (leaching to groundwater; 3.7 mg/kg) in one boring (B-3, 7.5 ft bgs; see Figure 5a). PCE was detected in a sample from the same boring at 12 ft bgs at a lower concentration (0.3 mg/kg), below the RBC. The results of the sampling in 1993 suggested that chlorinated solvents were localized to a small area and decreased with depth.

⁵ There are no RBCs for acetone, alcohols, or MIBK. Results are less than I-SSLs for acetone (630,000 mg/kg), isopropanol (4.2×10^{10} mg/kg) and MIBK (53,000 mg/kg).

⁶ Detected acetone, IPA, and MIBK were below their respective I-SSLs.

Several rounds of groundwater sampling were conducted from wells in the vicinity of the former USTs; non-chlorinated VOCs (e.g., ethanol, IPA, acetone, MIBK) were identified at elevated concentrations in groundwater samples from JR-2 from 1989 to 1991, but demonstrated significant declining concentrations to non-detect levels by 1993. Chlorinated solvents also have been detected in groundwater near the PRA (e.g., JR-1, JR-2, and JR-3). A source of the chlorinated solvents has not been identified, and concentrations have been below the most stringent groundwater RBCs and MCLs. The results of soil, groundwater and soil vapor sampling conducted in the PRA do not suggest the presence of a significant source of contamination beneath the PRA, and based on comparison to regulatory screening levels, additional investigation or remediation for residual concentrations of VOCs is not necessary. Therefore, Ramboll Environ did not recommend additional soil sampling in the vicinity of the PRA; however, Ramboll Environ recommended that groundwater samples be obtained from monitoring wells in the vicinity of the PRA (e.g., JR-1, JR-2, and JR-3) as part of a site-wide groundwater monitoring event to evaluate current conditions.

3.5 AOC 7 (former gasoline UST)

Previous Investigation Activities

A 1,000-gallon gasoline UST was installed in 1973, and removed in 1989 from the northeastern portion of the site (Figures 1, 6a) (LUST #26-89-0064). Soil samples collected from beneath the UST (during removal) identified volatile petroleum hydrocarbons (i.e., gasoline range) at concentrations of 160 mg/kg and 270 mg/kg, above the most stringent soil RBC (leaching to groundwater; 130 mg/kg) (Table 10). Total petroleum hydrocarbons (TPH) were also detected in two borings advanced to the north (JR-6) and south (JR-5) of the UST at concentrations up to 360 mg/kg. Approximately 70 cubic yards of soil were removed from the UST excavation, and aerated on-site (in the vacant field). Based on confirmation testing (which included analysis for BTEX compounds, acetone, IPA, and ethanol), the aerated soils were approved for reuse as fill material by ODEQ.

In 1993, four borings (B-4 to B-7) were advanced adjacent to boring/monitoring well JR-5 (beside and beneath a former fuel pump location) to evaluate the potential presence of petroleum hydrocarbons in soil (Figure 6a). Petroleum hydrocarbons were not identified above laboratory reporting limits in soil samples collected from depths ranging from approximately 5.5 ft bgs to 15 ft bgs.

One groundwater sample (GW-1) was collected from the UST excavation during decommissioning activities, and analyzed for BTEX compounds. Benzene, toluene, ethylbenzene, and xylenes were detected at concentrations of 400 µg/L, 20,000 µg/L, 8,000 µg/L and 38,000 µg/L, respectively, which exceeded the most stringent groundwater RBCs (ingestion/inhalation; 2.2 µg/L, 9,200 µg/L, 7.8 µg/L and 850 µg/L, respectively) and MCLs (5 µg/L, 1,000 µg/L, 700 µg/L, and 10,000 µg/L, respectively) (Table 11). The ethylbenzene concentration (8,000 µg/L) also exceeded the current RBC for vapor intrusion into buildings (7,400 µg/L). Monitoring wells JR-4, JR-5, and JR-6 (installed in the vicinity of the former UST) were sampled during several groundwater monitoring events between 1989 and 1996. The results indicated general decreases in detected BTEX compounds from elevated concentrations in 1989, and by 1996, toluene, ethylbenzene, and xylene concentrations in groundwater were below groundwater RBCs and MCLs. In April 1996, benzene was detected in JR-5 at a concentration of 13 µg/L, above the most stringent groundwater RBC

(ingestion/inhalation; 2.2 µg/L) and MCL (5 µg/L). Lead was detected in each well at concentrations ranging from 14 µg/L to 86 µg/L, and included detections that exceeded the groundwater RBC (ingestion/inhalation; 15 µg/L) and MCL (15 µg/L).

Soil vapor samples collected from five locations surrounding the former UST (G-1 to G-5; Figure 6b) identified total combustible gas concentrations above detection limits at each location. A soil vapor sample was also collected from monitoring well JR-5, and analyzed for BTEX compounds. BTEX compounds were detected in the soil vapor sample below respective RBCs, except for benzene (500 parts per billion by volume [ppbv]), which slightly exceeded the RBC for vapor intrusion into buildings (491 ppbv).

In correspondence dated September 1996, ODEQ determined that the decommissioning of the gasoline UST satisfied the state requirements, and a "No Further Action" (NFA) determination was issued, even though limited soil and groundwater impacts associated with the gasoline UST remained at the site.

Recommendations for Additional Investigation – AOC 7

Based on the historical sampling data, TPH concentrations (up to 360 mg/kg) were identified in shallow soil in the vicinity of the former gasoline UST, exceeding the most stringent soil RBC (leaching to groundwater; 130 mg/kg). Benzene was identified in a soil vapor sample from JR-5 (1991) at a concentration slightly above the RBC for vapor intrusion into buildings, and benzene was identified in a groundwater sample from JR-5 (13 µg/L, 1996) at a concentration that slightly exceeded the most stringent groundwater RBC (ingestion/inhalation; 2.2 µg/L) and the MCL (5 µg/L). Concentrations of lead in groundwater also periodically exceeded the RBC for ingestion/inhalation and the MCL (15 µg/L in both cases), in samples collected in 1991 and 1992. Lead was not tested in groundwater sampling conducted in more recent events in 1995 and 1996. ODEQ reviewed the results of the soil, soil vapor and groundwater testing and issued a NFA determination in 1996. Based on ODEQ's NFA determination from previously collected data, and other mitigating factors (i.e., shallow groundwater is not used for drinking water purposes at the site or by downgradient users; no buildings are located in the vicinity of the former UST and the area is covered with asphalt), no additional investigation or remediation is warranted. Therefore, Ramboll Environ did not recommend additional sampling to evaluate conditions in the vicinity of the former gasoline UST. However, Ramboll Environ recommended that groundwater samples be obtained from accessible monitoring wells in the vicinity of the former UST (e.g., JR-4, JR-5, and JR-6) as part of a site-wide groundwater monitoring event to obtain current data.

3.6 AOC 8 (Wax Trench Area)

Investigation Activities

During excavation activities to install a subsurface electrical conduit in the wax tank area of the site (Figure 7a) in June 1996, solvent odors and stained soil were observed beneath the western portion of an approximately 64 feet long by 3 feet wide trench. Laterally (i.e., to the north and south), the trench was confined by the presence of two cement footings running along the entire length of the trench (essentially forming the north and south sidewalls). The soil in the western portion of the trench reportedly included red, yellow, green and brown

staining to depths of approximately 3 feet bgs. During excavation activities, two composite soil samples were collected at the surface (i.e., from the upper approximately 6 inches of soil). Surface soil composite samples WT-CS-1 (comprised of soil collected from three locations within the eastern portion of the trench) and WT-TCL (comprised of soil collected from three locations – WT-1, WT-2, and WT-3 within the western portion of the trench) were collected (see Figure 7a). Two discrete depth soil samples were also collected from each of the three locations (WT-1, WT-2, and WT-3) along the western portion of the trench at depths ranging from 1.6 feet to 3 feet bgs. The two composite samples and six discrete samples were analyzed for VOCs. The two surface composite samples and one discrete depth sample from each location (ranging in depths from 2 to 3 feet bgs) were also analyzed for total metals including arsenic, barium, cadmium, chromium, lead, and mercury.

Several VOCs and metals (total) were detected in composite and discrete soil samples collected from the trench. Concentrations of metals (total) in surface composite samples on both the western and eastern side of the trench exceeded current RBCs, while concentrations of VOCs in soil only exceeded current RBC values from samples collected in the western portion of the trench (WT-TCL). VOCs detected in the surface composite sample (WT-TCL) above laboratory reporting limits included PCE (72 mg/kg), toluene (1,500 mg/kg), and xylenes (81 mg/kg) (Table 13). Several VOCs were also identified in the discrete depth samples (generally at lower concentrations than the composite sample) including PCE (up to 14 mg/kg), TCE (up to 0.091 mg/kg), toluene (up to 510 mg/kg), ethylbenzene (up to 7.6 mg/kg), and xylenes (up to 58 mg/kg). With the exception of PCE in one location (WT-3), the concentrations of all detected VOCs were lowest in the deepest sample collected, and none of the deepest samples exceeded RBCs. At location WT-3, PCE was detected at a concentration of 0.63 mg/kg from 2 feet bgs, and 2.78 mg/kg from 3 feet bgs. The composite soil sample from the surface in the eastern portion of the trench contained VOCs at low concentrations, well below RBCs. No discrete depth sampling was conducted in the eastern portion of the trench.

Metals (total) were detected in the composite soil sample from the western extent of the trench (WT-TCL) at the following concentrations: 5.4 mg/kg (arsenic); 2,600 mg/kg (barium); 0.92 mg/kg (cadmium); 10,000 mg/kg (chromium); 50,000 mg/kg (lead); and 1.5 mg/kg (mercury). Total metals were also detected in the composite surface soil sample from the eastern portion of the trench (WT-CS-1), generally at lower concentrations than the western portion: 3.2 mg/kg (arsenic); 120 mg/kg (barium); 1.9 mg/kg (cadmium); 28 mg/kg (chromium); 350 mg/kg (lead); and 0.57 mg/kg (mercury). Each of the metals also was detected in at least one of the six discrete depth samples from the western portion of the trench except for cadmium, at the following maximum concentrations: 4.3 mg/kg (arsenic); 170 mg/kg (barium); 310 mg/kg (chromium); 1,700 mg/kg (lead); and 0.075 mg/kg (mercury). Several of the samples exceeded ODEQ background concentrations for barium, cadmium, chromium and mercury, but the only exceedances of RBCs were for lead (leaching to groundwater, 30 mg/kg; and ingestion/contact/inhalation, 800 mg/kg) and arsenic (ingestion/contact/inhalation, 1.7 mg/kg).

The western portion of the trench was excavated to a total depth of approximately 5 feet bgs, and soil samples were periodically screened during excavation activities with a photoionization detector (PID) for the presence of VOCs. Based on PID readings and absence of staining, the excavation was terminated at a depth of approximately 5 feet bgs, and four

confirmation samples were collected from the base of the excavated portion of the trench. These four samples were composited into two samples ("Composite 1,2" and "Composite 3,4"; Figure 7a) and analyzed for VOCs. PCE, TCE, 1,1,1-TCA, and cis-1,2-DCE were reported at concentrations below the most stringent current soil RBCs. Methylene chloride was detected in both composite samples (0.013 mg/kg and 0.024 mg/kg), but ODEQ has not established RBCs for methylene chloride.⁷ The confirmation samples were not analyzed for metals.

In August 1999, two shallow soil samples (HA-1-1.4' and HA-2)⁸ were collected from beneath a drum storage area north of the wax trench, where incidental ink spills had reportedly been observed on asphalt pavement. The soil samples were obtained from depths of approximately 1.4 feet and 2 feet bgs. The samples were analyzed for VOCs and total metals (1.4 feet bgs) and VOCs only (2 feet bgs). The only VOCs reported above laboratory detection limits were in the sample collected at 2 feet bgs: PCE (0.0342 mg/kg), 1,2,4-trimethylbenzene (1,2,4-TMB; 0.104 mg/kg), and o-xylene (0.017 mg/kg). The reported concentrations are below the most stringent soil RBCs. Arsenic (1.86 mg/kg) and lead (56.9 mg/kg) detected in the sample collected at 1.4 feet bgs exceeded the RBCs for arsenic (ingestion/contact/inhalation; 1.7 mg/kg) and lead (leaching to groundwater; 30 mg/kg). While the arsenic concentration exceeded the RBC, the concentration was below the ODEQ background value (4.44 mg/kg).

Recommendations for Additional Investigation – AOC 8

VOC-impacted soils within the wax trench were laterally confined by the presence of subgrade cement footings, and the soil exhibiting the highest concentrations of VOCs (beneath the western portion of the trench) was removed by excavation. Visual observations during excavation activities and two composite confirmation samples from the bottom of the trench excavation indicate that VOC concentrations in the remaining soil are below the most stringent soil RBCs.

Concentrations in composite and discrete depth samples exceeded RBCs for lead and arsenic, and exceeded ODEQ background values for barium, chromium, cadmium and mercury. Arsenic concentrations appear to be consistent with (or lower than) background soil concentrations for Oregon, arsenic concentrations exceed the current RBC for ingestion/contact/inhalation. Lead concentrations in one discrete depth sample exceeded the RBC for the construction/excavation worker pathway, and lead concentrations in three discrete depth samples exceeded the RBC for the leaching to groundwater pathway. While soil from these depths was excavated as part of the WTA remediation, no metals analyses were performed on confirmation samples from the base of the final excavation.

No groundwater sampling was conducted as part of the wax trench investigations; however, monitoring wells JR-2, and JR-3 (near the PRA [AOC 6]) are located in the presumed downgradient direction from the wax trench area.

⁷ Methylene chloride concentrations were below the USEPA Region 9 I-SSL.

⁸ Locations for HA1-1.4 and HA-2 were not included in reports reviewed by Ramboll Environ.

As discussed in Section 3.4 above, chlorinated VOCs have been identified in groundwater, soil, and soil vapor samples collected from the PRA (AOC 6; downgradient of the wax trench area), and previous environmental reports noted that the source of chlorinated VOC impacts in the PRA was unknown (chlorinated solvents were not known to have been stored in the USTs at the PRA). Therefore, although the VOC concentrations detected in the WTA area were below the most stringent current RBCs, the presence of chlorinated VOCs beneath the wax trench warrants additional investigation to provide better vertical delineation of potential VOC impacts, and to assist in evaluating a potential source of VOC impacts at the downgradient PRA. Although potential risks due to the known exceedances of RBCs (metals, VOCs) are mitigated by several factors (industrial use of the site, concrete and asphalt surfacing which limits potential exposure, and absence of drinking water uses), additional soil and groundwater sampling would provide better delineation of potential VOC and metals in soil beneath the Wax Trench Area and downgradient vicinity. Therefore, Ramboll Environ recommended additional sampling, as discussed further in Sections 4 and 5.

3.7 AOC 9 (Exterior soil staining in vacant field)

Previous Investigation Activities

According to the previous reports, stained soil was observed at three locations in the vacant field (Figure 8) in the southeastern corner of the developed portion of the site when the area was being prepared for use as a soil aeration treatment cell in 1989 (to treat soils excavated from the gasoline UST area, and PRA). Two composite surface soil samples were collected, one from a stained area, and one from an area with no visible stains, and both samples were analyzed for metals (total). The sample from the stained area (AF-1) contained lead (2,900 mg/kg), chromium (590 mg/kg), copper (100 mg/kg), and zinc (90 mg/kg) (Table 15). The sample from the area with no staining (AF-2) contained lower concentrations of lead (1,800 mg/kg), chromium (440 mg/kg), copper (85 mg/kg), and zinc (85 mg/kg). Lead concentrations in both samples exceeded the current soil RBCs for leaching to groundwater (30 mg/kg) and the ingestion/contact/inhalation pathway (800 mg/kg). Chromium and copper concentrations were below the most stringent current soil RBCs, and no RBC has been established for zinc.⁹ Facility personnel have attempted to locate areas of visible staining, and have not identified any stained soil in this area of the site. No staining has been observed by Ramboll Environ during its inspections of this portion of the site.

Recommendations for Additional Investigation – AOC 9

No information has been reviewed documenting releases at any specific location in this area of the site. Potential risks associated with exposure to soil in this part of the site are mitigated by the fact that there are no activities conducted by the facility personnel in this area. However, since lead concentrations exceeding applicable RBCs for site occupants and construction/excavation workers have been identified, additional investigation to evaluate metals impacts in soil is warranted. Accordingly, Ramboll Environ recommended additional investigation to further evaluate metal impacts, as discussed further in Sections 4 and 5.

⁹ There is no RBC for zinc. The USEPA Region 9 Soil-Screening Level (industrial) for zinc is 310,000 mg/kg.

3.8 AOC 10 (Deep groundwater contamination)

Investigation Activities

A deep groundwater aquifer is located beneath the site, beginning at depths of approximately 110 feet bgs, and separated from shallow groundwater (encountered at depths of approximately 9 ft bgs to 19 feet bgs) by a relatively impermeable fine-grained unit identified as the Parkrose Aquitard. Prior to 1989, drinking water at the site was provided by on-site wells that produced from the deep aquifer. A sampling event by the Oregon Health Division in 1989 identified PCE (23 µg/L), TCE (4.6 µg/L), and toluene (4.5 µg/L) in groundwater from the site, and shortly thereafter the use of the drinking water wells ceased, and water service was provided by the City of Portland. Three deep wells continue to be used at the site to provide non-contact cooling water for industrial processes only, and three additional deep groundwater monitoring wells (DW-1, DW-2, and DW-3; Figure 7) were installed at the site in 1991 to evaluate potential impacts to the deep water-bearing zone. The deep monitoring wells were sampled several times from 1991 to 2001, and VOCs detected included PCE, TCE, cis-1,2-DCE, 1,1,1-TCA, 1,2-dichloropropane, 1,1-dichloroethene (1,1-DCE), and 1,1-dichloroethane (1,1-DCA) (Table 16). Over time, the concentrations of the detected VOCs have been relatively stable in the deep monitoring wells, ranging from 3.7 µg/L to 20 µg/L (PCE), 2.3 µg/L to 19 µg/L (TCE), 0.874 µg/L to 4.77 µg/L (cis-1,2-DCE), 1.4 µg/L to 2 µg/L (1,1,1-TCA), and non-detect (<0.5 µg/L) to 1.1 µg/L (1,2-dichloropropane). Both 1,1-DCE and 1,1-DCA were only detected once in DW-3 in 2001. The highest concentration reported in the deep wells is 20 µg/L (PCE, DW-2 in 1993).

In 1990, a preliminary assessment was conducted by Golder and Associates Inc. (GAI) on the nearby Portland Stockyards site, located east of the GPII site. GAI's assessment included groundwater sampling at a number of nearby facilities, and included sampling from deep wells located on the Portland Stockyard site (cross-gradient [east] from the GPII site), and the Heron Lakes Golf Course (upgradient [south] from the GPII site). The GAI report concluded that low levels of chlorinated VOCs were ubiquitous in deep groundwater wells within approximately one-half mile of the Portland Stockyards facility, and that based on the presence of chlorinated VOCs (particularly PCE and TCE) in numerous wells at similar concentrations (generally from approximately 10 µg/L to 20 µg/L), that area-wide impacts existed. Based on sampling conducted as part of the GAI preliminary assessment, and sampling conducted on the GPII site, an obvious source of chlorinated solvent impacts to the deep groundwater zone has not been identified.

Groundwater modeling and water level measurements from the existing three deep monitoring wells at the site indicate that groundwater extraction from the three active production wells at the site results in a significant cone of depression (approximately 4 to 5 feet decrease in head) that creates a trough running in an east/west orientation beneath a large portion of the site. This trough effectively draws in groundwater from the deep groundwater zone from nearby sites to the west, south, and east. Given the location of the three deep monitoring wells (at the northwestern, southern, and southeastern edges of the site), it is likely that the VOCs observed in the deep monitoring wells are related to off-site impacts, particularly since similar VOC concentrations have been observed in other deep wells to the south and east of the site. In the PA for the GPII site (1999), ODEQ noted that the only known uses of groundwater within 1 mile of the site are for industrial purposes. Further, ODEQ concluded that the "100-foot thick, low permeability Parkrose Aquitard that

forms a semi-confining unit over the deep groundwater zone would tend to prevent downward contaminant migration from the shallow to the deep zones. In addition, the widespread occurrence of chlorinated hydrocarbons in deep off-site wells suggests that some or all deeper chlorinated hydrocarbons are from an off-site contaminant source(s)."

Recommendations for Additional Investigation – AOC 10

Based on the results of sampling from deep groundwater wells beneath and in the vicinity of the site, Ramboll Environ concurs with ODEQ's findings as presented in the PA, and suspects that VOC impacts identified in deep groundwater are likely demonstrative of an area-wide issue, and are not related to on-site releases. Although concentrations of PCE and TCE have historically exceeded MCLs and ODEQ RBCs in the deep wells, the only known uses of groundwater within approximately 1 mile of the site are for industrial purposes. Since impacts have been identified at upgradient sites, additional investigation is not warranted for the deep groundwater beneath the GPII site. However, Ramboll Environ recommended that groundwater samples be obtained from the deep monitoring wells as part of a site-wide groundwater monitoring event to provide current data, as discussed in Sections 4 and 5.

3.9 AOC 11 (Historical discharge of industrial and sanitary wastewater to Columbia Slough)

Investigation Activities

From the early 1900s to the late 1970s, industrial and sanitary wastewater was discharged directly to the Columbia Slough. According to the ENSR report, the site was permitted to discharge up to 1 million gallons per day based on a permit obtained in 1967. The facility was connected to the City of Portland sewer in 1977. From approximately 1961 to 1977, the facility used a 30,000-gallon septic tank that was operated as an equalization and chlorinating unit to treat wastewater. The septic unit was decommissioned in 1982. Several releases were reported to the slough, resulting from accidental releases, washing, and pipe breakages until the mid-1980s; however no sampling has been conducted to evaluate potential impacts to surface water. ODEQ concluded in the 1999 PA that although releases to surface water have occurred (including discharges from the septic tank), the volatile nature and low concentrations of the contaminants of concern (e.g., VOCs including toluene, PCE, TCE) has likely resulted in natural attenuation through dilution and degradation.

Recommendations for Additional Investigation – AOC 11

Historic wastewater discharges prior to the site connecting to the City of Portland sewer system may have resulted in releases of contaminants to the Columbia Slough/River, particularly VOCs including toluene, alcohols, ketones, and chlorinated solvents, which have been detected in soil and groundwater elsewhere at the site. Such releases have not been documented at the site since the 1980s, and as concluded by ODEQ, it is likely that the contaminants associated with historic discharges have degraded. Based on the age of the releases and nature of the materials (VOCs), Ramboll Environ did not recommend additional investigation.

3.10 Former IntelliCoat Area

Previous Investigation Activities

The southwestern portion of the site (Figure 1) was leased by other entities (Rexam, IntelliCoat) conducting paper coating operations from approximately 2002 to 2011, when activities ceased and processing equipment was decommissioned. In May 2014, soil from beneath the bottom of a concrete vault that formerly contained a hydraulic piston was exposed during decommissioning activities, and staining/odors were noted. On behalf of GPII, Ramboll Environ collected one soil sample from a depth of approximately 8.5 feet below the concrete floor, and submitted the sample for analysis of petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). No PAHs or PCBs were reported above laboratory reporting limits, but diesel and heavy oil range hydrocarbons were reported at concentrations of approximately 6,100 mg/kg and 47,000 mg/kg, respectively (Table 17). The heavy oil concentration exceeded the ODEQ RBCs for occupational and construction worker exposure scenarios (36,000 mg/kg, and 11,000 mg/kg, respectively).

Recommendations for Additional Investigation – Former IntelliCoat Area

One soil sample collected from beneath a concrete vault exhibited diesel and heavy oil range hydrocarbon concentrations above the current ODEQ RBCs for occupational and construction worker exposure scenarios. Although no PAHs or PCBs were identified in this area, Ramboll Environ recommended additional sampling to evaluate the lateral and vertical extent of petroleum hydrocarbons in soil and potential impacts to groundwater, as discussed further in Sections 4 and 5.

3.11 Summary of Findings from Previous Investigations and Screening Level Assessment

As discussed in the sections above, most contamination identified as a result of the previous investigations has either been remediated (e.g., soil excavation) or has attenuated naturally over time. Based on a screening-level assessment, Ramboll Environ identified a few AOCs where residual concentrations of constituents in soil or groundwater exceeded one or more RBCs/MCLs, and additional investigation could be required to address data gaps (i.e., lateral or vertical delineation, testing for additional parameters) in those areas. Ramboll Environ recommended the following additional investigations:

AOC 1 - ISTA: additional soil sampling to assess vertical and lateral delineation of ethylbenzene, toluene, and PCE in soil beneath and/or adjacent to former USTs.

AOC 3 – Former Diesel UST: additional groundwater sampling to assess potential groundwater impacts adjacent to a closed-in-place diesel UST.

AOC 4 – Former Dry Well: visual and geophysical survey to evaluate the potential location of a former dry well.

AOC 5 - USTA: additional soil and groundwater sampling to assess vertical and lateral delineation of VOCs in soil and groundwater near former USTs.

AOC 8 - WTA: additional soil and groundwater sampling to assess vertical and lateral delineation of VOCs and metals in soil, and VOCs in groundwater near the WTA.

AOC 9 – Vacant Field: additional surface soil sampling to assess potential metals impacts in soil at the vacant field.

Former IntelliCoat Area: additional soil and groundwater sampling to assess lateral and vertical extent of diesel and heavy oil range hydrocarbons in soil and groundwater in the vicinity of a concrete vault.

A summary of Ramboll Environ's scope of work to conduct the additional sampling recommended above is provided in Section 4. Results of the additional investigation are provided in Section 5. As discussed above, Ramboll Environ also recommended sampling all existing wells (if accessible) to obtain current groundwater data across the site. Accordingly, Section 5 also includes the results of groundwater sampling from the wells, including results for wells located in AOCs where no sampling was otherwise recommended (i.e., AOC 2, AOC 6, AOC 7, AOC 10).

4. SITE INVESTIGATION: SCOPE OF WORK AND SAMPLING METHODS

Ramboll Environ recommended conducting additional investigation activities at select AOCs (as described in Section 3), based on its screening level assessment. Ramboll Environ conducted a limited soil and groundwater investigation from August 18 to August 22, 2014. A supplementary sampling event (conducted in the Vacant Field Area) was conducted on April 7, 2015. The scope of work consisted of several tasks, including a site reconnaissance, project coordination/mobilization, conducting a geophysical survey, sampling of existing groundwater monitoring wells (shallow and deep), advancement of soil borings and collection of soil and groundwater samples, and surface soil sampling, as described below.

4.1 Site Reconnaissance

Ramboll Environ conducted site wide reconnaissance prior to sampling activities to identify existing monitoring well locations at the site, evaluate their condition and accessibility for sampling, and survey the areas where additional soil and/or groundwater sampling was proposed. During the site reconnaissance, Ramboll Environ identified potential drilling locations and discussed potential logistical constraints/access limitations with facility personnel. Monitoring wells JR-10 and JR-14 could not be located, and monitoring well JR-3 could not be accessed (well cover could not be removed to access well). Monitoring wells JR-6, JR-8, and JR-9 were observed to be located behind a fence on property not owned by GPII, and were inaccessible. Monitoring well JR-11 (located to the south of JR-15) has been abandoned. Monitoring well JR 17 was not sampled because it was not sealed with a well cap, and run-off precipitation from the surrounding asphalt had filled the well casing. Monitoring well JR-19 was located and confirmed to have been converted to a vapor extraction well, and therefore it was not sampled.

4.2 Project Coordination/Mobilization

Prior to conducting sampling activities, Ramboll Environ prepared a site-specific health and safety plan (HASP) to minimize exposure of Ramboll Environ field personnel and subcontractors to potentially hazardous chemicals as well as physical hazards. Blaine Tech Services was contracted to assist in purging and sampling of existing monitoring wells from Monday, August 18, 2014 to Wednesday, August 20, 2014. Ramboll Environ notified Dig-Alert to identify the location of subsurface utilities, and retained a private utility locating firm (Pacific Geophysics) to clear the proposed sampling locations for drilling on Tuesday, August 19, 2014. Ramboll Environ contracted with licensed drillers (ESN Northwest, and Cascade Drilling Incorporated) to conduct truck mounted drilling and limited-access direct push drilling operations between Wednesday, August 20, 2014 and Friday, August 22, 2014. Ramboll Environ conducted additional sampling using hand sampling equipment on April 7, 2015. Ramboll Environ retained ESN Northwest and TestAmerica, Inc., to perform laboratory analytical services.

4.3 Geophysical Survey (AOC 4, Former Dry Well near JR-15; and Diesel UST)

Pacific Geophysics conducted a geophysical survey using ground penetrating radar (GPR), and electromagnetic induction instruments to investigate potential location of a dry well in the vicinity of the former monitoring well JR-15, and to identify the location of a closed-in-place 20,000-gallon diesel tank (AOC 3). Based on the geophysical survey, an area

measuring approximately 6 feet by 6 feet was identified, near the former Solvent Recovery Area in close proximity to well JR-15 that exhibited readings that could suggest the presence of a subsurface feature such as a dry well. Alternatively, the anomalous readings could indicate the presence of backfill material (for example, if a feature was removed in the past). The anomaly corresponds to a circular asphalt patch on the ground surface. No sampling was conducted in this area.

Pacific Geophysics also identified the location of an approximately 20,000-gallon diesel tank that was closed-in-place in 1998. As discussed in Section 4.4, a groundwater sample was obtained from a boring advanced adjacent to the closed-in-place UST.

4.4 Groundwater Level Measurement and Sampling of Existing Wells

Ramboll Environ measured groundwater levels and collected samples from each of the accessible monitoring wells on-site. As noted above, the following wells were not sampled: JR-3, JR-6, JR-8, JR-9, JF-10, JR-11, JR-17, and JR-19. At each of the accessible wells, groundwater levels were measured to the nearest 0.01 inch using an electronic measuring device. Water levels were measured using the top of each well casing as a reference point (Table 19). After measuring groundwater levels, each well was purged, and groundwater parameters (including temperature, pH, conductivity, oxidation/reduction potential [ORP], and dissolved oxygen) were recorded on a YSI Sonde 556 Multimeter. Shallow wells were purged/sampled using a peristaltic pump, and sections of new, disposable polyethylene tubing. The deep wells were purged/sampled using a Grundfos pneumatic bladder pump, and new, disposable polyethylene air delivery and groundwater purge lines. All reusable equipment (i.e., pump housing, air bladders) were decontaminated before each use by triple washing (Liquinox/Liquinox/distilled water). Upon reaching stabilization of each parameter during purging (i.e., 3 consecutive readings \pm 10%, consistent with low-flow sampling methods), groundwater samples were collected, including the following quality control samples: one trip blank for each day of sampling (TB-1, TB-2); two duplicates (JR-50 and JR-70 from wells JR-5 and JR-7, respectively); and one equipment rinsate blank from the deep well bladder pump sampling equipment (EB-1). All groundwater samples were collected directly into laboratory provided containers with the appropriate preservative, labeled, packaged on ice, and delivered under chain-of-custody procedures to ESN Northwest, for analysis of VOCs by USEPA Method 8260B.

4.5 Installation and Sampling of Soil Borings and Temporary Groundwater Probes (Task 3)

Between August 20 and August 22, 2014, Ramboll Environ advanced 35 soil borings using direct-push equipment. On April 7, 2015, soil samples were collected from an additional 8 locations in the Vacant Field Area using hand driven sampling equipment (hand auger). Continuous soil cores were collected and logged at each soil boring location in accordance with the Unified Soil Classification System (USCS), and soil cores were screened for the presence of organic vapors using a photoionization detector (PID).

At each boring location, soil samples were collected from discrete depth intervals targeting specific depths where prior sampling identified impacts (e.g., for borings advanced for purposes of lateral or vertical delineation) or at intervals exhibiting the highest elevated PID readings or other evidence of impacts (e.g., staining, odors). At a minimum (i.e., if no signs of impacts were noted), one soil sample was collected from each five foot interval advanced.

Soil samples were collected from split acetate liners and placed directly into laboratory provided containers (two 35 milliliter [mL] volatile organic analysis [VOA] bottles containing approximately 1.5 mL methanol preservative, and one unpreserved 4 ounce glass jar per sample. Sample containers were immediately labeled, placed on ice, and delivered under chain-of-custody procedures to ESN Northwest (August 2014 sampling) or TestAmerica, Inc. (April 2015 sampling). Aliquots of soil from the sampled intervals were also placed in Ziploc bags for obtaining headspace PID readings, which were recorded in a field book. Soil samples were analyzed for one or more of the following: VOCs by USEPA Method 8260B; diesel-range petroleum hydrocarbons by Method NWTPH-Dx; Resource Conservation and Recovery Act (RCRA) 8 Metals by USEPA Method 6000/7000 Series.¹⁰

At borings where temporary groundwater grab samples were obtained, after advancing the soil boring approximately 3 to 5 feet into the saturated zone, a 5 foot PVC screen was installed at the bottom of the boring, with blank casing extending to the ground surface. A peristaltic pump and disposable polyethylene tubing were then used to obtain a grab groundwater sample from the temporary probe. Groundwater samples were placed directly into three 35mL VOA bottles containing approximately 1.5 mL hydrochloric acid (HCl) preservative for VOC analyses by USEPA Method 8260B. At select locations, groundwater was also captured in a 500 mL amber glass bottle for analysis of diesel-range petroleum hydrocarbons by Method NWTPH-Dx.

¹⁰ Soil samples collected during the supplementary event in April 2015 were only analyzed for arsenic and lead.

5. SITE INVESTIGATION AND SAMPLING RESULTS

This section presents the results of site-wide groundwater monitoring, and results of investigative efforts within each AOC at the site.

5.1 Groundwater Monitoring (Existing Wells)

The majority of wells at the site were constructed with 2-inch diameter PVC. However, shallow monitoring wells in the northwest area of the site (JR-12, JR-20, JR-21, JR-22) consisted of a ¾-inch PVC pipe set within a 2-inch diameter PVC pipe. Generally speaking, these wells were noted to contain more silt than other wells at the site, and required additional effort to purge to remove fines. In addition, monitoring wells JR-20 and JR-21 were purged dry (producing only 1,200 mL and 600 mL of groundwater, respectively), and were slow to recharge. After purging dry, neither well recharged sufficiently to allow for sampling on the same day. Therefore, each well was sampled (without purging) the following day with no additional purging. In the remaining wells, water quality parameters stabilized quickly (e.g., within approximately 20 minutes), and produced clear, low-turbidity groundwater. Groundwater samples were colorless, except for monitoring well JR-4, which was a distinct dark rusty-brown. No odors were identified during groundwater sampling.

Groundwater was encountered at depths ranging from approximately 9.18 to 18.68 feet below ground surface in the existing shallow monitoring wells (Table 19). Using the top-of-casing elevations noted in previous environmental reports for the site, groundwater elevations ranged from approximately 8.67 to 14.34 feet above mean sea level. Based on a review of previous groundwater monitoring results, the most recent groundwater elevations are similar to previous investigations, but slightly higher (approximately one foot) than previous sampling events that occurred during summer months.¹¹ While Ramboll Environ collected groundwater measurements from wells within or near most AOCs at the site, due to several wells that were not located, not accessible, or for which no survey data was available, Ramboll Environ's ability to use the existing data set to determine shallow groundwater flow directions at the site is limited; groundwater elevation contour maps are therefore not included in this report. However, based on general similarities with past monitoring data, it appears that the shallow groundwater flow direction is predominantly to the northeast, towards the Columbia River.

Groundwater samples from each of the shallow monitoring wells were analyzed for VOCs. In summary, the only analytes that were detected above laboratory reporting limits in shallow groundwater monitoring wells were 1,2,4-trimethylbenzene (1,2,4-TMB; JR-24 and JR-27), cis-1,2-DCE (JR-2, JR-12, JR-22, and JR-23), cumene (JR-27), n-propylbenzene (JR-24, JR-27), PCE (JR-1, JR-16) and toluene (JR-24) (Table 20). None of the detected analytes exceeded any of their respective RBCs or MCLs. These groundwater results are further discussed in the sections below, along with other soil and groundwater results from sampling

¹¹ The groundwater elevation for JR-22 appeared to be significantly elevated (approximately 6 feet higher) when compared to previous sampling events. Additionally, this groundwater elevation is anomalously high (approximately 1.5 to 3.5 feet higher) when compared to nearby, presumed upgradient, groundwater elevations at JR-12 and JR-21. Due to the location of JR-22 on a grassy landscaped area, it is possible that this well is influenced by irrigation water.

efforts conducted in the various AOCs that are in proximity to the individual monitoring wells.

The deep groundwater bearing unit is not encountered until approximately 110 feet below ground surface, and is under hydraulic pressure due to the presence of the overlying confining unit (Parkrose Aquitard). Due to the aquifer pressure, the water level in the wells screened within the deep zone rise to near the ground surface - measured depths in the deep monitoring wells ranged from 15.37 to 30.41 feet below ground surface. Using the top-of-casing elevations noted in previous environmental reports for the site, groundwater elevations in the deep zone wells range from approximately 7.88 to 8.15 feet above mean sea level. This potentiometric head (i.e., the observed water level in each well) is approximately 0.5 feet lower than the lowest groundwater elevation noted in the shallow zone monitoring wells. While similar, the lower potentiometric head values and the absence of any response in shallow wells to pumping in the deep zone (versus clear response in the deep zone wells) provides evidence that the two zones are hydraulically isolated from each other by the low permeability, fine-grained sediments that comprise the Parkrose Aquitard. Based on the calculated groundwater elevations, the inferred groundwater flow direction in the deep groundwater is to the northeast, similar to historic reports (Figure 10). Several VOCs, consistent with historical sampling events, were detected above laboratory reporting limits in deep groundwater samples, as discussed in Section 5.12.

5.2 AOC1 (Intermediate Storage Tank Area)

Nine soil borings (AOC1-01 to AOC1-09) were advanced to depths up to 15 feet bgs in the ISTA (Figure 2a). Borings were located between and adjacent to existing tank supports (aboveground tanks have been removed) near former borings A, B, B-2A and B-4. Soil samples were collected at depths of approximately 2, 5, and 10 feet bgs. Samples collected at depths of approximately 2 and 5 feet bgs were intended to investigate the lateral extent of previously identified impacts, and the deeper samples were intended to investigate the vertical extent of impacts. One temporary groundwater probe (AOC1-10) was installed to the west of the soil sampling area in the vicinity of the monitoring well JR-10 (a previously installed well that could not be located during the field event; Figure 2b). Four existing monitoring wells in the vicinity of AOC1 were also sampled (JR-12, JR-20, JR-21, and JR-22). Soil and groundwater samples were analyzed for VOCs.

Twenty-seven soil samples were collected. At each of the sampling locations, soils consisted of silty sands to depths of approximately 10 feet bgs, where the soil graded to a sandy silt. Six constituents were detected in soil above laboratory reporting limits (toluene [0.05 to 1.6 mg/kg], ethylbenzene [0.05 to 0.19 mg/kg], xylenes [0.22 to 0.72 mg/kg], 1,2,4-TMB [0.16 to 0.23 mg/kg], 1,3,5-TMB [0.05 to 0.07 mg/kg], and styrene [0.27 mg/kg]), but none were detected at concentrations exceeding ODEQ RBCs for soil (Table 1). PCE (which was detected at concentrations ranging from 0.3 to 3.1 mg/kg in sampling conducted in 1989) was not detected above laboratory reporting limits in soil samples collected during the 2014 sampling event. At borings where VOCs were detected, the concentration in the deepest sample (10 feet) was lower than the shallower samples in all cases.

The only constituents detected above laboratory reporting limits in groundwater samples collected in the vicinity of AOC 1 were cis-1,2-DCE (1.4 to 5.2 µg/L), toluene (3 µg/L), and xylenes (3.7 µg/L) (Table 2). The concentrations of cis-1,2-DCE in monitoring wells JR-12

(3.8 µg/L) and JR-22 (5.2 µg/L) are both slightly less than the previous results for those wells (5.07 µg/L and 6.76 µg/L, respectively). The detected cis-1,2-DCE concentration in AOC1-10 (1.4 µg/L) is similar to previous results from monitoring well JR-10 (4.0 µg/L in 1990 and less than 1 µg/L in 1992), which is believed to be located in the vicinity of AOC1-10. None of the detections exceeded any ODEQ RBCs (direct contact, inhalation/ingestion, or vapor intrusion), or MCLs for groundwater.

5.3 AOC2 (Solvent Recovery Area)

No soil sampling was conducted in the vicinity of the SRA. Monitoring well JR-15, located immediately east of the SRA was analyzed for VOCs, and no constituents were detected above laboratory reporting limits.

5.4 AOC3 (20,000 Gallon Diesel UST)

One temporary groundwater probe was installed approximately 5 feet east of the closed-in-place UST (Figure 2b). One grab groundwater sample was collected and analyzed for VOCs and diesel range hydrocarbons (TPH-d). No constituents were detected above laboratory reporting limits (Table 4).

5.5 AOC4 (Former Dry Well)

No soil sampling was conducted in the vicinity of the former dry well. One existing monitoring well (JR-15) is located adjacent to the SRA and the former drywell. A groundwater sample was collected from this monitoring well and analyzed for VOCs as part of the site-wide groundwater sampling activities. No VOCs were detected above laboratory reporting limits.

5.6 AOC5 (Underground Storage Tank Area—USTA)

Nine soil borings (AOC5-01 to AOC5-09) were advanced to depths up to 15 feet below the concrete slab floor in the former USTA, inside the former IntelliCoat area (Figure 4a). Ramboll Environ attempted to advance a tenth soil boring, but refusal was encountered at a depth of approximately 2 feet below the concrete floor. No soil borings were advanced adjacent to wells JR-18/JR-19 because that area was not accessible with the drill rig. Borings were not advanced between JR-24 and JR-25 because potential drilling locations could not be cleared for drilling due to the presence of subsurface features identified during the geophysical survey. At the nine accessible boring locations, soil samples were obtained at depths exhibiting potential impacts (i.e., PID readings, staining, odor) or from the base of each five foot interval (i.e., between 0 to 5; 5 to 10, and 10 to 15 feet bgs) if no evidence of impacts was noted. Five temporary groundwater probes were also installed (three of which were collocated with soil borings [AOC5-01, AOC5-06, AOC5-07], and two of which were in unique locations with no accompanying soil samples [AOC5-10 and AOC5-11]; Figure 4b). Groundwater samples were collected from seven existing monitoring wells in the vicinity of the USTA (JR-16, JR-18, JR-23, JR-24, JR-25, JR-26 and JR-27). Soil and groundwater samples were analyzed for VOCs.

A total of twenty-eight soil samples were collected in the former USTA at depths ranging from approximately 3 feet to 14.75 feet below the concrete floor (Figure 4a). Soil conditions beneath the USTA included silty sand to approximately 5 feet below the concrete floor, grading into silt. Nine compounds were detected in soil above laboratory reporting limits,

including benzene (0.07 to 0.58 mg/kg), toluene (0.08 to 390 mg/kg), cumene (0.06 mg/kg), 1,2,4-TMB (0.06 to 0.16 mg/kg), ethyl benzene (0.19 to 0.43 mg/kg), naphthalene (0.11 to 0.15 mg/kg), n-propylbenzene (0.05 to 0.06 mg/kg), PCE (0.03 to 0.20 mg/kg), and xylenes (0.36 to 1.4 mg/kg) (Table 5). Of these detections, the only analyte that exceeded any RBC was benzene. Three detections of benzene exceeded ODEQ's RBC for leaching to groundwater (0.053 mg/kg): AOC5-01 at 11.5 feet bgs (0.47 mg/kg); AOC5-02 at 11.5 feet bgs (0.58 mg/kg); and AOC5-08 at 6 feet bgs (0.07 mg/kg). Benzene concentrations were below the RBC for vapor intrusion into buildings.

Historically, thirteen constituents had been detected above laboratory reporting limits in groundwater samples from wells in the USTA vicinity (PCE, cis-1,3-dichloropropane, toluene, xylenes, 1,2,4-TMB, naphthalene, cis-1,2-DCE, 1, 3, 5-TMB, benzene, ethylbenzene, cumene, vinyl chloride and n-propylbenzene). Nine of those same thirteen constituents were detected above laboratory reporting limits in the 2014 sampling event: PCE (2.2 µg/L), toluene (380 µg/L), xylenes (17 to 90 µg/L), 1,2,4-TMB (4.6 to 18 µg/L), cis-1,2-DCE (1.9 µg/L), 1, 3, 5-TMB (2.2 µg/L), benzene (1.4 to 68 µg/L), ethylbenzene (6.2 to 59 µg/L), cumene (2.3 to 19 µg/L), and n-propylbenzene (1.8 to 3.1 µg/L) (Table 6). Only benzene and ethylbenzene were detected above ODEQ RBCs or MCLs. The benzene concentration in AOC5-01 (68 µg/L) exceeded the USEPA MCL (5 µg/L) and the ODEQ RBC for ingestion/inhalation (2.2 µg/L). Benzene in AOC5-06 (2.4 µg/L) exceeded the ODEQ RBC for ingestion/inhalation only. The ethylbenzene concentration in AOC5-01 (59 µg/L) exceeded the ODEQ RBC for ingestion/inhalation (7.8 µg/L). None of the detections exceeded the respective RBCs for vapor intrusion. There were no exceedances of RBCs or MCLs for any constituents in the existing monitoring wells that were sampled in this area.

5.7 AOC6 (Press Room Area—PRA)

No soil sampling was conducted in the vicinity of the PRA. Groundwater samples were collected from monitoring wells JR-1 and JR-2 (Figure 5b), located immediately southeast and southwest of the PRA (monitoring well JR-3 was inaccessible as the well cover was stuck in place and could not be opened). Groundwater samples were analyzed for VOCs, and the only analytes detected above laboratory reporting limits were PCE (2.1 µg/L, JR-1) and cis-1,2-DCE (1.6 µg/L, JR-2). The detected concentrations are well below the most stringent groundwater RBCs (ingestion/inhalation, PCE: 64 µg/L; cis-1,2-DCE: 290 µg/L) and MCLs (PCE: 5 µg/L; cis-1,2-DCE: 70 µg/L).

5.8 AOC7 (Former Gasoline UST)

No soil sampling was conducted in the vicinity of the former gasoline UST. Monitoring wells JR 4, JR-5, and JR-7, located north (JR-4) and immediately southwest (JR-5 and JR-7) of the former gasoline UST were analyzed for VOCs, and no constituents were detected above laboratory reporting limits (Figure 6b).

5.9 AOC8 (Wax Trench Area)

Four soil borings were advanced to depths up to 15 feet bgs in the WTA (Figure 7a), adjacent to the trench where historic investigations identified VOCs and metals in soil. A total of sixteen soil samples were collected from four borings along the northern margin of the trench at depths of approximately 0.5, 2, 4, and 8 feet bgs. Borings could not be located within the footprint of the trench due to the presence of several underground utilities that were identified during the geophysical survey. Additionally, two temporary groundwater

probes were installed: one collocated with soil boring AOC8-03, and one in the presumed down-gradient direction, towards the Press Room Area (AOC8-01; Figure 7b). Soil samples were analyzed for RCRA 8 Metals (arsenic, barium, cadmium, chromium, lead, copper, mercury and zinc) and VOCs. Groundwater samples were analyzed for VOCs.

Historically, several constituents had been detected in soil samples collected in the WTA, including VOCs (methylene chloride, PCE, TCE, toluene, ethylbenzene, xylenes, 1,1,1-TCA, cis-1,2-DCE, and 1,2,4-TMB) and total metals (barium, chromium, lead, arsenic, mercury, and cadmium). Only seven of those constituents were detected above laboratory reporting limits in the 2014 sampling event: PCE (0.02 to 0.90 mg/kg), TCE (0.04 mg/kg), toluene (0.07 mg/kg), barium (84 to 320 mg/kg), chromium (12 to 27 mg/kg), lead (5.7 to 1,200 mg/kg), and arsenic (1.4 to 4.2 mg/kg) (Table 13). Of these detections, the only constituents that exceeded RBCs were lead and arsenic. Lead concentrations exceeded the leaching to groundwater RBC (30 mg/kg) in five soil samples (AOC8-02 through AOC8-05 at 0.5 feet bgs and also at AOC8-04 at 2 feet bgs), and exceeded the RBCs for ingestion/inhalation/contact (occupational, construction worker, and excavation worker; 800 mg/kg) in one sample (AOC8-03 at 0.5 ft bgs). For arsenic, twelve of the sixteen samples exceeded the RBC for ingestion/inhalation/contact (1.7 mg/kg), including the deepest samples collected as part of the investigation.

Five constituents were detected above laboratory reporting limits in the two groundwater samples collected in the WTA vicinity: 1,2,4-TMB (3.6 µg/L), cis-1,2-DCE (7.2 µg/L), PCE (1.1 µg/L), toluene (4.6 µg/L), xylenes (3.5 µg/L) (Table 14). None of these constituents were detected above ODEQ RBCs or MCLs.

5.10 AOC9 (Vacant Field)

Surface soil samples were collected from a depth of approximately 0.5 feet bgs at six locations across the vacant field (southeast corner of the developed portion of the site; Figure 8), where historic investigations identified elevated metals (total) in soil. Surface soil samples were analyzed for RCRA 8 metals. Copper and zinc were detected above laboratory reporting limits in each sample, at concentrations below RBCs. Arsenic, barium, cadmium, chromium, and lead concentrations were not detected at concentrations above laboratory reporting limits except for the sample at AOC9-06 (Table 15). This sample had detections of arsenic (12 mg/kg), barium (280 mg/kg), cadmium (1.1 mg/kg), chromium (29 mg/kg), and lead (160 mg/kg). The arsenic concentration exceeded the RBC for ingestion/inhalation/contact (1.7 mg/kg) and the lead concentration exceeded the RBC for leaching to groundwater (30 mg/kg). Arsenic, cadmium, copper, lead, and zinc also exceeded their ODEQ mean background concentration for metals in that sample (4.44 mg/kg, 0.387 mg/kg, 24.19 mg/kg, 27.2 mg/kg, and 104.9 mg/kg respectively).

To further evaluate lead and arsenic concentrations near AOC9-06, on April 7, 2015, Ramboll Environ collected additional surface soil samples and samples from approximately 1.5 feet bgs from eight locations to the north, east, south, and west of location AOC9-06 (Figure 8). Soil samples from these additional locations were analyzed only for arsenic and lead. Arsenic and lead concentrations in the additional surface soil samples ranged from 2.8 mg/kg to 3.4 mg/kg, and 21 mg/kg to 74 mg/kg, respectively. Arsenic and lead concentrations in the additional soil samples from 1.5 ft bgs ranged from 2.7 mg/kg to 6.7 mg/kg, and 19 mg/kg to 110 mg/kg, respectively. The arsenic concentration in each soil sample exceeded the RBC

for ingestion/inhalation/contact (1.7 mg/kg). The lead concentration in all but one of the surface soil samples, and 5 of the 8 samples from 1.5 ft bgs exceeded the RBC for leaching to groundwater (30 mg/kg).

5.11 Former IntelliCoat Area (Excavated Vault)

Four soil borings (INT-01 to INT-04) were advanced to depths up to 15 feet bgs adjacent to the former in-ground hydraulic lift vault (Figure 9a), where previous sampling by Ramboll Environ in 2014 had identified elevated petroleum hydrocarbon concentrations. Soil samples were collected at depths of approximately 8.5, 10.5, and 15 feet bgs from each of the four borings. Two temporary groundwater probes were installed in borings INT-02 and INT-04. A groundwater sample was obtained from INT-04, but the temporary groundwater probe at location INT-02 did not produce sufficient groundwater for sampling. Soil samples from the former IntelliCoat area were analyzed for VOCs, diesel-range and heavy oil-range hydrocarbons, and RCRA 8 Metals. The groundwater sample was analyzed for VOCs and diesel-range and heavy oil-range hydrocarbons.

The results of analytical testing identified nine constituents in soil above laboratory reporting limits, including arsenic (1.8 to 5.1 mg/kg), barium (110 to 310 mg/kg), chromium (12 to 39 mg/kg), ethylbenzene (0.09 mg/kg), lead (6.8 to 39 mg/kg), TPH lube oil (190 to 4,600 mg/kg), PCE (0.05 to 0.06 mg/kg), toluene (0.07 mg/kg), and xylenes (0.17 to 0.36 mg/kg) (Table 17). TPH (diesel range) was not detected above laboratory reporting limits. Only arsenic and lead were detected above ODEQ RBCs. Arsenic concentrations exceeded the ODEQ occupational RBC for ingestion/inhalation/contact (1.7 mg/kg) in all twelve samples, and lead concentrations in two samples (31 mg/kg at INT-01, 8.5 feet bgs; and 39 mg/kg at INT-04, 8.5 feet bgs) slightly exceeded the RBC for leaching to groundwater (30 mg/kg). Several lead and arsenic concentrations also exceeded ODEQ background metals concentration (27.2 mg/kg for lead; 4.44 mg/kg for arsenic).

Petroleum hydrocarbons were not detected above laboratory reporting limits in the groundwater collected from INT-04. VOCs including toluene (1.5 µg/L), TCE (4.7 µg/L), cis-1,2-DCE (6.6 µg/L), and 1,2,4-TMB (2.4 µg/L) were detected above laboratory reporting limits, and of these, the only constituent that exceeded any groundwater RBC was TCE (ingestion/inhalation, 3.6 µg/L) (Table 18). The TCE concentration was well below the RBC for vapor intrusion (3,300 µg/L).

5.12 Deep Wells (AOC 10)

Historical groundwater sampling events have identified CVOCs including PCE, TCE, cis-1,2-DCE, 1,1,1-TCA, 1,2-dichloropropane, chloroform, 1,1-dichloroethene (1,1-DCE), and 1,1-dichloroethane (1,1-DCA) in deep groundwater beneath the facility. The only VOCs detected above laboratory reporting limits in the 2014 sampling event were PCE, TCE, cis-1,2-DCE and chloroform. PCE concentrations in each of the three deep wells (5.2 µg/L, 8.1 µg/L, and 10 µg/L for DW-1, DW-2 and DW-3, respectively) exceeded the MCL, but did not exceed any RBC. TCE concentrations in DW-1 (4.3 µg/L) exceeded the RBC for ingestion/inhalation, and the concentration in DW-2 (8.4 µg/L) exceeded both the RBC and the MCL. The detection of chloroform (1.4 µg/L) in DW-1 slightly exceeded the RBC (ingestion/inhalation), and the cis-1,2-DCE concentrations were below RBCs and the MCL. None of the detected concentrations exceeded the respective RBC for vapor intrusion.

6. DISCUSSION

As detailed in Section 3 of this report, previous investigations conducted in several AOCs that were historically identified at the site did not identify residual concentrations in soil, soil vapor or groundwater at concentrations above respective RBCs or MCLs. Therefore, Ramboll Environ did not recommend additional investigation in several AOCs (specifically: AOC2, AOC6, AOC7, and AOC11) and those AOCs are therefore not discussed in this section. A discussion of the results from additional investigations conducted by Ramboll Environ in AOC 1, AOC 3, AOC 4, AOC 5, AOC 8, AOC 9, AOC 10 and the IntelliCoat area is provided below.

6.1 AOC1 (Intermediate Storage Tank Area)

Soil samples were collected in the former ISTA near former borings A, B, B-2A, and B-4 to evaluate the lateral and vertical extent of elevated VOCs (including PCE, toluene, xylene and ethylbenzene) in soil (Figure 2a). Historic sampling identified ethylbenzene and xylene that exceeded RBCs for soil at depths up to 2 feet bgs, at locations where deeper samples had not yet been collected. Elevated concentrations of PCE and xylene (at depths of approximately 1.5 feet bgs) that were not vertically delineated were also identified in historic sampling, although concentrations were below respective RBCs.

The results of soil sampling in AOC 1 identified low concentrations (i.e., below all applicable RBCs) of one or more of the following VOCs in at least one soil sample from each boring location except AOC1-06: toluene, ethylbenzene, xylene, 1,2,4-TMB, 1,3,5-TMB, and styrene. No analytes were reported above laboratory detection limits in samples from AOC1-06. With the exception of AOC1-05 and AOC1-09, the deepest sample from each boring did not contain any analyte above laboratory reporting limits. In AOC1-05 and AOC1-09, the only analyte detected in the deepest soil sample (from approximately 10 feet bgs) was toluene (0.09 mg/kg and 0.05 mg/kg, respectively). Based on the recent data, although concentrations of a few VOCs were detected in all but one boring, all detections were well below RBCs and with the exception of two borings, do not extend deeper than approximately 5 feet bgs. Based on the very low residual concentrations, remaining impacts are not anticipated to pose an unacceptable risk to current or future site occupants, and no additional investigation or remediation of soil is required.

Groundwater samples were collected from existing wells (JR-12, JR-20, JR-21, and JR-22) and a temporary groundwater probe installed in the vicinity of the ISTA to evaluate current groundwater VOC concentrations. In the groundwater samples collected from the vicinity of AOC1, no analytes were detected above laboratory reporting limits in the wells located east of the ISTA (JR-20, JR-21). Low concentrations of cis-1,2-DCE were detected in wells located downgradient (JR-12, JR-22), as well as the temporary probe (AOC1-10) to the west (cross-gradient). Toluene and xylene were also detected above laboratory reporting limits in the temporary probe. All of the detected concentrations were well below applicable RBCs and MCLs. Based on the recent groundwater data, VOCs that were historically detected in groundwater have attenuated such that in an industrial site use scenario, groundwater no longer poses an unacceptable significant risk to current or future site occupants. No additional investigation or remediation of groundwater in this area is required.

6.2 AOC 3 (20,000 Gallon Diesel UST)

During decommissioning activities for the 20,000-gallon diesel UST, groundwater samples were collected from the western and northern sides of the tank, but no groundwater sampling was conducted to the northeast of the UST, in the presumed downgradient direction. Detected concentrations in groundwater samples collected from the western and northern sides of the tank were limited to toluene at concentrations of 0.6 µg/L (north) and 2 µg/L (west). Ramboll Environ collected one groundwater sample from a temporary groundwater probe approximately 5 feet east of the edge of the UST (as identified by the geophysical survey). No petroleum hydrocarbons or VOCs were detected above laboratory reporting limits. Groundwater results from this area indicate that petroleum hydrocarbons and VOCs are not detected in shallow groundwater above regulatory criteria, and therefore do not pose a significant risk to current or future site occupants. No additional investigation or remediation is recommended.

6.3 AOC 4 (Drywell near JR-15)

Based on the results of the geophysical survey, the potential location of the former dry well was identified in a small area located adjacent to the former boiler house. During Ramboll Environ's geophysical survey, a subsurface anomaly was identified in a circular area, approximately 6 feet in diameter, in the suspected location of the former dry well. This circular anomaly corresponded to a circular surface asphalt patch, and is located in close proximity to monitoring well JR-15. A groundwater sample from JR-15 was analyzed for VOCs as part of the recent sampling event, and no analytes were detected above laboratory reporting limits. Since the area is currently not in use (except as a driveway), is covered with asphalt, and groundwater does not appear to be impacted, it does not appear that the former dry well represents an environmental concern, and no additional investigation or remediation is recommended.

6.4 AOC5 (Underground Storage Tank Area—USTA)

Soil and groundwater samples were collected in the former USTA to investigate the lateral extent (to the east) and vertical extent of VOC impacts (particularly toluene) in soil and groundwater, from historic releases from USTs. Previous investigations conducted in 1990, in association with UST decommissioning efforts had identified relatively low concentrations of toluene in soil (highest detection was 17 mg/kg, well below the most stringent soil RBC [24,000 mg/kg]). However, groundwater sampling at that time identified toluene in groundwater as high as 29,000 µg/L, in excess of the MCL and RBC (ingestion/inhalation). Additional wells were installed to the east of the former USTs, and elevated toluene concentrations (up to 400,000 µg/L) were identified in groundwater east of the former USTs. Given the historic presence of toluene in groundwater at such elevated concentrations east of the USTs, and the relatively low concentrations in soil observed near the USTs, additional investigation was conducted to evaluate the potential presence of toluene or other VOCs in soil and groundwater to the east of the USTs, and to depths up to 15 feet below the floor surface.

Ramboll Environ analyzed 29 soil samples for the presence of VOCs, and toluene was detected above laboratory reporting limits in 19 of the samples (none of the detections exceeded the most stringent soil RBC). With the exception of two samples, the detected toluene concentrations were less than 10 mg/kg. Soil samples from two locations (AOC5-04, 5 feet below the floor; and AOC5-08, 6 feet below the floor) exhibited relatively elevated

toluene concentrations (230 mg/kg and 390 mg/kg, respectively). At both locations, toluene concentration observed in the deeper sample (10 feet at AOC5-04, and 11 feet at AOC5-08) were approximately three orders of magnitude lower (0.26 mg/kg and 0.79 mg/kg, respectively). Other VOCs detected in soil included benzene, ethylbenzene, xylene, PCE, cumene, 1,2,4-TMB, naphthalene, and n-propylbenzene. Benzene was the only constituent detected above RBCs. Benzene was detected in three borings (AOC5-01, AOC5-02, AOC5-08) at concentrations ranging from 0.07 mg/kg to 0.48 mg/kg, above the RBC for leaching to groundwater (0.053 mg/kg). At two of those locations, a deeper sample was obtained, which did not identify benzene above laboratory reporting limits (a deeper sample was not obtained from the third location). The detected benzene concentrations were below the RBC for vapor intrusion into buildings, and no other constituents were detected in soil at concentrations above the ODEQ RBCs.

Groundwater samples were obtained from the existing monitoring wells in the USTA area, including JR-24 and JR-25 (immediately adjacent to the USTs), JR-16 and JR-18 (west of the USTs), and JR-27 (east of the USTs). Ramboll Environ also collected groundwater samples from five temporary probes to the east of the USTs (north and east of monitoring well JR-27). Toluene was only detected in one of the ten groundwater sampling locations (AOC5-06, approximately 25 feet east of the former USTs), at a concentration of 380 µg/L, well below the MCL (1,000 µg/L) and lowest RBC (9,200 µg/L). Toluene was not detected in monitoring well JR-27 (which contained 400,000 µg/L in 1996 and 19,600 in 2006) above the laboratory reporting limit (1.0 µg/L). A few other VOCs were detected above laboratory reporting limits, including xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, cumene, and n-propyl benzene. Except for benzene and ethylbenzene, the VOC concentrations were below applicable RBCs and MCLs. The groundwater sample from temporary probe AOC5-01 (where, as noted above, benzene was identified in soil at a concentration exceeding the leaching to groundwater RBC) exceeded the benzene RBC for ingestion/inhalation and the MCL. The ethylbenzene concentration in groundwater from temporary probe AOC5-01 exceeded the RBC for the ingestion/inhalation pathway only. The detected concentrations in groundwater were several orders of magnitude below applicable RBCs for vapor intrusion.

Based on the soil and groundwater results, VOCs (including toluene) were not identified in soil to the east of the former USTs at concentrations that would indicate the presence of a significant source. Of the few VOCs detected in soil, only three samples exceeded any RBC (for leaching to groundwater), and at two of those three locations, deeper soil samples did not contain benzene above laboratory reporting limits. Therefore, based on the results of this investigation, the residual soil impacts appear to be localized and do not represent unacceptable risks to current or future site occupants. Groundwater results identified concentrations of benzene and ethylbenzene that exceed the MCL and/or RBCs (ingestion/inhalation) at two locations. However, since there is no current or future likely use of groundwater for drinking purposes, these detections do not pose a significant risk to current or future site occupants. Based on the results, no further investigation or remediation is necessary.

6.5 AOC8 (Wax Trench Area—WTA)

Ramboll Environ advanced four soil borings to depths up to 15 feet bgs and installed two temporary groundwater probes in the wax trench area (one immediately north adjacent to

the trench and one down-gradient of the wax trench near the PRA), to investigate the lateral and vertical extent of VOCs and/or metals in soil and groundwater near the WTA. Previous soil sampling conducted during excavation activities in the wax trench identified VOCs (e.g., PCE, ethylbenzene and cis-1,2-DCE) and metals (e.g., total arsenic and total lead) above RBCs established by ODEQ in several samples at depths up to 3 feet bgs. Initial investigation in the area concluded VOC and metals impacted soils within the wax trench were laterally confined by the presence of subgrade cement footings, and impacted soil in the western portion of the trench was subsequently removed by excavation. Visual observations during excavation activities and two composite confirmation samples from the bottom of the western portion of the trench indicated that VOC concentrations in the remaining soil were below applicable soil RBCs. However, no metals analysis was conducted on the samples collected from the base of the excavation and compositing soil samples for VOC analysis can potentially lead to low biased results, which do not provide sufficient vertical delineation of impacted soil. Further, no groundwater sampling was conducted.

Ramboll Environ analyzed 16 soil samples collected adjacent to the trench (to the north) for the presence of VOCs and metals (total), at depths of up to 8 feet bgs. PCE, TCE, and toluene were the only VOCs detected above laboratory reporting limits, and none of the concentrations exceeded any applicable RBCs established by ODEQ.

Lead concentrations exceeded the RBC (leaching to groundwater pathway) in the shallowest sample (0.5 ft bgs) from each of the four borings advanced. In each boring, the lead concentration in the sample from approximately 2 ft bgs (i.e., the next deeper sample) was lower, and except for one location (AOC8-04), the concentration in that deeper sample was below the RBC. Lead concentrations in the deeper samples (4 ft and 8 ft bgs) at AOC8-04, however, were below the RBC. Arsenic exceeded the ODEQ RBC for ingestion/inhalation/contact in all borings at depths ranging from 2 to 8 feet bgs (the deepest interval sampled). However, it should be noted that all arsenic concentrations were below the ODEQ background value (4.44 mg/kg), which also exceeds the RBC. Based on these results, it appears that lead concentrations exceeding RBCs are limited to the upper approximately 2 to 4 feet beneath the ground surface in the vicinity of the trench. Arsenic concentrations are reflective of background soil characteristics in Oregon.

In the groundwater samples collected adjacent to and in the vicinity of the trench, VOCs including 1,2,4-TMB, cis-1,2-DCE, PCE, toluene, and xylenes were detected above laboratory reporting limits, at concentrations well below all applicable RBCs/MCLs.

Based on the soil and groundwater results, VOCs (including chlorinated solvents) were not identified at concentrations indicating the presence of a significant source in the WTA. Of the few VOCs detected in soil and groundwater, none exceeded RBCs. Metals, however, were detected in soil at concentrations above RBCs for lead and arsenic. Risks to current or future site occupants associated with the elevated metals in soil are mitigated by the current asphalt/concrete surface covering the WTA and absence of drinking water wells at the site. Nevertheless, additional lateral delineation and/or remediation of the metal impacted soil could be required.

6.6 AOC9 (Vacant Field)

Surface soil samples were collected across the vacant field in the southeast corner of the site to investigate previously detected lead concentrations (up to 2,900 mg/kg) in soil samples, which exceeded applicable RBCs for site occupants and construction/excavation workers. In August 2014, six surface soil samples (collected at a depth of 0.5 feet bgs) were collected from locations distributed across the field. Copper and zinc were detected in all samples, but at relatively low (well below ODEQ RBCs) concentrations (no RBCs have been established for zinc). Detections of arsenic, barium, cadmium, total chromium, and lead were identified in only one sample, from the southwestern portion of the field (AOC9-06). Two of the detected metals exceeded RBCs: total arsenic (ingestion/inhalation/contact, 1.7 mg/kg) and total lead (leaching to groundwater, 30 mg/kg).

To further evaluate the distribution of arsenic and lead in soil in the vicinity of AOC9-06-SB, in April 2015, Ramboll Environ collected surface soil samples and soil samples from approximately 1.5 feet below ground surface to the north, east, south, and west of AOC9-06-SB, and analyzed the samples for arsenic and lead. The arsenic concentrations in each of the additional surface soil samples were lower than the concentration from AOC9-06-SB (12 mg/kg), ranging from approximately 2.8 mg/kg to 3.4 mg/kg. Arsenic concentrations in the soil samples from 1.5 feet below ground surface were similar to the surface soil samples, although the concentrations spanned a slightly larger range (2.7 mg/kg to 6.7 mg/kg). Similar to the arsenic results, lead concentrations in the additional surface soil samples were all lower than the concentration from AOC9-06-SB (160 mg/kg), ranging from 21 mg/kg to 74 mg/kg. Lead concentrations in the soil samples from 1.5 feet below ground surface ranged from 19 mg/kg to 110 mg/kg.

The identified lead concentrations do not pose a significant risk to current or future site occupants, due to the absence of drinking water uses at the site, and based on the results of Ramboll Environ's sampling, further investigation or remediation is not required with respect to lead. Although the detected arsenic concentrations in the surface soil and subsurface samples exceed the ingestion/inhalation/contact RBC (1.7 mg/kg), the results of recent sampling suggest that the distribution of arsenic concentrations observed in the cumulative dataset is consistent with the background concentrations for native soil in Oregon, and is not indicative of a release. Therefore, additional investigation in the Vacant Field area is not warranted.

6.7 Former IntelliCoat Area (Excavated Vault)

Initial sampling in this area was conducted in May 2014 after staining was discovered below a former in-ground hydraulic lift vault. One soil sample collected from approximately 8.5 feet bgs beneath the middle of the vault contained diesel (6,100 mg/kg) and heavy oil range hydrocarbons (47,000 mg/kg) at concentrations above the current ODEQ RBCs for occupational and construction worker exposure scenarios. Four soil borings were advanced to depths up to 15 feet below the concrete floor to evaluate the lateral and vertical extent of soil impacts for VOCs, diesel-range and heavy oil-range hydrocarbons. Soil samples were also analyzed for total metals. One groundwater sample was collected from a temporary probe to assess potential VOC and hydrocarbon impacts to groundwater.

Ramboll Environ analyzed 12 soil samples (three from each boring). Diesel-range and heavy oil-range hydrocarbons were detected above laboratory detection limits in three of the four

borings, but at concentrations well below those previously detected beneath the sump and below ODEQs most stringent RBCs. VOCs including PCE, ethylbenzene, toluene and xylenes were detected in one or more samples from each boring at concentrations below respective RBCs. In each case, deeper samples from the same boring were non-detect.

Metals (total arsenic and total lead) were detected above ODEQ RBCs at one or more boring location. Arsenic concentrations exceeded the ODEQ occupational RBC for ingestion/inhalation/contact (1.7 mg/kg) in all sample locations. However, only three of the arsenic concentrations exceeded the ODEQ background value (4.44 mg/kg). Two lead concentrations collected from samples at 8.5 feet below the concrete floor on the northern side of the vault (INT-01 and INT-04) exceeded the RBC for leaching to groundwater pathway (30 mg/kg). However, deeper samples collected from both borings (10.5 feet and 15 feet below the floor) were below RBCs by an order of magnitude. Based on the results of soil sampling, it appears that lead impacts above RBCs are limited vertically to depths less than 10.5 feet below the floor, and should not pose a significant risk to current or future site occupants because there is no drinking water use beneath the site. The arsenic concentrations are above RBCs for ingestion/inhalation/contact, but the arsenic concentrations appear to be similar to naturally occurring arsenic, as most concentrations are less than the ODEQ background value.

One groundwater sample was collected from a temporary probe collocated with soil boring INT-04 and analyzed for VOCs and petroleum hydrocarbons. The only analyte detected above applicable RBC/MCL criteria was TCE, at a concentration of 4.7 µg/L, which exceeds the RBC for ingestion/inhalation (3.6 µg/L) but is well below the RBC for vapor intrusion into buildings (3,300 µg/L). TCE was not reported in any soil samples from the vault area, and has not been identified in groundwater samples elsewhere in the vicinity of the IntelliCoat area. Given the absence of drinking water uses at the site and downgradient properties, the reported concentration does not appear to present a significant risk to current or future site occupants.

Results of sampling in the Former IntelliCoat Area do not suggest that releases from the former hydraulic equipment have resulted in impacts to soil or groundwater that pose an unacceptable risk. Except for lead and arsenic in soil, all detected analytes were below applicable RBCs/MCLs. Under an industrial use scenario, the lead and arsenic concentrations do not pose a significant risk to current or future site occupants, and therefore, no further investigation or remediation is necessary.

6.8 Deep Wells (AOC 10)

Previous groundwater sampling results from the site indicate that CVOCs are present at low concentrations in deep groundwater beneath the facility, which can be attributed to an off-site source or sources. Groundwater investigations conducted at the neighboring Stockyards Commerce property, as well as sampling results from upgradient deep zone wells operated at the Harbor Oil property and Expo Center (southeast of the site) have also identified chlorinated solvents similar to those identified at the site. Potential historic operations at those upgradient sites include the use of several underground storage tanks, parts washing and tank cleaning activities, and operation of automobile service stations from the 1960s through the 1980s.

PCE, TCE, cis-1,2-DCE, and chloroform were detected above laboratory reporting limits in the recent sampling event at the site. All three deep groundwater samples exceeded the MCL for PCE (5 µg/L), one sample exceeded the MCL for TCE (5 µg/L), and two samples exceeded the ODEQ RBC for ingestion/inhalation for TCE (3.6 µg/L). Chloroform (a common laboratory contaminant, and a constituent for which there is no documented use at the facility) was detected in one sample above the ODEQ RBC for ingestion/inhalation (0.99 µg/L), at a concentration of 1.4 µg/L. None of the reported detections exceeded the respective RBC for vapor intrusion into buildings. Further, the concentrations of VOCs in deep groundwater are similar to previous results obtained in the 1990s and early 2000s, with the exception of chloroform, which has not been historically identified. General agreement with historical data and lack of known on-site sources of chlorinated solvents supports ODEQ's previous conclusion that impacts in the deep groundwater are likely due to an area-wide (off-site) source. Since there is no current or future likely use of deep groundwater for drinking purposes, these detections do not pose a significant risk to current or future site occupants. Based the results, no further investigation or remediation is necessary.

7. CONCLUSION

In 2013, Ramboll Environ conducted a screening level assessment of historical soil, soil vapor and groundwater data for the site, comparing the previous results to RBCs established by ODEQ, and in the case of groundwater, to federal MCLs. The screening level assessment identified areas of the site that could require additional sampling and/or remediation based on exceedances of the regulatory screening levels. Based on the results of the screening level assessment, Ramboll Environ conducted additional investigation activities in several AOCs at the site. Ramboll Environ's investigation activities included soil and groundwater sampling at 43 boring locations, sampling existing shallow and deep groundwater wells at the site, and conducting a visual and geophysical survey in the vicinity of a former drywell. Assuming that the site continues to be used for industrial purposes, and groundwater beneath the site is not used for drinking water, Ramboll Environ provides the following findings:

- A former dry well exists beneath a small area located adjacent to the former boiler house. During Ramboll Environ's investigation, a subsurface anomaly was identified in a circular area, approximately 6 feet in diameter, in the suspected location of the former dry well. A groundwater sample from JR-15, located downgradient from the area was analyzed for VOCs as part of the recent sampling event, and no analytes were detected above laboratory reporting limits. Since the area is currently not in use (except as a driveway), is covered with asphalt, and groundwater does not appear to be impacted, the former dry well does not represent an environmental concern, and no additional investigation or remediation is recommended.
- Residual soil contaminant concentrations at the GPII site do not exceed ODEQ RBCs except in two areas:
 - Wax Trench Area ("WTA") (AOC 8)

The only metals detected in soil near the WTA at concentrations above RBCs were lead (total; up to 1,200 milligrams per kilogram [mg/kg]) and arsenic (total; up to 4.2 mg/kg). Although arsenic concentrations exceeding the ingestion/inhalation/contact RBC (1.7 mg/kg, occupational exposure) have been identified, concentrations appear to be reflective of background soil concentrations (4.4 mg/kg) for native soil in Oregon, and therefore do not warrant further investigation or remediation. Lead concentrations in shallow soil (2-4 feet bgs) exceed the ingestion/inhalation/contact RBC (800 mg/kg for occupational, and construction/excavation worker exposure) and leaching to groundwater RBC (30 mg/kg). However, risks to current or future site occupants associated with the elevated lead in soil are mitigated by the current asphalt/concrete surface covering the entire WTA, and the absence of drinking water wells at the site. The existing protective cover (concrete and asphalt) provides a sufficient barrier to minimize potential contact by current or future site occupants with shallow soil. Therefore, no further investigation or remedial action is recommended for the WTA.

Vacant Field (AOC 9)

In August 2014, Ramboll Environ collected six surface soil samples from the Vacant Field area. One of the six sample locations (AOC9-06-SB) contained arsenic (12

mg/kg) at a concentration above the RBC (1.7 mg/kg, ingestion/inhalation/contact pathway). To further evaluate the distribution of arsenic in soil in the vicinity of AOC9-06-SB, in April 2015, Ramboll Environ collected surface soil samples and soil samples from approximately 1.5 feet below ground surface to the north, east, south, and west of AOC9-06-SB. The arsenic concentrations in each of the additional surface soil samples were lower than the concentration from AOC9-06-SB, ranging from approximately 2.8 mg/kg to 3.4 mg/kg. Arsenic concentrations in the soil samples from 1.5 feet below ground surface were similar to the surface soil samples, although slightly more variable (ranging from approximately 2.7 mg/kg to 6.7 mg/kg). Although the detected arsenic concentrations in the surface soil and subsurface samples exceed the RBC for ingestion/inhalation/contact (1.7 mg/kg), the results of recent sampling suggest that the arsenic concentrations are reflective of background soil concentrations (4.4 mg/kg) for native soil in Oregon, and therefore do not warrant further investigation or remediation.

Similar to the arsenic results, lead concentrations in the additional surface soil samples were all lower than the concentration from AOC9-06-SB (160 mg/kg), ranging from 21 mg/kg to 74 mg/kg. Lead concentrations in the soil samples from 1.5 feet below ground surface ranged from 19 mg/kg to 110 mg/kg. The identified lead concentrations are below the RBC for occupational ingestion/inhalation/contact (800 mg/kg), and therefore do not pose an unacceptable risk to current or future site occupants. Although lead concentrations in some samples slightly exceed the RBC for leaching to groundwater (30 mg/kg), due to the absence of drinking water uses at the site, and based on the results of Ramboll Environ's sampling, further investigation or remediation is not proposed with respect to lead.

- VOCs in shallow groundwater have naturally attenuated at the site to concentrations that are below the most stringent RBCs, except at a few locations in the USTA (AOC 5) and the IntelliCoat Area, where concentrations of benzene, ethylbenzene, and TCE exceeded the RBC for the ingestion/inhalation pathway. The exceedances are below the respective RBCs for vapor intrusion, and do not suggest widespread contamination; no constituents were identified above RBCs in several downgradient wells. Given the anticipated industrial site uses, and absence of drinking water wells at the site, the reported concentrations are not anticipated to pose an unacceptable risk to current or future site occupants, and additional investigation or remediation in shallow groundwater is not recommended.
- VOCs in deep groundwater are similar to historical results obtained in the 1990s and early 2000s, demonstrating chlorinated solvents (specifically, PCE, TCE) at concentrations above RBCs (ingestion/inhalation) or the MCLs. The presence of VOCs in deep groundwater beneath the site is consistent with an area-wide (off-site) source that has been identified in the site vicinity and has been acknowledged by ODEQ. There is no evidence of an on-site source contributing to chlorinated solvents in the deep groundwater. For the reasons noted above (anticipated industrial site uses; absence of drinking water uses), the reported concentrations do not pose a significant risk to current or future site occupants, and additional investigation or remediation is not warranted.

Based on the above findings, Ramboll Environ recommends that GPII request a No Further Action determination for the site.

8. REFERENCES

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TABLES

Table 1. Summary of Detections in Soil for ISTA (AOC-1)

Graphic Packaging
Portland, Oregon

Sample Name Sample Date Sample Depth (ft bgs)			Analytes (mg/kg or ppm)								
			PCE	Toluene	Ethylbenzene	Xylenes	Acetone	Isopropyl Alcohol	1,2,4-TMB	1,3,5-TMB	Styrene
A	2/24/1989	1.5	3.1	1,243	38	610	--	--	--	--	--
B	2/24/1989	1.5	0.3	2,261	22	263	--	--	--	--	--
B-10	5/4/1989	--	<0.1	1.30	<0.1	<0.1	--	--	--	--	--
B-1-1.5	5/4/1989	2	<0.1	82	0.28	1.9	--	--	--	--	--
B-1-4.5	5/9/1989	5	<0.05	10.7	0.08	0.28	3.5	123	--	--	--
B-1-9	5/4/1989	9	<0.1	2	<0.1	<0.1	--	--	--	--	--
B-2A	5/4/1989	2	<0.1	1,340	52	25	--	--	--	--	--
B-2b-3	5/4/1989	3	<0.1	0.15	0.13	0.38	--	--	--	--	--
B-2b-6	5/4/1989	6	<0.1	0.11	<0.1	<0.1	--	--	--	--	--
B-3-4	5/4/1989	4	<0.1	0.09	<0.1	<0.1	--	--	--	--	--
B-3-8	5/4/1989	8	<0.1	<0.1	<0.1	<0.1	--	--	--	--	--
B-3-8.5	5/9/1989	9	<0.005	0.14	<0.005	0.03	1.5	5.2	--	--	--
B-4	5/4/1989	2	<0.1	2,510	5	13	--	--	--	--	--
B-5-2	5/4/1989	2	<0.1	<0.1	<0.1	<0.1	--	--	--	--	--
B-5-6	5/9/1989	6	<0.1	48	0.48	1.2	0.6	2.9	--	--	--
B-5-8	5/4/1989	8	<0.1	0.29	<0.1	<0.1	--	--	--	--	--
B-6	5/4/1989	2	<0.1	480	0.8	3.3	--	--	--	--	--
B-7-6	5/4/1989	6	<0.1	31	<0.1	<0.1	--	--	--	--	--
B-7-8	5/4/1989	8	<0.1	22	<0.1	<0.1	--	--	--	--	--
B-8-2	5/4/1989	2	<0.1	9.1	<0.1	<0.1	--	--	--	--	--
B-8-4	5/9/1989	4	<0.05	0.12	<0.05	<0.05	19	146	--	--	--
B-8-6	5/4/1989	6	<0.1	0.08	<0.1	<0.1	--	--	--	--	--
B-9-4	5/4/1989	4	<0.1	<0.1	<0.1	<0.1	--	--	--	--	--
B-9-6	5/4/1989	6	<0.1	<0.1	<0.1	<0.1	--	--	--	--	--
B-9-8	5/9/1989	8	<0.1	39	0.18	0.46	0.53	2.6	--	--	--
JR10-S2	9/26/1989	2	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR10-S5	9/26/1989	5	<0.1	0.1	<0.1	<0.1	<1	<2	--	--	--
JR12-S2	9/26/1989	2	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR12-S5	9/26/1989	5	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR-13-S10	9/26/1989	10	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR13-S5	9/26/1989	5	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR-14-S2	9/26/1989	2	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR-14-S5	9/26/1989	5	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR-15-S2	9/26/1989	2	<0.1	<0.1	<0.1	<0.1	<1	<2	--	--	--
JR-15-S5	9/26/1989	5	<0.1	0.1	<0.1	<0.1	<1	<2	--	--	--
RBC-Vapor Intrusion into Buildings			36	>Csat	12	>Csat	--	--	1,000	>Csat	>Csat
RBC-Ingestion (Occupational)			940	77,000 (>Csat)	140	25,000 (>Csat)	--	--	2,000 (>Csat)	10,000 (>Csat)	120,000 (>Csat)
RBC-Ingestion (Construction Worker)			1,600 (>Csat)	24,000 (>Csat)	1,600 (>Csat)	19,000 (>Csat)	--	--	2,000 (>Csat)	3,100 (>Csat)	51,000 (>Csat)
RBC-Ingestion (Excavation Worker)			44,000 (>Csat)	680,000 (>Csat)	44,000 (>Csat)	540,000 (>Csat)	--	--	54,000 (>Csat)	86,000 (>Csat)	>Max
RBC-Volatilization to Outdoor Air			>Csat	>Csat	160	>Csat	--	--	1,000	>Csat	>Csat
RBC-Leaching to Groundwater			3.7	>Csat	0.9	100	--	--	68	>Csat	>Csat

Table 1. Summary of Detections in Soil for ISTA (AOC-1)
Graphic Packaging
Portland, Oregon

Sample NameSample DateSample Depth (ft bgs)			Analytes (mg/kg or ppm)								
			PCE	Toluene	Ethylbenzene	Xylenes	Acetone	Isopropyl Alcohol	1,2,4-TMB	1,3,5-TMB	Styrene
2014 Investigation											
AOC1-01-SB-2	8/22/2014	2	< 0.02	0.13	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-01-SB-5	8/22/2014	5	< 0.02	1.5	0.19	0.72	< 0.25	--	0.21	0.07	< 0.05
AOC1-01-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-02-SB-2	8/22/2014	2	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-02-SB-5	8/22/2014	5	< 0.02	0.09	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-02-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-03-SB-2	8/22/2014	2	< 0.02	< 0.05	0.05	0.22	< 0.25	--	0.23	0.05	< 0.05
AOC1-03-SB-5	8/22/2014	5	< 0.02	0.07	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-03-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-04-SB-2	8/22/2014	2	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-04-SB-5	8/22/2014	5	< 0.02	0.12	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-04-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-05-SB-2	8/22/2014	2	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-05-SB-5	8/22/2014	5	< 0.02	0.29	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-05-SB-10	8/22/2014	10	< 0.02	0.09	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-06-SB-2	8/22/2014	2	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-06-SB-5	8/22/2014	5	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-06-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-07-SB-2	8/22/2014	2	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-07-SB-5	8/22/2014	5	< 0.02	1.6	< 0.05	< 0.15	< 0.25	--	0.16	0.05	0.27
AOC1-07-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-08-SB-2	8/22/2014	2	< 0.02	0.23	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-08-SB-5	8/22/2014	5	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-08-SB-10	8/22/2014	10	< 0.02	< 0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-09-SB-2	8/22/2014	2	< 0.02	0.12	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-09-SB-5	8/22/2014	5	< 0.02	0.15	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
AOC1-09-SB-10	8/22/2014	10	< 0.02	0.05	< 0.05	< 0.15	< 0.25	--	< 0.05	< 0.05	< 0.05
RBC-Vapor Intrusion into Buildings			36	>Csat	12	>Csat	--	--	1,000	>Csat	>Csat
RBC-Ingestion (Occupational)			940	77,000 (>Csat)	140	25,000 (>Csat)	--	--	2,000 (>Csat)	10,000 (>Csat)	120,000 (>Csat)
RBC-Ingestion (Construction Worker)			1,600 (>Csat)	24,000 (>Csat)	1,600 (>Csat)	19,000 (>Csat)	--	--	2,000 (>Csat)	3,100 (>Csat)	51,000 (>Csat)
RBC-Ingestion (Excavation Worker)			44,000 (>Csat)	680,000 (>Csat)	44,000 (>Csat)	540,000 (>Csat)	--	--	54,000 (>Csat)	86,000 (>Csat)	>Max
RBC-Volatilization to Outdoor Air			>Csat	>Csat	160	>Csat	--	--	1,000	>Csat	>Csat
RBC-Leaching to Groundwater			3.7	>Csat	0.9	100	--	--	68	>Csat	>Csat

Notes:

ft bgs = Feet below ground surface

PCE = Tetrachloroethene

AOC = Area of concern

ISTA = Intermediate Storage Tank Area

Bolded values indicate concentrations above laboratory reporting limit

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

mg/kg = milligrams per kilogram

ppm = parts per million

-- = not analyzed/no RBC or MCL established

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

Shaded cell indicate exceedance of one or more RBC

Table 2. Summary of Detections in Groundwater for ISTA (AOC-1)
Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)							
		PCE	cis-1,2-DCE	Benzene	Toluene	Ethylbenzene	Xylenes	Chloroform	Freon 11
B-1 (GW)	5/4/1989	<100	--	--	166,000	<100	<100	--	--
GW-3	5/12/1989	<150	--	--	65,000	1,200	2,400	--	--
JR-10	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-10	5/1/1991	--	<2	5.3	--	--	<2	<2	<2
JR-10	9/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-10	12/1/1991	--	14.0	<2	--	--	<2	<2	<2
JR-10	3/17/1992	<2	4.0	<2	--	--	<2	<2	<2
JR-10	12/31/1997	4.68	<1	--	--	--	--	--	--
JR-10	7/24/2001	--	--	<0.5	<0.5	<0.5	<1	--	--
JR-12	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-12	5/1/1991	--	13.0	<2	--	--	3.0	<2	<2
JR-12	9/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-12	12/1/1991	--	15.0	<2	--	--	<2	<2	<2
JR-12	3/17/1992	<2	14.0	<2	--	--	<2	<2	<2
JR-12	12/31/1997	<1	12.1	--	--	--	--	--	--
JR-12	7/24/2001	--	--	<0.5	<0.5	<0.5	<1	--	--
JR-12*	May 2006	--	5.07	--	--	--	--	--	--
JR-15	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-15 (Dup)	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-15	5/1/1991	--	<2	<2	--	--	<2	<2	5.3
JR-15	9/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-15	12/1/1991	--	<2	<2	--	--	<2	5.5	<2
JR-15	3/17/1992	<2	<2	<2	--	--	<2	<2	<2
JR-15	12/31/1997	<1	<1	--	--	--	--	--	--
JR-15	7/24/2001	--	--	<0.5	<0.5	<0.5	<1	--	--
JR-15*	May 2006	2.35	--	--	--	--	--	--	--
JR-14	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-14	5/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-14	9/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-14	12/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-14	3/17/1992	<2	<2	<2	--	--	<2	<2	<2
JR-20	7/30/2001	--	--	<0.5	<0.5	<0.5	<1	--	--
JR-22	7/30/2001	--	--	<0.5	<0.5	<0.5	<1	--	--
JR-22*	May 2006	--	6.76	--	--	--	--	--	--
USEPA MCL		5	70	5	1,000	700	10,000	--	--
RBC-Ingestion		64	290	2.2	9,200	7.8	850	0.99	5,400
RBC - Volatilization to Outdoor Air		>S	>S	14,000	>S	41,000	>S	5,500	>S
RBC - Groundwater in Excavation		5,400	24,000	1,700	210,000	4,400	23,000	720	160,000
RBC- Vapor Intrusion into Buildings		32,000	>S	2,800	>S	7,400	>S	1,200	340,000
2014 Investigation									
JR-10	NS								
JR-12	8/19/2014	<1.0	3.8	<1.0	<1.0	<1.0	<1.0	<1.0	--
JR-15	8/19/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
JR-20	8/20/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
JR-21	8/20/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
JR-22	8/18/2014	<1.0	5.2	<1.0	<1.0	<1.0	<3.0	<1.0	--
AOC1-10	8/20/2014	<1.0	1.4	<1.0	3	<1.0	3.7	<1.0	--
USEPA MCL		5	70	5	1,000	700	10,000	--	--
RBC-Ingestion		64	290	2.2	9,200	7.8	850	0.99	5,400
RBC - Volatilization to Outdoor Air		>S	>S	14,000	>S	41,000	>S	5,500	>S
RBC - Groundwater in Excavation		5,400	24,000	1,700	210,000	4,400	23,000	720	160,000
RBC- Vapor Intrusion into Buildings		32,000	>S	2,800	>S	7,400	>S	1,200	340,000

Notes:

ISTA = Intermediate Storage Tank Area

DCA = Dichloroethane

AOC = Area of concern

µg/L = micrograms per liter

-- = not analyzed/no RBC or MCL established

MCL = Maximum contaminant level

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

PCE = Tetrachloroethene

TCE = Trichloroethene

DCE = Dichloroethene

ppb = parts per billion

USEPA = United States Environmental Protection Agency

NS = Well not accessible for sampling

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

Bolded values indicate concentrations above laboratory reporting limit

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

* Data presented in the table was summarized in the body of the ENSR Corporation Environmental Site Assessment and Compliance Review of Graphic Packaging International, Inc., Portland, Oregon dated February 2006 with revisions in September 2006. Laboratory analytical reports were not provided for this data.

Table 3. Summary of Detections in Soil for SRA (AOC-2) and Diesel UST (AOC-3)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)									
			Toluene	Ethylbenzene	Xylenes	Acetone	Ethanol	Isopropyl Alcohol	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	TPH (Diesel)	TPH (Oil)
ADL-1	6/21/1989	--	<0.2	<0.2	<0.2	<1	<20	<2	--	<1	--	--
ADL-2	6/21/1989	--	38	0.2	0.3	9	<20	30	--	2	--	--
ADL-3-4.5	8/3/1989	4.5	2	<0.2	<0.2	6	1,600	270	1	2	--	--
JR-1	6/1/1989	--	1,200	11	25	<10	<10	<10	--	--	--	--
B-1-2 (SRA)	12/12/1997	2	7	<5	<5	--	--	--	--	--	<100	65
B-2-1 (SRA)	12/12/1997	1	14	<5	6.0	--	--	--	--	--	84	100
B-3-1 (SRA)	12/12/1997	1	<5	<5	<5	--	--	--	--	--	<100	<100
CS-1	2/14/1998	--	5.4	--	--	--	<25	--	<2	--	--	--
CS-2	2/14/1998	--	<0.01	--	--	--	<25	--	<0.2	--	--	--
CS-3	2/14/1998	--	0.019	--	--	--	<25	--	<0.2	--	--	--
CS-4	2/14/1998	--	<0.01	--	--	--	<25	--	<0.2	--	--	--
CS-5	2/14/1998	--	0.01	--	--	--	<25	--	<0.2	--	--	--
CS-6	2/14/1998	--	0.026	--	--	--	<25	--	<0.2	--	--	--
CS-7	2/14/1998	--	0.032	--	--	--	<25	--	<0.2	--	--	--
CS-8	2/14/1998	--	<0.01	--	--	--	<25	--	<0.2	--	--	--
CS-9	2/14/1998	--	3.1	--	--	--	<25	--	<2	--	--	--
CS-10	2/14/1998	--	<0.01	--	--	--	<25	--	<0.2	--	--	--
CS-11	2/16/1998	--	0.28	--	--	--	<25	--	<2	--	--	--
CS-12	2/16/1998	--	<0.01	--	--	--	<25	--	<0.2	--	--	--
CS-13	2/16/1998	--	1.1	--	--	--	<25	--	<2	--	--	--
RBC- Vapor Intrusion into Buildings			>Csat	12	>Csat	--	--	--	--	--	>max	>max
RBC-Ingestion (Occupational)			77,000	140	25,000	--	--	--	--	--	14,000	36,000
RBC-Ingestion (Construction Worker)			24,000	1,600	19,000	--	--	--	--	--	4,600	11,000
RBC-Ingestion (Excavation Worker)			680,000	44,000	540,000	--	--	--	--	--	>max	>max
RBC-Volatilization to Outdoor Air			>Csat	160	>Csat	--	--	--	--	--	>max	>max
RBC-Leaching to Groundwater			>Csat	0.9	100	--	--	--	--	--	>max	>max

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

SRA = Solvent Recovery Area

ft bgs = Feet below ground surface


AOC = Area of concern

mg/kg = milligrams per kilogram

ppm = parts per million

-- = not analyzed/no RBC or MCL established

TPH = Total petroleum hydrocarbons

 Shaded cells indicate exceedance of one or more RBC

Bolded values indicate concentrations above laboratory reporting limit

>max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg.

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

UST = Underground Storage Tank

Table 4. Summary of Detections in Groundwater for SRA (AOC-2) and Diesel UST (AOC-3)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analyte (µg/L or ppb)							
		PCE	Cis-1,2-DCE	Benzene	Toluene	Ethyl-benzene	Xylenes	Chloroform	Freon 11
Pit Water	2/16/1998	--	--	--	22,000	--	--	--	--
B-1-W	12/12/1997	--	--	--	<5	--	--	--	--
B-2-W	12/12/1997	--	--	--	2	--	--	--	--
B-3-W	12/12/1997	--	--	--	0.6	--	--	--	--
B1	6/29/1998	--	--	210	120	ND	16	--	--
B1 (Dup)	6/29/1998	--	--	210	110	ND	18	--	--
B2	6/29/1998	--	--	ND	7.7	ND	ND	--	--
B3	6/29/1998	--	--	ND	1.8	ND	ND	--	--
B4	6/29/1998	--	--	ND	ND	ND	ND	--	--
B4 (Dup)	6/29/1998	--	--	ND	ND	ND	ND	--	--
B5	6/29/1998	--	--	1.9	1.9	ND	ND	--	--
B6	6/29/1998	--	--	150	ND	ND	32	--	--
B7	6/29/1998	--	--	ND	ND	ND	ND	--	--
B8	6/29/1998	--	--	ND	ND	ND	ND	--	--
B8 (Dup)	6/29/1998	--	--	ND	ND	ND	ND	--	--
B9	6/29/1998	--	--	ND	ND	ND	ND	--	--
B10	6/29/1998	--	--	ND	ND	ND	ND	--	--
B11	6/29/1998	--	--	77	ND	ND	18	--	--
JR-15	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-15 (Dup)	10/23/1989	--	--	<0.1	<0.1	<0.1	<0.1	--	--
JR-15	5/1/1991	--	<2	<2	--	--	<2	<2	5.3
JR-15	9/1/1991	--	<2	<2	--	--	<2	<2	<2
JR-15	12/1/1991	--	<2	<2	--	--	<2	5.5	<2
JR-15	3/17/1992	<2	<2	<2	--	--	<2	<2	<2
JR-15	12/31/1997	<1	<1	--	--	--	--	--	--
JR-15	7/24/2001	--	--	<0.5	<0.5	<0.5	<1	--	--
JR-15*	May 2006	2.35	--	--	--	--	--	--	--
JR-22*	May 2006	--	6.76	--	--	--	--	--	--
2014 Investigation									
JR-14	NS								
JR-15	8/19/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
JR-22	8/18/2014	<1.0	5.2	<1.0	<1.0	<1.0	<3.0	<1.0	--
AOC3-1-WG	8/20/2014	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--
USEPA MCL		5	70	5	1,000	700	10,000	--	--
RBC-Ingestion		64	290	2.2	9,200	7.8	850	0.99	5,400
RBC - Volatilization to Outdoor Air		>S	>S	14,000	>S	41,000	>S	5,500	>S
RBC - Groundwater in Excavation		5,400	24,000	1,700	210,000	4,400	23,000	720	160,000
RBC- Vapor Intrusion into Buildings		32,000	>S	2,800	>S	7,400	>S	1,200	340,000

Notes:

SRA = Solvent Recovery Area

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

ft bgs = Feet below ground surface

AOC = Area of concern

µg/L = micrograms per liter

ppb = parts per billion

-- = not analyzed/no RBC or MCL established

USEPA = United States Environmental Protection Agency

MCL = Maximum contaminant level

UST = Underground storage tank

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

Bolded values indicate concentrations above laboratory reporting limit

NS = Not sampled

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

* Data presented in the table was summarized in the body of the ENSR Corporation Environmental Site Assessment and Compliance Review of Graphic Packaging International, Inc., Portland, Oregon dated February 2006 with revisions in September 2006. Laboratory analytical reports were not provided for this data.

Table 5. Summary of Detections in Soil for USTA (AOC-5)
Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analyte (mg/kg or ppm)								
			PCE	Benzene	Toluene	Ethylbenzene	Xylenes	(isopropylbenzene)	Naphthalene	n-Propylbenzene	1,2,4-TMB
JR16-S5	4/3/1990	5	--	<0.001	0.003	<0.001	<0.001	--	--	--	--
JR16-S10	4/3/1990	10	--	<0.001	0.035	<0.001	<0.001	--	--	--	--
JR17-S5	4/3/1990	5	--	<0.001	0.032	<0.001	<0.001	--	--	--	--
JR17-S10	4/3/1990	10	--	<0.001	0.009	<0.001	<0.001	--	--	--	--
JR18-S5	4/3/1990	5	--	<0.001	0.021	<0.001	<0.001	--	--	--	--
JR18-S10	4/3/1990	10	--	<0.2	6.7	<0.2	<0.2	--	--	--	--
JR19-S5	4/3/1990	5	--	<0.001	0.005	<0.001	<0.001	--	--	--	--
JR19-S10	4/3/1990	10	--	<0.5	17	<0.5	<0.5	--	--	--	--
Unnamed*	1989	--	--	--	350	--	--	--	--	--	--
2014 Investigation											
AOC5-01-3	8/22/2014	3	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-01-6.5	8/22/2014	6.5	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-01-11.5	8/22/2014	11.5	< 0.02	0.47	0.43	0.19	0.50	< 0.05	< 0.05	< 0.05	0.06
AOC5-01-14	8/22/2014	14	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	0.15	0.06	< 0.05
AOC5-02-6	8/22/2014	6	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-02-9	8/22/2014	9	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-02-11.5	8/22/2014	11.5	< 0.02	0.58	0.11	0.24	0.68	0.06	< 0.05	< 0.05	< 0.05
AOC5-03-4	8/22/2014	4	< 0.02	< 0.02	2.0	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-03-9	8/22/2014	9	< 0.02	< 0.02	1.6	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-03-13	8/22/2014	13	< 0.02	0.04	0.80	< 0.05	0.36	< 0.05	< 0.05	< 0.05	0.14
AOC5-04-5	8/22/2014	5	< 0.02	< 0.02	230	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-04-10	8/22/2014	10	< 0.02	< 0.02	0.26	< 0.05	< 0.15	< 0.05	0.11	< 0.05	< 0.05
AOC5-04-15	8/22/2014	15	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-05-5	8/22/2014	5	< 0.02	< 0.02	0.14	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-05-10.5	8/22/2014	10.5	0.20	< 0.02	0.40	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-05-14.4	8/22/2014	14.4	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	0.05	< 0.05
AOC5-06-4	8/22/2014	4	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-06-7.5	8/22/2014	7.5	0.03	< 0.02	0.08	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-06-13	8/22/2014	13	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	0.05	< 0.05
AOC5-07-4	8/22/2014	4	< 0.02	< 0.02	0.12	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-07-9	8/22/2014	9	< 0.02	< 0.02	8.3	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-07-14	8/22/2014	14	< 0.02	< 0.02	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	0.08
AOC5-08-5	8/22/2014	5	< 0.02	< 0.02	0.26	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-08-6	8/22/2014	6	< 0.02	0.07	390	0.43	1.4	< 0.05	< 0.05	< 0.05	0.16
AOC5-08-11	8/22/2014	11	< 0.02	< 0.02	0.79	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-09-5	8/22/2014	5	< 0.02	< 0.02	0.08	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-09-10	8/22/2014	10	< 0.02	< 0.02	0.24	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
AOC5-09-14.75	8/22/2014	14.75	< 0.02	< 0.02	0.32	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
RBC- Vapor Intrusion into Buildings			36	1.2	>Csat	12	>Csat	>Csat	99	--	1,000
RBC-Ingestion (Occupational)			940 (>Csat)	34	77,000 (>Csat)	140	25,000 (>Csat)	53,000 (>Csat)	23	--	2,000 (>Csat)
RBC-Ingestion (Construction Worker)			1600 (>Csat)	340	24,000 (>Csat)	1,600 (>Csat)	19,000 (>Csat)	24,000 (>Csat)	580 (>Csat)	--	2,000 (>Csat)
RBC-Ingestion (Excavation Worker)			44,000 (>Csat)	9,500 (>Csat)	680,000 (>Csat)	44,000 (>Csat)	540,000 (>Csat)	670,000 (>Csat)	16,000 (>Csat)	--	54,000 (>Csat)
RBC-Volatilization to Outdoor Air			>Csat	50	>Csat	160	>Csat	>Csat	99	--	1000
RBC-Leaching to Groundwater			3.7	0.053	>Csat	0.9	100	>Csat	0.44	--	68

Notes:
USTA = Underground Storage Tank Area
RBC = Oregon Department of Environmental Quality Risk Based Concentrations.
ft bgs = Feet below ground surface
AOC = Area of concern
mg/kg = milligrams per kilogram
ppm = parts per million
-- = not analyzed/no RBC or MCL established
Shaded cells indicate exceedance of one or more RBC
Bolded values indicate concentrations above laboratory reporting limit
>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.
* Reference: Soil and Groundwater Investigation, Underground Storage Tank Area (USTA) (Coater No. 2 Bldg. 14), Design Products West Division. Prepared by Brown and Caldwell, May 21, 1990.

Table 6. Summary of Detections in Groundwater for USTA (AOC-5)
Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)												
		PCE	Cis-1,2-DCE	Vinyl Chloride	Benzene	Toluene	Ethyl benzene	Xylenes	Cumene (isopropylbenzene)	cis-1,3 dichloropropene	Napthalene	n-Propyl benzene	1,2,4-TMB	1,3,5-TMB
JR-16	4/4/1990	--	--	--	<1	<1	<1	<1	--	--	--	--	--	--
JR-16	5/1/1991	3.1	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-16	9/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-16	12/1/1991	3.6	--	--	--	<2	--	<2	--	2.4	--	--	--	--
JR-16	3/17/1992	3.5	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-16	7/24/2001	--	--	--	--	<0.5	--	<1	--	--	--	--	--	--
JR-16*	May 2006	1.31	--	1.78	--	--	--	--	--	--	--	--	--	--
JR-17	4/4/1990	--	--	--	<1	<1	<1	<1	--	--	--	--	--	--
JR-17	5/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-17	9/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-17	12/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-17	3/17/1992	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-17	7/24/2001	--	--	--	--	<0.5	--	<1	--	--	--	--	--	--
JR-18	4/4/1990	--	--	--	<200	29,000	<200	290	--	--	--	--	--	--
JR-18 (Dup)	4/4/1990	--	--	--	<200	29,000	<200	300	--	--	--	--	--	--
JR-18	5/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-18	9/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-18	12/1/1991	<2	--	--	--	<2	--	<2	--	<2	--	--	--	--
JR-18	3/17/1992	<2	--	--	--	2.2	--	<2	--	<2	--	--	--	--
JR-18 (Dup)	3/17/1992	--	--	--	--	<2	--	<2	--	--	--	--	--	--
JR-18	7/27/2001	--	--	--	--	<0.5	--	<1	--	--	--	--	--	--
JR-19*	May 2006	1.13	--	--	--	--	--	--	--	--	--	--	--	--
JR-23*	July or August 2006	1.32	--	--	--	--	--	--	--	--	--	--	--	--
JR-24*	2006	--	--	--	--	11,800	--	--	--	--	--	--	--	--
JR-25	10/23/1989	--	--	--	--	<0.1	--	<0.1	--	--	--	--	--	--
JR-27*	1996	--	--	--	--	400,000	--	--	--	--	--	--	--	--
JR-27*	August 2006	--	--	--	--	19,600	--	--	--	--	446	--	330	--
JR-27	12/3/2010	<1	<1	--	78.8	684	1.47	2.71	9.06	<1	1.59	2.05	<1	41.7
USEPA MCL		5	70	2	5	1,000	700	10,000	--	--	--	--	--	--
RBC-Ingestion		64	290	0.52	2.2	9,200	7.8	850	--	--	0.72	--	61	1,500
RBC - Volatilization to Outdoor Air		>S	>S	6,800	14,000	>S	41,000	>S	--	--	16,000	--	>S	--
RBC - Groundwater in Excavation		5,400	24,000	1,200	1,700	210,000	4,400	23,000	--	--	500	--	1,700	23,000
RBC- Vapor Intrusion into Buildings		32,000	>S	910	2,800	>S	7,400	>S	--	--	10,000	--	>S	--

Graphic Packaging
Portland, Oregon

Notes:

ft bgs = Feet below ground surface

PCE = Tetrachloroethene

TMB = Trimethylbenzene

ppb = parts per billion

USEPA = United States Environmental Protection Agency

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

Monitoring wells JR-23, JR-24, JR-25, JR-26, and JR-27 were reportedly analyzed for VOCs in 1993 and 1996, however ENVIRON was not provided with analytical data.

NS = Not sampled

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

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Table 7. Summary of Detections in Soil for Press Room Area (PRA - AOC-6)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)																		
			PCE	TCE	cis-1,2-DCE	1,1-DCA	1,1,1-TCA	Toluene	Ethylbenzene	Xylenes	Acetone	1-Butanol	Ethanol	Ethyl acetate	1-Hexanol	2-Hexanol	Isopropyl Alcohol	Methanol	Ethyl Ketone	Isobutyl Ketone	propyl alcohol
P-1	5/1/1989	11	--	--	--	--	--	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1
P-2	5/1/1989	10	--	--	--	--	--	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1
P-3	5/1/1989	11	--	--	--	--	--	<1	--	--	<1	<1	2.0	<1	<1	<1	<1	<1	--	<1	<1
P-4	5/1/1989	11	--	--	--	--	--	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1
P-5	5/1/1989	8	--	--	--	--	--	<1	--	--	21.0	240	2,600	85	200	300	980	340	--	180	60
P-6	5/1/1989	11	--	--	--	--	--	<1	--	--	33.0	370	4,200	28	110	160	2,000	1,200	--	770	120
P-7	5/1/1989	8	--	--	--	--	--	<1	--	--	1.0	<1	13.0	<1	<1	<1	2.0	2.0	--	<1	<1
P-8	5/1/1989	11	--	--	--	--	--	1.0	--	--	<1	<1	1,500	18	<1	<1	440	90	--	5	790
P-9	5/1/1989	10	--	--	--	--	--	<1	--	--	<1	<1	<1	<1	<1	<1	<1	<1	--	<1	<1
JR-1-S2	9/22/1989	2	--	--	--	--	--	0.3	<1	<1	<1	--	<1	--	--	--	<1	--	<1	<1	--
JR-1-S5	9/22/1989	5	--	--	--	--	--	<1	<1	<1	<1	--	<1	--	--	--	<1	--	<1	<1	--
JR-2-S10	9/25/1989	10	--	--	--	--	--	0.3	<1	<1	14	--	<1	--	--	--	1,300	--	1	9	--
JR-3-S2	9/22/1989	2	--	--	--	--	--	0.2	<1	<1	<1	--	<1	--	--	--	<1	--	<1	<1	--
JR-3-S5	9/22/1989	5	--	--	--	--	--	<1	<1	<1	<1	--	<1	--	--	--	<1	--	<1	<1	--
B2-5	6/14/1993	5	0.79	<0.01	--	--	<0.01	<0.01	<0.01	<0.01	<0.05	--	--	--	--	--	<0.2	--	<0.04	<0.03	--
B2-5	6/14/1993	5	1.6	<0.063	<0.063	<0.063	0.1	<0.063	<0.063	<0.063	--	--	--	--	--	--	--	--	--	--	--
B2-15	6/14/1993	15	0.034	<0.01	--	--	<0.01	<0.01	<0.01	<0.01	<0.05	--	--	--	--	--	<0.2	--	<0.04	<0.03	--
B2-15	6/14/1993	15	0.017	0.0013	0.002	0.0022	<0.001	0.0082	<0.001	<0.001	--	--	--	--	--	--	--	--	--	--	--
B3-7.5	6/14/1993	7.5	7.8	<1.3	--	--	<1.3	<1.3	<1.3	<1.3	<6.3	--	--	--	--	--	<25	--	<5	<3.8	--
B3-7.5	6/14/1993	7.5	2.6	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063	--	--	--	--	--	--	--	--	--	--	--
B3-12	6/14/1993	12	0.24	0.024	--	--	<0.01	<0.01	<0.01	<0.01	<0.05	--	--	--	--	--	<0.2	--	<0.04	<0.03	--
B3-12	6/14/1993	12	0.3	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063	<0.063	--	--	--	--	--	--	--	--	--	--	--
RBC-Vapor Intrusion into Buildings			36	2.7	>max	5.9	>Csat	>Csat	12	>Csat	--	--	--	--	--	--	--	--	--	--	--
RBC-Ingestion (Occupational)			940	46	2000	200,000	830,000	77,000	140	25,000	--	--	--	--	--	--	--	--	--	--	--
RBC-Ingestion (Construction Worker)			1,600	120	620	2,900	430,000	24,000	1,600	19,000	--	--	--	--	--	--	--	--	--	--	--
RBC-Ingestion (Excavation Worker)			44,000	3,400	17,000	81,000	>max	680,000	44,000	540,000	--	--	--	--	--	--	--	--	--	--	--
RBC-Volatilization to Outdoor Air			>Csat	96	>max	240	>Csat	>Csat	160	>Csat	--	--	--	--	--	--	--	--	--	--	--
RBC-Leaching to Groundwater			3.7	0.21	4.8	0.2	>Csat	>Csat	0.9	100	--	--	--	--	--	--	--	--	--	--	--

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

ft bgs = Feet below ground surface

PCE = Tetrachloroethene

DCE = Dichloroethene

TCE = Trichloroethene

DCA = Dichloroethane

TCA = Trichloroethane

AOC = Area of concern

mg/kg = milligrams per kilogram

ppm = parts per million

-- = not analyzed/no RBC or MCL established

Shaded cells indicate exceedance of one or more RBC

Bolded values indicate concentrations above laboratory reporting limit

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

>max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg

Table 8. Summary of Detections in Groundwater for Press Room Area (PRA - AOC-6)
Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)									
		PCE	TCE	cis-1,2-DCE	1,1-DCA	1,1,1-TCA	Acetone	Ethanol	Isopropyl Alcohol	Methyl Ethyl Ketone	Methyl Isobutyl Ketone
JR-1	10/1/1989	--	--	--	--	--	<50	--	<200	--	<50
JR-1	8/1/1991	<2	<2	--	--	--	<50	<100	<100	--	<2
JR-1	11/1/1991	<1	<1	<1	<1	<1	<10	<50	<50	<10	<1
JR-1	2/1/1992	<2	<2	--	--	--	<10	<100	<100	15.0	<2
JR-1	4/7/1993	--	--	--	--	--	<10	<150	<100	--	<5
JR-1	5/1/1995	2.0	<1	1.5	<1	2.0	--	--	--	--	--
JR-1	12/1/1995	1.6	1.6	4.6	3.1	1.6	<20	--	--	--	--
JR-1	12/31/1997	2.38	1.61	6.52	3.15	--	--	--	--	--	--
JR-1 (Dup)	12/31/1997	2.89	1.47	6.70	2.55	--	--	--	--	--	--
JR-1*	May 2006	1.56	--	--	--	--	--	--	--	--	--
JR-2	9/1/1989	--	--	--	--	--	1,500	<100	7,800	--	440
JR-2 (Dup)	9/1/1989	--	--	--	--	--	1,700	<100	7,600	--	430
JR-2	2/1/1990	--	--	--	--	--	8,000	<100	14,400	--	900
JR-2 (Dup)	2/1/1990	--	--	--	--	--	6,200	<100	14,100	--	920
JR-2	6/1/1990	--	--	--	--	--	620	22,000	5,100	--	130
JR-2 (Dup)	6/1/1990	--	--	--	--	--	360	15,000	3,900	--	95
JR-2	9/1/1990	--	--	--	--	--	6,200	23,000	69,000	--	1,400
JR-2 (Dup)	9/1/1990	--	--	--	--	--	7,100	25,000	50,000	--	1,400
JR-2	1/1/1991	--	--	--	--	--	1,500	<500	2,900	--	150
JR-2 (Dup)	1/1/1991	--	--	--	--	--	2,900	<500	5,600	--	260
JR-2	4/1/1991	--	--	--	--	--	1,900	< 100	<100	--	220
JR-2 (Dup)	4/1/1991	--	--	--	--	--	1,900	<100	<100	--	220
JR-2	8/1/1991	--	--	--	--	--	2,900	<1,000	<1,000	--	430
JR-2 (Dup)	8/1/1991	--	--	--	--	--	4,200	<2,000	<2,000	--	520
JR-2	11/1/1991	<1	<1	1.7	<1	<1	14	<50	<50	<10	<1
JR-2 (Dup)	11/1/1991	<1	<1	1.5	<1	<1	<10	<50	<50	<10	<1
JR-2	2/1/1992	<2	<2	--	--	--	<10	<100	<100	--	<5
JR-2 (Dup)	2/1/1992	<2	<2	--	--	--	<10	<100	<100	--	<5
USEPA MCL (mg/L)		5	5	70	--	200	--	--	--	--	--
RBC - Ingestion		64	3.6	290	29,000	38,000	--	--	--	--	--
RBC - Volatilization to Outdoor Air		>S	19,000	>S	73,000	>S	--	--	--	--	--
RBC - Groundwater in Excavation		5400	430	24,000	10,000	1,100,000	--	--	--	--	--
RBC- Vapor Intrusion into Buildings		32,000	3,300	>S	16,000	>S	--	--	--	--	--

Table 8. Summary of Detections in Groundwater for Press Room Area (PRA - AOC-6)
Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)									
		PCE	TCE	cis-1,2-DCE	1,1-DCA	1,1,1-TCA	Acetone	Ethanol	Isopropyl Alcohol	Methyl Ethyl Ketone	Methyl Isobutyl Ketone
JR-2	7/1/1992	<5	--	--	--	--	<25	<1	<1,000	<7.5	<10
JR-2 (Dup)	7/1/1992	<5	--	--	--	--	<25	<1	<1,000	<7.5	<10
JR-2	10/1/1992	--	--	--	--	--	<10	<1,000	<1,000	--	<5
JR-2	1/7/1993	--	--	--	--	--	<25	<150	<100	--	<25
JR-2 (Dup)	1/7/1993	--	--	--	--	--	<25	<150	<100	--	<25
JR-2	4/7/1993	--	--	--	--	--	<10	<150	<100	--	<5
JR-2	5/1/1995	<1	<1	1.1	<1	<1	--	--	--	--	--
JR-2	12/1/1995	<1	<1	2.1	<1	<1	<20	--	--	--	--
JR-2	12/31/1997	<1	<1	1.57	2.34	--	--	--	--	--	--
JR-2*	May 2006	1.31	--	--	--	--	--	--	--	--	--
JR-3	10/1/1989	--	--	--	--	--	<50		<200	--	<50
JR-3	8/1/1991	<2	<2	--	--	--	<50	<100	<100	--	<2
JR-3	11/1/1991	<1	<1	<1	<1	<1	<10	<50	<50	<10	<1
JR-3	2/1/1992	<2	<2	--	--	--	<10	<100	<100	11.0	<5
JR-3	5/1/1989	<1	<1	1.1	<1	<1	--	--	--	--	--
JR-3	4/7/1993	--	--	--	--	--	<10	<150	<100	--	<5
JR-3	12/1/1995	<1	<1	2.1	<1	<1	<20	--	--	--	--
JR-3	12/31/1997	<1	<1	6.36	2.85	--	--	--	--	--	--
JR-3*	May 2006	--	--	1.82	--	--	--	--	--	--	--
2014 Investigation											
JR-1	8/20/2014	2.1	<1	<1	<1	<1	<10	--	--	<10	<1
JR-2	8/20/2014	<1	<1	1.6	<1	<1	<10	--	--	<10	<1
JR-3		NS									
USEPA MCL (mg/L)		5	5	70	--	200	--	--	--	--	--
RBC - Ingestion		64	3.6	290	29,000	38,000	--	--	--	--	--
RBC - Volatilization to Outdoor Air		>S	19,000	>S	73,000	>S	--	--	--	--	--
RBC - Groundwater in Excavation		5,400	430	24,000	10,000	1,100,000	--	--	--	--	--
RBC- Vapor Intrusion into Buildings		32,000	3,300	>S	16,000	>S	--	--	--	--	--

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

PCE = Tetrachloroethene

TCE = Trichloroethene

DCE = Dichloroethene

µg/L = micrograms per liter

-- = not analyzed/no RBC or MCL established

MCL = Maximum contaminant level

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

Bolded values indicate concentrations above laboratory reporting limit

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

* Data presented in the table was summarized in the body of the ENSR Corporation Environmental Site Assessment and Compliance Review of Graphic Packaging International, Inc., Portland, Oregon dated February 2006 with revisions in September 2006. Laboratory analytical reports were not provided for this data.

DCA = Dichloroethane

TCA = Trichloroethane

AOC = Area of concern

ppb = parts per billion

USEPA = United States Environmental Protection Agency

NS = Well not accessible for sampling

Table 9. Summary of Detections in Soil Vapor for Press Room Area (PRA - AOC-6)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (ppbv)																	Total Combustible Gas
		PCE	TCE	cis-1,2-DCE	1,1-DCE	1,1-DCA	1,1,1-TCA	Vinyl Chloride	Benzene	Toluene	Ethyl-benzene	Xylenes	Acetone	Chloro-ethane	Isopropyl Alcohol	Methylene Chloride	Styrene	Methanol	
P-1	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,400,000
P-2	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	>10,000,000
P-3	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100,000
P-4	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	>10,000,000
P-5	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,600,000
P-6	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130,000
P-7	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140,000
P-8	7/14/1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,000,000
JR-2-1	11/18/1991	170	14	35	<2.0	120	71	270	7.2	23	15	67	20	340	8.8	14	7.1	190	--
JR-2-2	11/18/1991	230	18	45	3.9	130	95	380	20	49	18	80	28	360	7.7	14	7.7	160	--
RBC- Vapor Intrusion into Buildings (Occupational)		6,802	530	>Pv	217,867	1,867	3,957,724	1,075	491	57,304,103	1,108	99,473	--	16,292,622	--	--	1,013,922	--	--

Notes:

PCE = Tetrachloroethene

TCE = Trichloroethene

TCA = Trichloroethane

TPH = Total petroleum hydrocarbons

DCE = Dichloroethene

DCA = Dichloroethane

AOC = Area of concern

ppbv = parts per billion by volume

Bolded values indicate concentrations above laboratory reporting limit

-- = not analyzed/no RBC or MCL established

>Pv = The RBC exceeds the vapor pressure of the pure chemical. Consequently, it is assumed that this constituent cannot create an unacceptable risk for this pathway.

Table 10. Summary of Detections in Soil for UST-Gx (AOC-7)

Graphic Packaging

Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)			
			Xylenes	TPH (Gas)	TPH (Diesel)	TPH (Oil)
P-10	5/1/1989	10	0.6	270	--	--
P-11	5/1/1989	12	0.3	160	--	--
JR4-S5	9/1/1989	5	--	17	--	--
JR5-S2	9/1/1989	2	--	140	--	--
JR5-S5	9/1/1989	5	--	100	--	--
JR6-S2	9/1/1989	2	--	360	--	--
JR6-S5	9/1/1989	5	--	17	--	--
B4-5.5	6/14/1993	5.5	--	<20	<50	ND
B4-10	6/14/1993	10	--	<20	<50	ND
B5-16	6/14/1993	10	--	<20	<50	ND
B6-7.5	6/14/1993	7.5	--	<20	<50	ND
B6-9.5	6/14/1993	9.5	--	<20	<50	ND
B7-15	6/14/1993	15	--	<20	<50	ND
RBC- Vapor Intrusion into Buildings			>Csat	>max	>max	>max
RBC-Ingestion (Occupational)			25,000	20,000	14,000	36,000
RBC-Ingestion (Construction Worker)			19,000	9,700	4,600	11,000
RBC-Ingestion (Excavation Worker)			540,000	>max	>max	>max
RBC-Volatilization to Outdoor Air			>Csat	69,000	>max	>max
RBC-Leaching to Groundwater			100	130	>max	>max

Notes:

UST-Gx = Gasoline Underground Storage Tank Area

RBC = Oregon Department of Environmental Quality Risk Based Concentrations.

ft bgs = Feet below ground surface

AOC = Area of concern

mg/kg = milligrams per kilogram

ppm = parts per million

TPH = Total petroleum hydrocarbons

-- = not analyzed/no RBC or MCL established

 Shaded cells indicate exceedance of one or more RBC or USEPA MCL
Bolded values indicate concentrations above laboratory reporting limit

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

>max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg

ND = Not detected, no detection limit provided

Table 11. Summary of Detections in Groundwater for UST-Gx (AOC-7)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)								
		Benzene	Toluene	Ethylbenzene	Xylenes	Benzo (a) pyrene	2-Methylna-pthalene	Napthalene	Pyrene	Lead
GW-1	4/18/1989	400	20,000	8,000	38,000	--	--	--	--	--
JR-4	10/1/1989	<1	<1	<1	<1	--	--	--	--	--
JR-4	10/23/1989	<1	<1	<1	<1	--	--	--	--	--
JR-4	8/1/1991	<10	<10	<10	<10	--	--	--	--	--
JR-4	11/1/1991	<0.5	<1	<1	<1	0.39	<0.1	<0.1	--	56
JR-4	2/1/1992	<1	<1	<1	<1	--	--	--	<0.1	<100
JR-4	4/7/1993	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
JR-4	5/1/1995	<0.5	<0.5	<0.5	<1	--	--	--	--	--
JR-4	12/1/1995	<0.5	<0.5	<0.5	<1	--	--	--	--	--
JR-5	10/23/1989	120	14	<1	960	--	--	--	--	--
JR-5	2/1/1990	120	11	<1	500	--	--	--	--	--
JR-5 (Dup)	2/1/1990	140	14	<1	580	--	--	--	--	--
JR-5	6/1/1990	89	5	<1	230	--	--	--	--	--
JR-5 (Dup)	6/1/1990	76	5	<1	220	--	--	--	--	--
JR-5	9/1/1990	160	19	95	400	--	--	--	--	--
JR-5 (Dup)	9/1/1990	150	18	88	400	--	--	--	--	--
JR-5	1/1/1991	180	22	85	820	--	--	--	--	--
JR-5	4/1/1991	51	27	250	1,200	--	--	--	--	--
JR-5 (Dup)	4/1/1991	57	27	250	1,200	--	--	--	--	--
JR-5	8/1/1991	94	12	290	700	--	--	--	--	--
JR-5 (Dup)	8/1/1991	99	15	390	920	--	--	--	--	--
JR-5	11/1/1991	64	<5	<5	44	<0.1	0.46	6.8	--	14
JR-5 (Dup)	11/1/1991	70	<5	<5	57	<0.1	0.5	6.3	0.3	31
JR-5	2/1/1992	84	9.1	<5	130	--	--	--	--	<100
JR-5 (Dup)	2/1/1992	83	7.2	<5	120	--	--	--	--	<100
JR-5	7/1/1992	49	3	2	12	--	--	--	--	<2
USEPA MCL		5	1,000	700	10,000	0.2	--	--	--	15
RBC-Ingestion		2.2	9,200	7.8	850	0.056	--	0.72	>S	15
RBC - Volatilization to Outdoor Air		14,000	>S	41,000	>S	NV	--	16,000	>S	NV
RBC - Groundwater in Excavation		1,700	210,000	4,400	23,000	0.53	--	500	>S	>S
RBC- Vapor Intrusion into Buildings		2,800	>S	7,400	>S	NV	--	10,000	>S	NV

Table 11. Summary of Detections in Groundwater for UST-Gx (AOC-7)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)								
		Benzene	Toluene	Ethylbenzene	Xylenes	Benzo (a) pyrene	2-Methylna-pthalene	Napthalene	Pyrene	Lead
JR-5	10/1/1992	17	<0.5	<0.5	3	--	--	--	--	32
JR-5 (Dup)	10/1/1992	50	2	1	6	--	--	--	--	--
JR-5	1/7/1993	90	7.3	3.1	63	--	--	--	--	<5
JR-5	4/7/1993	140	6.2	3.2	34	--	--	--	--	--
JR-5 (Dup)	4/7/1993	150	6.5	3.5	34	--	--	--	--	--
JR-5	5/1/1995	3.1	<0.5	<0.5	<1	--	--	--	--	--
JR-5	12/8/1995	35	1.1	0.62	2	--	--	--	--	--
JR-5	4/1/1996	13	0.55	<0.5	0.81	--	--	--	--	--
JR-5 (Dup)	4/1/1996	13	0.55	<0.5	0.91	--	--	--	--	--
JR-6 (Dup)	10/1/1989	<1	<1	<1	<1	--	--	--	--	--
JR-6	10/23/1989	<1	<1	<1	<1	--	--	--	--	--
JR-21 (Dup of JR-6)	10/23/1989	<1	<1	<1	<1	--	--	--	--	--
JR-6	8/1/1991	<5	<5	<5	<5	--	--	--	--	--
JR-6	11/1/1991	<0.5	<1	<1	<1	0.32	<0.1	<0.1	--	86
JR-6	2/1/1992	<1	<1	<1	<1	--	--	--	0.24	<100
JR-6	1/7/1993	--	--	--	--	--	--	--	--	<5
JR-6	4/7/1993	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
JR-6	5/1/1995	<5	<5	<5	3.8	--	--	--	--	--
JR-6	12/1/1995	<0.5	<0.5	<0.5	<1	--	--	--	--	--
JR-7	5/1/1995	4.6	<0.5	<0.5	<0.5	--	--	--	--	--
JR-7	4/1/1996	1.4	<0.5	<0.5	0.51	--	--	--	--	--
2014 Investigation										
JR-4	8/20/2014	<1	<1	<1	<3	--	--	<1	--	--
JR-5	8/20/2014	<1	<1	<1	<3	--	--	<1	--	--
JR-5 (Dup)	8/20/2014	<1	<1	<1	<3	--	--	<1	--	--
JR-6	Off-site - Not Accessible									
JR-7	8/20/2014	<1	<1	<1	<3	--	--	<1	--	--
JR-7 (Dup)	8/20/2014	<1	<1	<1	<3	--	--	<1	--	--
USEPA MCL		5	1,000	700	10,000	0.2	--	--	--	15
RBC-Ingestion		2.2	9,200	7.8	850	0.056	--	0.72	>S	15
RBC - Volatilization to Outdoor Air		14,000	>S	41,000	>S	NV	--	16,000	>S	NV
RBC - Groundwater in Excavation		1,700	210,000	4,400	23,000	0.53	--	500	>S	>S
RBC- Vapor Intrusion into Buildings		2,800	>S	7,400	>S	NV	--	10,000	>S	NV

Notes:

UST-Gx = Gasoline Underground Storage Tank Area

ft bgs = Feet below ground surface

AOC = Area of concern

-- = not analyzed/no RBC or MCL established

MCL = Maximum contaminant level

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

µg/L = micrograms per liter

ppb = parts per billion

USEPA = United States Environmental Protection Agency

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

NV = Chemical is considered non-volatile for purposes of exposure calculations.

Bolded values indicate concentrations above laboratory reporting limit

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

Table 12. Summary of Detections in Soil Vapor for UST-Gx (AOC-7)

Graphic Packaging

Portland, Oregon

Sample Name	Sample Date	Analytes (ppbv)					
		Benzene	Toluene	Ethyl-benzene	Xylenes	TPH (Gas)	Total Combustible Gas
G-1	7/14/1989	--	--	--	--	--	160,000
G-2	7/14/1989	--	--	--	--	--	140,000
G-3	7/14/1989	--	--	--	--	--	140,000
G-4	7/14/1989	--	--	--	--	--	120,000
G-5	7/14/1989	--	--	--	--	--	140,000
JR-5-1	11/18/1991	500	2,000	800	8,000	200,000	--
JR-5-2	11/18/1991	400	2,000	800	8,000	170,000	--
RBC- Vapor Intrusion into Buildings (Occupational)		491	57,304,103	1,108	99,473	388,571 to 408,000	--

Notes:

UST-Gx = Gasoline Underground Storage Tank Area

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

AOC = Area of concern

ppbv = parts per billion by volume

TPH = Total petroleum hydrocarbons

-- = not analyzed/no RBC or MCL established

>Pv = The RBC exceeds the vapor pressure of the pure chemical. It is assumed that this constituent cannot create an unacceptable risk for this pathway.

Shaded cells indicate exceedance of screening level for vapor intrusion into buildings.

Bolded values indicate concentrations above laboratory reporting limit

Screening level for TPH (Gas) was converted from micrograms per cubic meter to ppbv by using a range for the molecular weight of gasoline (100-105 grams per mole).

Table 13. Summary of Detections in Soil for WTA (AOC-8)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)														
			Methylene Chloride	PCE	TCE	cis-1,2-DCE	1,1,1-TCA	Ethylbenzene	Toluene	Xylenes	1,2,4-TMB	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury
WT-CS-1	9/3/1996	0.5	0.086	0.4	0.062	0.0098	0.076	<0.0025	<0.0025	<0.0025	<0.0025	3.2	120	1.9	28	350	0.57
WT-TCL	9/3/1996	0.5	<130	72	<6.3	<6.3	<6.3	<6.3	1,500	81	<6.3	5.4	2,600	0.92	10,000	50,000	1.5
WT-1/2	9/3/1996	2.0	50	14	<2.5	3.2	<2.5	7.6	510	58	5	--	--	--	--	--	--
WT-1/3	9/3/1996	2.5	<0.01	0.0082	<0.001	0.00016	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	1.5	110	<0.5	11	4.1	<0.05
WT-2/2	9/3/1996	1.6	<13	2.1	<0.63	<0.63	<0.63	<0.63	73	1.8	<0.63	--	--	--	--	--	--
WT-2/3	9/3/1996	2.0	<1.3	0.39	<0.063	<0.063	<0.063	<0.063	3.7	0.18	<0.063	4.3	170	<0.5	16	190	0.075
WT-3/2	9/3/1996	2.0	<13	<0.63	<0.63	<0.63	<0.63	<0.63	74	4.1	<0.63	--	--	--	--	--	--
WT-3/3	9/3/1996	3.0	<1.3	2.78	0.091	<0.063	<0.063	<0.063	0.12	<0.063	<0.063	0.91	110	<0.5	310	1,700	<0.05
HA-1-1.4'	8/26/1999	1	--	--	--	--	--	<0.05	<0.05	<0.05	--	1.86	101	--	16	56.9	0.256
HA-2	9/17/1999	2	--	0.0342	--	--	--	<0.0163	<0.0131	0.0171	0.104	--	--	--	--	--	--
Composite 1,2	9/3/1996	4	0.024	0.02	0.0028	0.0032	0.003	--	--	--	--	--	--	--	--	--	--
Composite 3,4	9/3/1996	4	0.013	0.0064	<0.002	<0.020	<0.002	--	--	--	--	--	--	--	--	--	--
ODEQ Mean Background Concentration			--	--	--	--	--	--	--	--	--	4.4	319.7	0.39	38.9	27.2	0.073
RBC- Vapor Intrusion into Buildings			--	36	2.7	>max	>Csat	12	>Csat	>Csat	1,000	NV	NV	NV	NV	NV	NV
RBC-Ingestion (Occupational)			--	940	46	2000	830,000	140	77,000	25,000	2,000	1.7	190,000	510	>max	800	310
RBC-Ingestion (Construction Worker)			--	1,600	120	620	430,000	1,600	24,000	19,000	2,000	13	60,000	150	460,000	800	93
RBC-Ingestion (Excavation Worker)			--	44,000	3,400	17,000	>max	44,000	680,000	540,000	54,000	370	>max	4,300	>max	800	2,600
RBC-Volatilization to Outdoor Air			--	>Csat	96	>max	>Csat	160	>Csat	>Csat	1,000	NV	NV	NV	NV	NV	NV
RBC-Leaching to Groundwater			--	3.7	0.21	4.8	>Csat	0.9	>Csat	100	68	*	*	*	*	30	*

Table 13. Summary of Detections in Soil for WTA (AOC-8)

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)														
			Methylene Chloride	PCE	TCE	cis-1,2-DCE	1,1,1-TCA	Ethylbenzene	Toluene	Xylenes	1,2,4-TMB	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury
2014 Investigation																	
AOC8-02-0.5	8/22/2014	0.5	< 0.02	0.13	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	2.0	120	< 1.0	12	50	< 0.5
AOC8-02-2	8/22/2014	2	< 0.02	0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	1.4	88	< 1.0	12	< 5.0	< 0.5
AOC8-02-4	8/22/2014	4	< 0.02	0.13	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	3.0	200	< 1.0	23	5.7	< 0.5
AOC8-02-8	8/22/2014	8	< 0.02	0.16	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	1.6	150	< 1.0	19	< 5.0	< 0.5
AOC8-03-0.5	8/22/2014	0.5	< 0.02	0.26	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	2.7	320	< 1.0	13	1,200	< 0.5
AOC8-03-2	8/22/2014	2	< 0.02	0.08	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	3.7	240	< 1.0	26	17	< 0.5
AOC8-03-4	8/22/2014	4	< 0.02	0.06	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	1.9	130	< 1.0	26	19	< 0.5
AOC8-03-8	8/22/2014	8	< 0.02	0.13	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	2.6	180	< 1.0	20	< 5.0	< 0.5
AOC8-04-0.5	8/22/2014	0.5	< 0.02	0.57	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	2.6	210	< 1.0	16	92	< 0.5
AOC8-04-2	8/22/2014	2	< 0.02	0.69	0.04	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	1.9	160	< 1.0	15	65	< 0.5
AOC8-04-4	8/22/2014	4	< 0.02	0.50	0.04	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	2.0	140	< 1.0	19	9.7	< 0.5
AOC8-04-8	8/22/2014	8	< 0.02	0.16	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	4.2	200	< 1.0	27	8.5	< 0.5
AOC8-05-0.5	8/22/2014	0.5	< 0.02	0.90	0.04	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	1.9	180	< 1.0	14	110	< 0.5
AOC8-05-2	8/22/2014	2	< 0.02	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	0.07	< 0.15	< 0.05	1.4	84	< 1.0	12	< 5.0	< 0.5
AOC8-05-4	8/22/2014	4	< 0.02	0.26	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	1.9	140	< 1.0	14	< 5.0	< 0.5
AOC8-05-8	8/22/2014	8	< 0.02	0.17	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	3.3	200	< 1.0	27	9.0	< 0.5
ODEQ Mean Background Concentration			--	--	--	--	--	--	--	--	--	4.4	319.7	0.39	38.9	27.2	0.073
RBC- Vapor Intrusion into Buildings			--	36	2.7	>max	>Csat	12	>Csat	>Csat	1,000	NV	NV	NV	NV	NV	NV
RBC-Ingestion (Occupational)			--	940	46	2000	830,000	140	77,000	25,000	2,000	1.7	190,000	510	>max	800	310
RBC-Ingestion (Construction Worker)			--	1,600	120	620	430,000	1,600	24,000	19,000	2,000	13	60,000	150	460,000	800	93
RBC-Ingestion (Excavation Worker)			--	44,000	3,400	17,000	>max	44,000	680,000	540,000	54,000	370	>max	4,300	>max	800	2,600
RBC-Volatilization to Outdoor Air			--	>Csat	96	>max	>Csat	160	>Csat	>Csat	1,000	NV	NV	NV	NV	NV	NV
RBC-Leaching to Groundwater			--	3.7	0.21	4.8	>Csat	0.9	>Csat	100	68	*	*	*	*	30	*

Notes:

WTA = Wax Trench Area

TCA = Trichloroethane

ft bgs = Feet below ground surface

DCE = Dichloroethene

PCE = Tetrachloroethene

TMB = Trimethylbenzene

TCE = Trichloroethene

AOC = Area of concern

mg/kg = milligrams per kilogram

ppm = parts per million

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

HA-1/HA-2 = Location of these samples was not provided, although based on description they appear to have been collected beneath the Hazardous Waste Accumulation Area.

WT-TCL = Sample composited using upper 6 inches of soil from WT-1, WT-2, and WT-3.

-- = not analyzed/no RBC or MCL established

* = Leaching to groundwater RBCs are not provided for inorganic chemicals. If this pathway is of concern, then site specific leaching tests must be carried out.

Shaded cells indicate exceedance of one or more RBC

Bolded values indicate concentrations above laboratory reporting limit

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

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

>max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg

Table 14. Summary of Detections in Groundwater for WTA (AOC-8)

Graphic Packaging

Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)				
		PCE	Cis-1,2-DCE	Toluene	Xylenes	1,2,4-TMB
2014 Investigation						
AOC8-01	8/22/2014	< 1.0	7.2	4.6	3.5	3.6
AOC8-03	8/22/2014	1.1	< 1.0	< 1.0	< 3.0	< 1.0
USEPA MCL		5	70	1,000	10,000	--
RBC-Ingestion		64	290	9,200	850	61
RBC - Volatilization to Outdoor Air		>S	>S	>S	>S	>S
RBC - Groundwater in Excavation		5,400	24,000	210,000	23,000	1,700
RBC- Vapor Intrusion into Buildings		32,000	>S	>S	>S	>S

Notes:

WTA = Wax Trench Area

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

PCE = Tetrachloroethene

TMB = Trimethylbenzene


µg/L = micrograms per liter

ppb = parts per billion

-- = not analyzed/no RBC or MCL established

USEPA = United States Environmental Protection Agency

MCL = Maximum contaminant level

 Shaded cells indicate exceedance of one or more RBC or USEPA MCL
Bolded values indicate concentrations above laboratory reporting limit

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

Table 15. Summary of Detections in Soil for Vacant Field (AOC-9)

Graphic Packaging

Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)						
			Arsenic	Barium	Cadmium	Chromium (total)	Copper	Lead	Zinc
AF-1	1989	0	--	--	--	590	100	2,900	90
AF-2	1989	0	--	--	--	440	85	1,800	85
2014 Investigation									
AOC9-01-SB-0.5	8/20/2014	0.5	< 0.2	< 50	< 1	< 0.2	18	< 5	94
AOC9-02-SB-0.5	8/20/2014	0.5	< 0.2	< 50	< 1	< 0.2	15	< 5	80
AOC9-03-SB-0.5	8/20/2014	0.5	< 0.2	< 50	< 1	< 0.2	18	< 5	75
AOC9-04-SB-0.5	8/20/2014	0.5	< 0.2	< 50	< 1	< 0.2	18	< 5	91
AOC9-05-SB-0.5	8/20/2014	0.5	< 0.2	< 50	< 1	< 0.2	17	< 5	70
AOC9-06-SB-0.5	8/20/2014	0.5	12	280	1.1	29	41	160	5,600
2015 Investigation									
AOC9-07-SS-0.5	4/7/2015	0.5	3	--	--	--	--	53	--
AOC9-07-SB-1.5	4/7/2015	1.5	6.7	--	--	--	--	19	--
AOC9-08-SS-0.5	4/7/2015	0.5	2.8	--	--	--	--	21	--
AOC9-08-SB-1.5	4/7/2015	1.5	3.9	--	--	--	--	32	--
AOC9-09-SS-0.5	4/7/2015	0.5	2.5	--	--	--	--	74	--
AOC9-09-SB-1.5	4/7/2015	1.5	3.6	--	--	--	--	40	--
AOC9-10-SS-0.5	4/7/2015	0.5	3.4	--	--	--	--	34	--
AOC9-10-SB-1.5	4/7/2015	1.5	4.9	--	--	--	--	47	--
AOC9-11-SS-0.5	4/7/2015	0.5	3.5	--	--	--	--	46	--
AOC9-11-SB-1.5	4/7/2015	1.5	3.4	--	--	--	--	27	--
AOC9-12-SS-0.5	4/7/2015	0.5	3.0	--	--	--	--	36	--
AOC9-12-SB-1.5	4/7/2015	1.5	3.2	--	--	--	--	29	--
AOC9-13-SS-0.5	4/7/2015	0.5	3.2	--	--	--	--	42	--

Table 15. Summary of Detections in Soil for Vacant Field (AOC-9)

Graphic Packaging

Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)						
			Arsenic	Barium	Cadmium	Chromium (total)	Copper	Lead	Zinc
AOC9-13-SB-1.5	4/7/2015	1.5	2.7	--	--	--	--	110	--
AOC9-14-SS-0.5	4/7/2015	0.5	3.1	--	--	--	--	44	--
AOC9-14-SB-1.5	4/7/2015	1.5	3.8	--	--	--	--	51	--
ODEQ Mean Background Concentration			4.44	319.7	0.387	38.9	24.19	27.2	104.9
RBC-Ingestion (Occupational)			1.7	190,000	510	>max	41,000	800	--
RBC-Ingestion (Construction Worker)			13	60,000	150	460,000	12,000	800	--
RBC-Ingestion (Excavation Worker)			370	>max	4,300	>max	340,000	800	--
RBC-Leaching to Groundwater			*	*	*	*	*	30	*

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

ft bgs = Feet below ground surface

mg/kg = milligrams per kilogram

ppm = parts per million

-- = not analyzed/no RBC established

* = Leaching to groundwater RBCs are not provided for inorganic chemicals. If this pathway is of concern, then site specific leaching tests must be carried out.

Shaded cells indicate values exceeding one or more RBC

Bolded values indicate concentrations above laboratory reporting limit

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

>max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg

Table 16. Summary of Detections in Deep Groundwater Monitoring Wells (AOC-10)
Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)							
		PCE	TCE	cis-1,2-DCE	1,1-DCE	1,1-DCA	1,1,1-TCA	Chloroform	1,2-dichloro-propane
DW-1	5/10/1991	3.7	8.7	<5	--	--	<2	--	--
DW-1	6/1/1993	7	11.4	<0.5	--	--	2	--	--
DW-1 (Dup)	6/1/1993	6.3	11.2	<0.5	--	--	2.2	--	--
DW-1	12/1/1993	9.8	9.6	<1	--	--	<0.5	--	--
DW-1	5/1/1995	9.2	14	<1	--	--	<1.0	--	--
DW-1	12/6/1995	6.7	10	<1	<1.0	<1.0	<1.0	<1.0	--
DW-1	9/18/1996	8.5	9.7	<1.0	<1.0	<1.0	<1	<1.0	<1.0
DW-1	7/30/2001	4.6	4.36	0.874	<0.5	<0.5	<1	<0.5	<0.5
DW-2	5/10/1991	7.4	2.3	<5	--	--	<2	--	--
DW-2 (Dup)	5/10/1991	5.6	2.5	--	--	--	--	--	--
DW-2	6/1/1993	9.3	9.2	<0.5	--	--	2	--	--
DW-2	12/1/1993	20	14	<1	--	--	<0.5	--	--
DW-2	5/1/1995	15	12	<1	--	--	1.4	--	--
DW-2	12/6/1995	13	13	1.2	<1.0	<1.0	<1	<1.0	--
DW-2	9/18/1996	19	19	3.1	<1.0	<1.0	1.2	<1.0	1.1
DW-2	7/30/2001	6.21	8.10	2.82	<0.5	<0.5	<1.0	<0.5	<0.5
DW-3	5/10/1991	6.1	<2	<5	--	--	<2	--	--
DW-3	6/1/1993	8.8	4.1	<0.5	--	--	1.9	--	--
DW-3	12/1/1993	9.2	5.8	<1	--	--	<0.5	--	--
DW-3	5/1/1995	11	6.8	<1	--	--	<1	--	--
DW-3	12/6/1995	5.7	4.5	<1	<1.0	<1.0	<1	<1.0	--
DW-3	9/18/1996	8	7.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DW-3	7/30/2001	9.84	14.0	4.77	0.658	0.573	<1.0	<0.5	0.815
2014 Investigation									
DW-1	8/19/2014	5.2	4.3	2.1	< 1	< 1	< 1	1.4	< 1
DW-2	8/19/2014	8.1	8.4	3.4	< 1	< 1	< 1	< 1	< 1
DW-3	8/19/2014	10	<1	17	< 1	< 1	< 1	< 1	< 1
USEPA MCL (µg/L)		5	5	70	7	--	200	--	5
RBC-Ingestion (Occupational)		64	3.6	290	1,400	13	38,000	0.99	--
RBC - Volatilization to Outdoor Air		>S	19,000	>S	>S	730,000	>S	5,500	--
RBC - Groundwater in Excavation		5,400	430	24,000	43,000	10,000	1,100,000	720	--
RBC- Vapor Intrusion into Buildings		32,000	3,300	>S	880,000	7,700	>S	1,200	--

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

PCE = Tetrachloroethene

TCE = Trichloroethene

DCE = Dichloroethene

TCA = Trichloroethane

AOC = Area of concern

µg/L = micrograms per liter

ppb = parts per billion

-- = not analyzed/no RBC or MCL established

USEPA = United States Environmental Protection Agency

MCL = Maximum contaminant level

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

Bolded values indicate concentrations above laboratory reporting limit

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

* Data presented in the table was summarized in the body of the ENSR Corporation Environmental Site Assessment and Compliance Review of Graphic Packaging International, Inc., Portland, Oregon dated February 2006 with revisions in September 2006. Laboratory analytical reports were not provided for this data.

Table 17. Summary of Detections in Soil for Former IntelliCoat Vault Area

Graphic Packaging
Portland, Oregon

Sample Name	Sample Date	Sample Depth (ft bgs)	Analytes (mg/kg or ppm)									
			PCE	Toluene	Ethylbenzene	Xylenes (total)	TPH (Diesel)	TPH (Lube Oil)	Arsenic	Barium	Chromium (total)	Lead
Hydraulic Sump-8.5 ft	5/24/2014	8.5	--	--	--	--	6,100	47,000	--	--	--	--
2014 Investigation												
INT-01-SB-8.5-082214	8/22/2014	8.5	0.06	< 0.05	< 0.05	< 0.15	< 50	< 100	2.9	150	26	31
INT-01-SB-10.5-082214	8/22/2014	10.5	< 0.02	< 0.05	< 0.05	0.17	< 50	3,400	4.6	250	36	9.6
INT-01-SB-15-082214	8/22/2014	15	< 0.02	< 0.05	< 0.05	< 0.15	< 50	< 100	3.2	250	37	9.3
INT-02-SB-8.5-082214	8/22/2014	8.5	< 0.02	< 0.05	< 0.05	< 0.15	< 50	1,500	1.8	110	16	26
INT-02-SB-10.5-082214	8/22/2014	10.5	< 0.02	< 0.05	< 0.05	< 0.15	< 50	< 100	5.1	250	39	10
INT-02-SB-15-082214	8/22/2014	15	< 0.02	< 0.05	< 0.05	< 0.15	< 50	< 100	4.1	280	35	10
INT-03-SB-8.5-082214	8/22/2014	8.5	0.05	< 0.05	0.09	0.36	< 50	4,600	4.2	250	34	10
INT-03-SB-15-082214	8/22/2014	10.5	< 0.02	< 0.05	< 0.05	< 0.15	< 50	< 100	3.9	280	36	10
INT-03-SB-10.5-082214	8/22/2014	15	< 0.02	< 0.05	< 0.05	< 0.15	< 50	190	4.6	310	37	12
INT-04-SB-8.5-082214	8/22/2014	8.5	< 0.02	0.07	< 0.05	< 0.15	< 50	< 100	1.8	110	12	39
INT-04-SB-10.5-082214	8/22/2014	10.5	< 0.02	< 0.05	< 0.05	< 0.15	< 50	< 100	2.9	210	32	8.3
INT-04-SB-15-082214	8/22/2014	15	< 0.02	< 0.05	< 0.05	< 0.15	< 50	< 100	2.8	190	29	6.8
ODEQ Mean Background Concentration			--	--	--	--	--	--	4.44	319.7	38.9	27.2
RBC- Vapor Intrusion into Buildings			36	>Csat	12	>Csat	>max	>max	NV	NV	NV	NV
RBC-Ingestion (Occupational)			940	77,000	140	25,000	14,000	36,000	1.7	190,000	>max	800
RBC-Ingestion (Construction Worker)			1,600	24,000	1,600	19,000	4,600	11,000	13	60,000	460000	800
RBC-Ingestion (Excavation Worker)			44,000	680,000	44,000	540,000	>max	>max	370	>max	>max	800
RBC-Volatilization to Outdoor Air			>Csat	>Csat	160	>Csat	>max	>max	NV	NV	NV	NV
RBC-Leaching to Groundwater			3.7	>Csat	0.9	100	>max	>max	*	*	*	30

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

WTA = Wax Trench Area

TCA = Trichloroethane

ft bgs = Feet below ground surface

DCE = Dichloroethene

PCE = Tetrachloroethene

TMB = Trimethylbenzene

TCE = Trichloroethene

AOC = Area of concern

mg/kg = milligrams per kilogram

ppm = parts per million

-- = not analyzed/no RBC or MCL established

* = Leaching to groundwater RBCs are not provided for inorganic chemicals. If this pathway is of concern, then site specific leaching tests must be carried out.

Shaded cells indicate exceedance of one or more RBC

Bolded values indicate concentrations above laboratory reporting limit

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

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

>max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg

Table 18. Summary of Detections in Groundwater for Former IntelliCoat Vault Area
 Graphic Packaging
 Portland, Oregon

Sample Name	Sample Date	Analytes (µg/L or ppb)			
		TCE	cis-1,2-DCE	Toluene	1,2,4-TMB
INT-04	8/22/2014	4.7	6.6	1.5	2.4
USEPA MCL (µg/L)		5	70	1,000	--
RBC-Ingestion		3.6	290	9,200	61
RBC - Volatilization to Outdoor Air		19,000	>S	>S	>S
RBC - Groundwater in Excavation		430	24,000	210,000	1,700
RBC- Vapor Intrusion into Buildings		3,300	>S	>S	>S

Notes:

RBC = Oregon Department of Environmental Quality Risk Based Concentrations

TCE = Trichloroethene

Cis-1,2-DCE= Cis-1,2-dichloroethene

1,2,4-TMB= 1,2,4-trimethylbenzene

µg/L = micrograms per liter

ppb = parts per billion

-- = not analyzed/no RBC or MCL established

USEPA = United States Environmental Protection Agency

MCL = Maximum contaminant level

Shaded cells indicate exceedance of one or more RBC or USEPA MCL

Bolded values indicate concentrations above laboratory reporting limit

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

Table 19. Summary of Groundwater Elevations

Graphic Packaging

Portland, Oregon

Well Name	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Notes
Deep Wells					
DW-1	8/19/2014	38.29	30.41	7.88	
DW-2	8/19/2014	23.52	15.37	8.15	
DW-3	8/18/2014	27.72	19.64	8.08	
Shallow Wells					
JR-1	8/20/2014	27.17	14.15	13.02	
JR-2	8/20/2014	27.22	13.93	13.29	
JR-3	NA	24.92	NA	NA	Well cap could not be opened.
JR-4	8/20/2014	26.74	12.49	14.25	
JR-5	8/20/2014	26.91	11.71	15.2	
JR-6	NA	26.81	NA	NA	Well is located behind a fence and is inaccessible.
JR-7	8/20/2014	27.35	13.01	14.34	
JR-8	NA	26.55	NA	NA	Well is located behind a fence and is inaccessible.
JR-9	NA	NA			Well is located behind a fence and is inaccessible.
JR-10	NA	26.95	NA	NA	Well could not be located.
JR-11	NA				Well was abandoned (next to JR-15).
JR-12	8/18/2014	28.07	18.54	9.53	
JR-13	NA				Well not installed
JR-14	NA	27.01	NA	NA	Well could not be located.
JR-15	8/19/2014	26.02	12.04	13.98	
JR-16	8/19/2014	23.52	9.18	14.34	
JR-17	NA	23.64	NA	NA	Well not sampled because the casing was not sealed with a well cap.
JR-18	8/19/2014	23.67	9.35	14.32	
JR-19	NA	22.77	NA	NA	converted to soil vapor extraction (SVE) well
JR-20	8/19/2014	26.42	14.71	11.71	
JR-21	8/18/2014	27.35	18.68	8.67	
JR-22	8/18/2014	28.81	15.52	13.29	
JR-23	NA	NA	13.9	NA	No survey information available from prior reports.
JR-24	NA	NA	13.28	NA	No survey information available from prior reports.
JR-25	NA	NA	13.36	NA	No survey information available from prior reports.
JR-26	NA	NA	13.68	NA	No survey information available from prior reports.
JR-27	NA	NA	13.33	NA	No survey information available from prior reports.

Notes:

NA = Well not accessible (see notes column)

Table 20. Summary of 2014 Groundwater Quality Data

Graphic Packaging
Portland, Oregon

Well	Sample Date	Analytes (µg/L or ppb)																			
		1,1,1,2-Tetra- chloro-ethane	1,1,1- Trichloro- ethane	1,1,2,2- Tetrachloro- ethane	1,1,2- Trichloro- ethane	1,1- Dichloro- ethane	1,1- Dichloro- ethene	1,1- Dichloro- propene	1,2,3- Trichloro- benzene	1,2,3- Trichloro- propane	1,2,4- Trichloro- benzene	1,2,4- Trimethyl- benzene	1,2-Dibromo- 3-chloro- propane	1,2- Dibromo- ethane	1,2- Dichloro- benzene	1,2- Dichloro- ethane	1,2- Dichloro- propane	1,3,5- Trimethyl- benzene	1,3- Dichloro- benzene	1,3- Dichloro- propane	1,4- Dichloro- benzene
JR-1	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-2	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-4	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-5	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-5	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-7	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-7	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-12	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-16	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-15	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-18	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-20	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-21	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-22	8/18/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-23	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-24	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-25	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-26	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-27	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	12	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
DW-1	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
DW-2	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
DW-3	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes:

Grey shading indicates wells with no detections above laboratory reporting level for any constituent.

None of the detected analytes exceeded Risk Based Concentrations (RBCs) established by Oregon Department of Environmental Quality.

Bolded values indicate concentrations above laboratory reporting limit.

Table 20. Summary of 2014 Groundwater Quality Data

Graphic Packaging
Portland, Oregon

Well	Sample Date	Analytes (µg/L or ppb)																						
		2,2-Dichloro-propane	2-Butanone	2-Chloro-toluene	2-Hexanone	4-Chloro-toluene	4-Methyl-2-pentanone	Acetone	Benzene	Bromo-benzene	Bromo-chloro-methane	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tetra-chloride	Chloro-benzene	Chloro-ethane	Chloro-form	Chloro-methane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Cumene	Dibromo-chloro-methane	Dibromo-methane
JR-1	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-2	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-4	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-5	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-5	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-7	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-7	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-12	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-16	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-15	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-18	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-20	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-21	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-22	8/18/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-23	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-24	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-25	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-26	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
JR-27	8/20/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
DW-1	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
DW-2	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
DW-3	8/19/2014	< 1	< 10	< 1	< 1	< 1	< 1	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Note:

Grey shading indicates wells with no detections above laboratory reporting level for any constituent.

None of the detected analytes exceeded Risk Based Concentrations (RBCs) established by Oregon Department of Environmental Quality or Federal Maximum Contaminant Levels (MCLs).

Bolded values indicate concentrations above laboratory reporting limit

Table 20. Summary of 2014 Groundwater Quality Data

Graphic Packaging
Portland, Oregon

Well	Sample Date	Analytes (µg/L or ppb)																			
		Dichloro- difluoro- methane	Ethyl Benzene	Hexachloro- butadiene	Methyl tert- butyl ether	Methylene Chloride	Naph- thalene	n-Butyl- benzene	n-Propyl- benzene	p- Cymene	sec-Butyl- benzene	Styrene	tert-Butyl- benzene	Tetrachloro- ethene	Toluene	trans-1,2- Dichloro ethene	trans-1,3- Dichloro- propene	Trichloro- ethene	Trichloro- fluoro- methane	Vinyl Chloride	Xylenes (total)
JR-1	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-2	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-4	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-5	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-5	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-7	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-7	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-12	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-16	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	2.2	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-15	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-18	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-20	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-21	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-22	8/18/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-23	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-24	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.9	< 1	< 1	< 1	< 1	< 1	1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-25	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-26	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
JR-27	8/20/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	3.1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3
DW-1	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	5.2	< 1	< 1	< 1	4.3	< 1	< 0.2	< 3
DW-2	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	8.1	< 1	< 1	< 1	8.4	< 1	< 0.2	< 3
DW-3	8/19/2014	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	10	< 1	< 1	< 1	< 1	< 1	< 0.2	< 3

Notes:

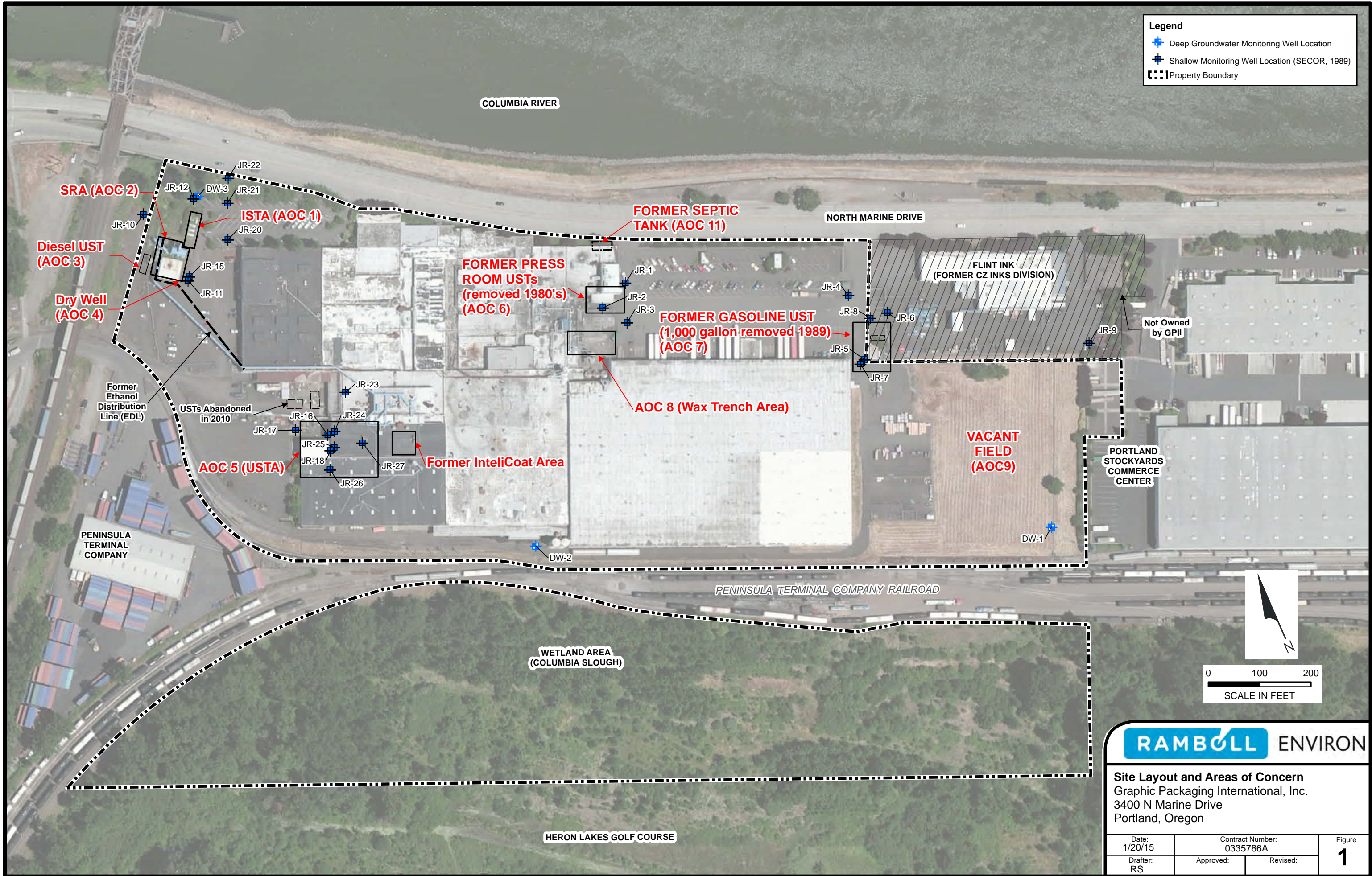
Grey shading indicates wells with no detections above laboratory reporting level for any constituent.

None of the detected analytes exceeded Risk Based Concentrations (RBCs) established by Oregon Department of Environmental Quality or Federal Maximum Contaminant Levels (MCLs).






Bolded values indicate concentrations above laboratory reporting limit

FIGURES

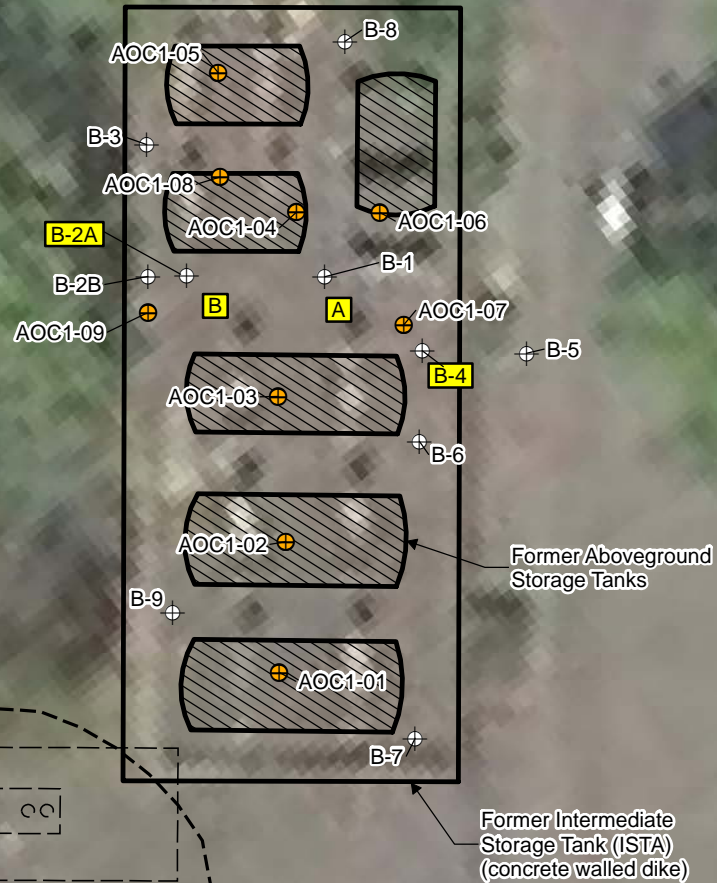
Path: I:\ENVIRON\CORP\INT\DFS-Shares\NCSA\Princeton\DB3(V)\Josh\North Portland\0335786A\1_NorthPortland-sAMPLOC_11X17.mxd



Legend

-  Soil Sample Location (James River Corporation, 1989)
-  Soil Sample Location (SECOR, 1989)
-  Soil Boring Sample Location (SECOR, 1997)
-  Soil Boring (ENVIRON, 2014)
-  Exceedance of RBCs in One or More Soil Sample Collected

Note: See Figure 2b for location of additional SECOR 1989 soil samples at JR-10, JR-12, JR-13, JR-14, and JR-15.



RAMBOLL ENVIRON

Soil Sampling Location Map
Former Intermediate Storage Tank Area (AOC 1)
Graphic Packaging International, Inc.,
3400 N. Marine Drive, Portland, Oregon

Figure

2a

Drafter: RS






Date: 2/17/2015

Contract Number: 03-35786A

Approved:

Revised:

Legend

-  Shallow Monitoring Well Location (SECOR, 1989)
-  Groundwater Sample Location (James River Corporation/Brown & Caldwell, 1989)
-  Groundwater Sample Location (SECOR, 1997)
-  Hydropunch Sample Location (SECOR, 1998)
-  Groundwater Sampling Location (ENVIRON, 2014)



Source: Google Earth Pro, 7-14-2014.



Groundwater Sampling Locations - AOC1, AOC2, AOC3, AOC4
Graphic Packaging International, Inc.,
3400 N. Marine Drive, Portland, Oregon

Figure

2b

Drafter: RS

Date: 2/13/2015

Contract Number: 03-35786A

Approved:

Revised:



Soil Sampling Location Map
Solvent Recovery Area (AOC-2), Former Diesel Underground Storage Tank (AOC 3), and Dry Well (AOC 4)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

3

Drafter: JD





Date: 2/13/2015

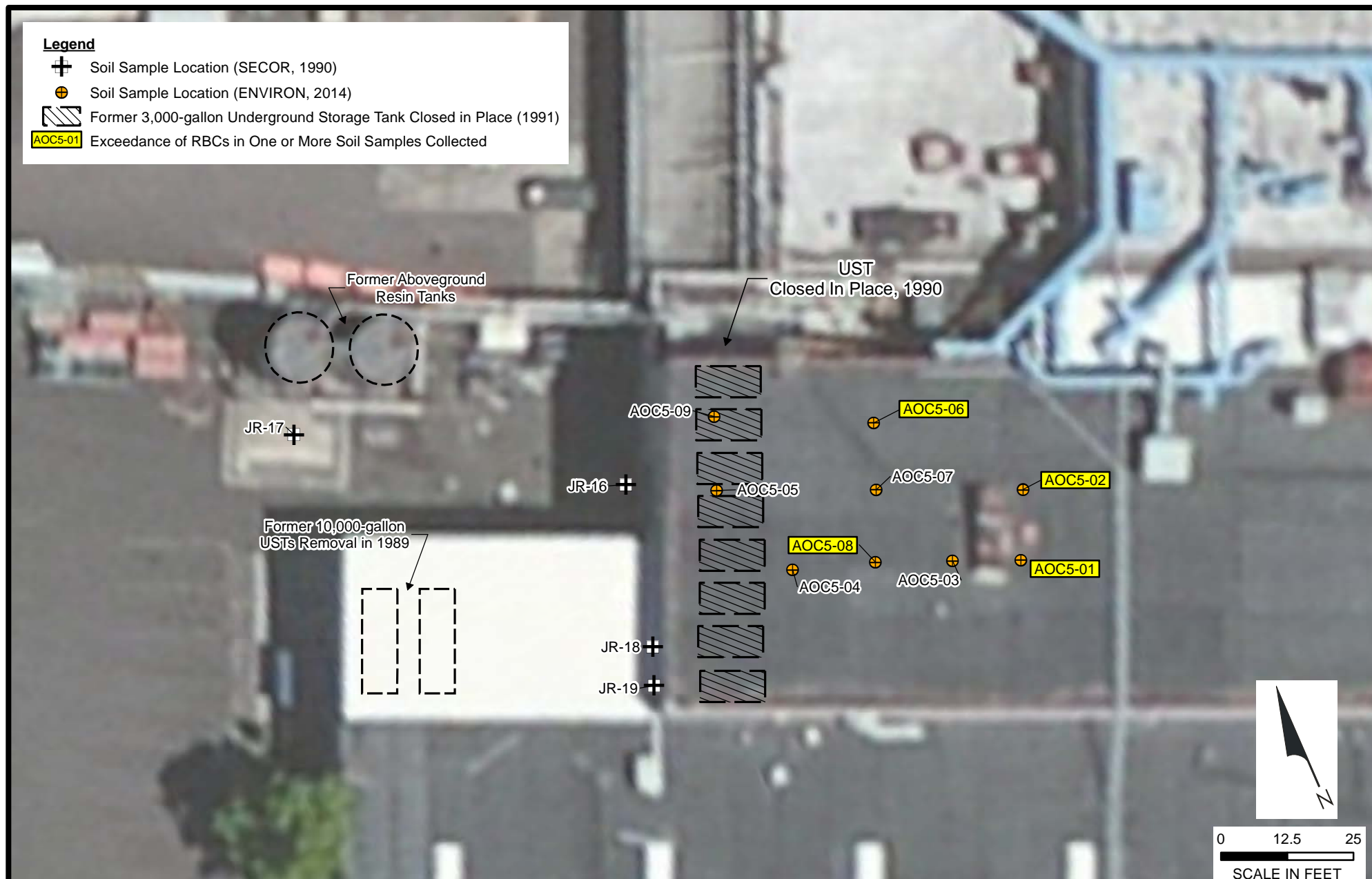
Contract Number: 03-35786A

Approved:

Revised:

Legend

-  Soil Sample Location (SECOR, 1990)
-  Soil Sample Location (ENVIRON, 2014)
-  Former 3,000-gallon Underground Storage Tank Closed in Place (1991)
-  Exceedance of RBCs in One or More Soil Samples Collected



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Soil Sampling Location Map
Former Underground Storage Tank Area (AOC 5)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

4a

Drafter: RS





Date: 2/13/2015

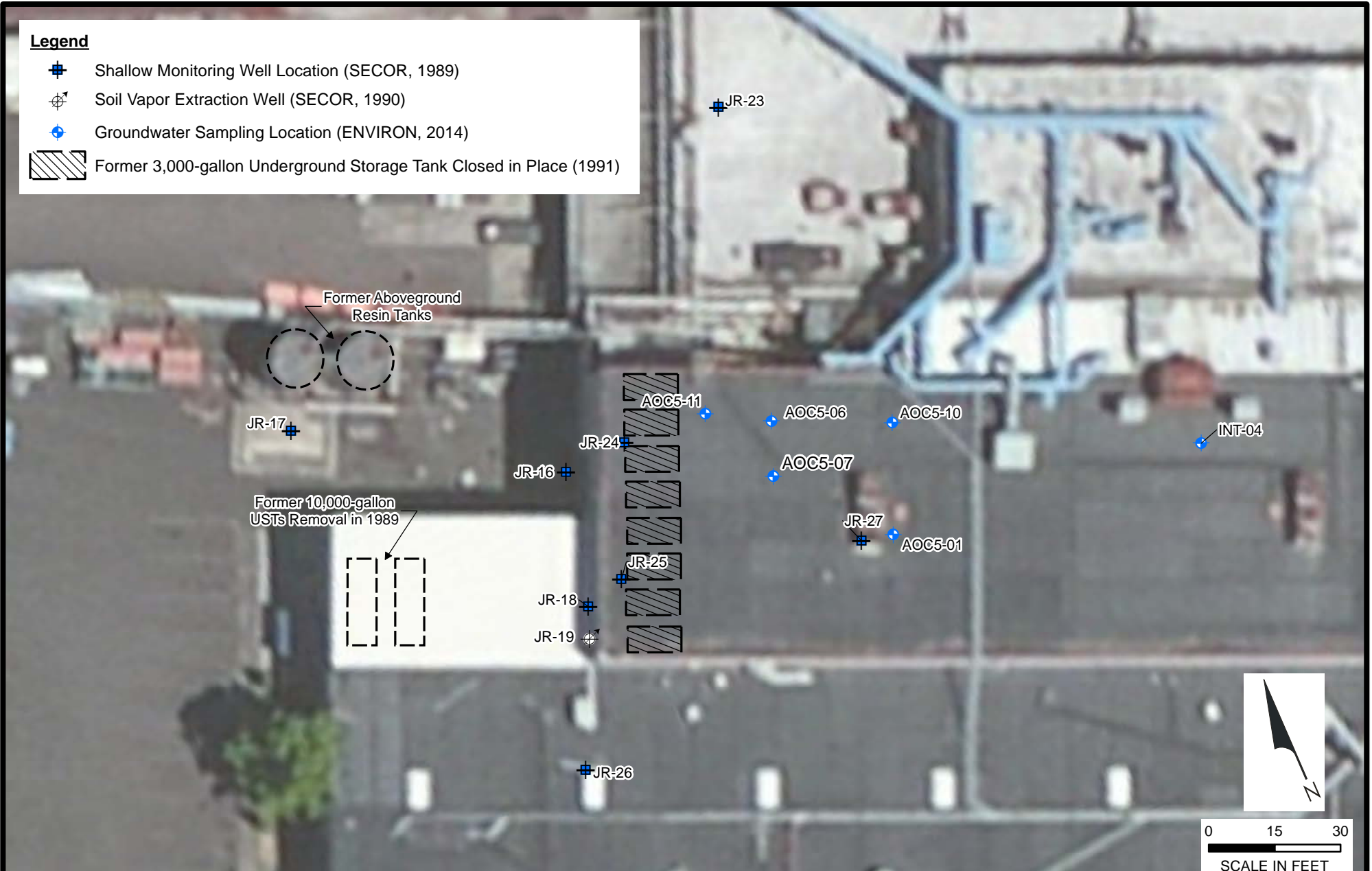
Contract Number: 03-35786A

Approved:

Revised:

Legend

-  Shallow Monitoring Well Location (SECOR, 1989)
-  Soil Vapor Extraction Well (SECOR, 1990)
-  Groundwater Sampling Location (ENVIRON, 2014)
-  Former 3,000-gallon Underground Storage Tank Closed in Place (1991)



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

	<p>Groundwater Sampling Locations Former Underground Storage Tank Area (AOC 5) Graphic Packaging International, Inc., 3400 N. Marine Drive, Portland, Oregon</p>	<p>Figure 4b</p>
<p>Drafter: RS Date: 2/12/2015 Contract Number: 03-35786A</p>	<p>Approved: Revised:</p>	



Soil Sampling Location Map
Press Room Area (AOC 6)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

5a

Drafter: JD

Date: 2/13/2015

Contract Number: 03-35786A

Approved:

Revised:



Soil Vapor and Groundwater Sampling Location Map
Press Room Area (AOC 6)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

5b

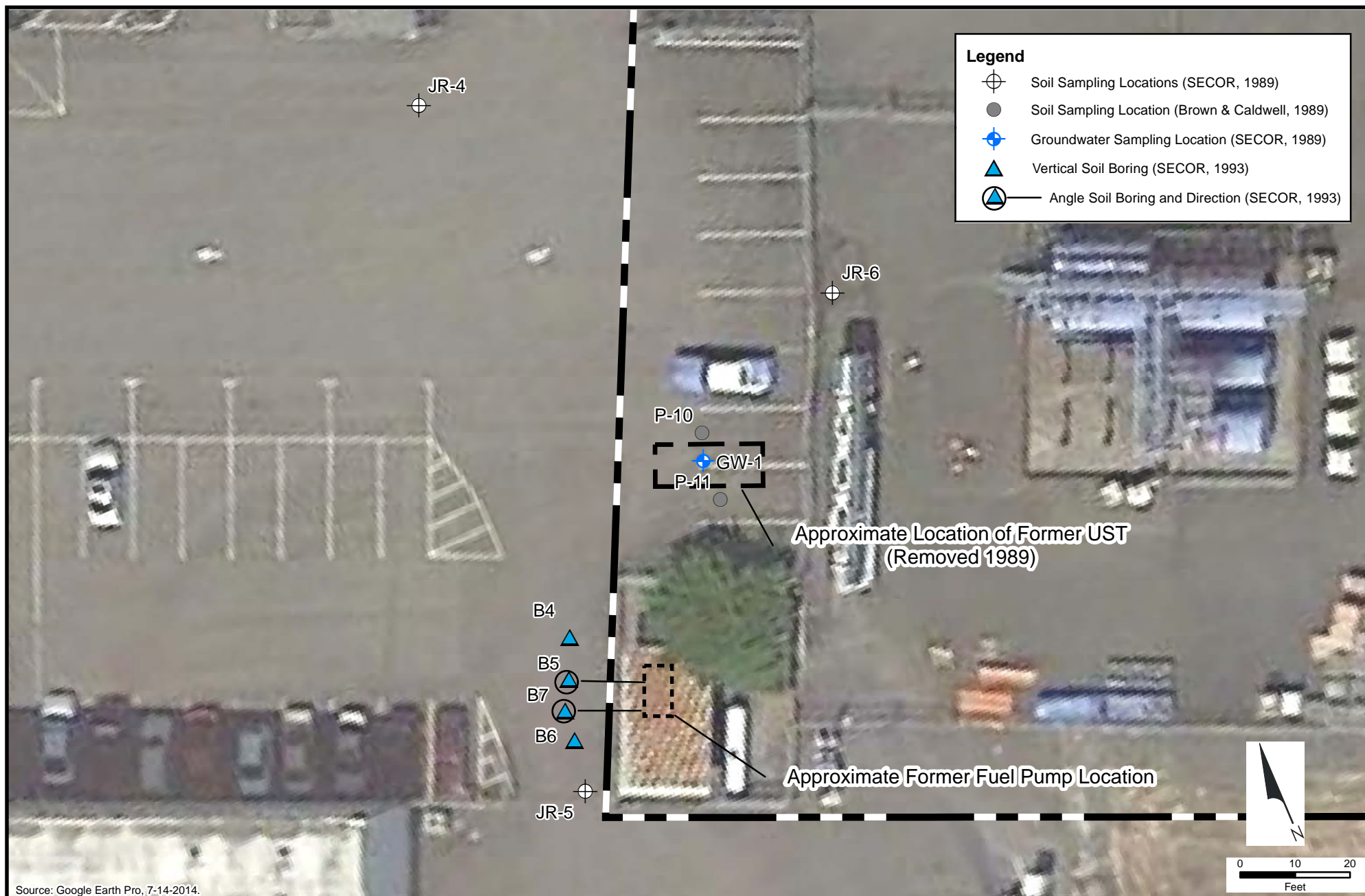
Drafter: JD

Date: 2/13/2015

Contract Number: 03-35786A

Approved:

Revised:





RAMBOLL ENVIRON

Soil Vapor and Groundwater Sampling Location Map
Former Gasoline UST (AOC 7)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

6b

Drafter: JD

Date: 2/17/2015

Contract Number: 03-35786A

Approved:

Revised:

Legend

- ⊕ Soil Sample Location (SECOR, 1989)
- Discrete Depth Soil Sample Location (SECOR, 1996)
- ⊙ Composite Soil Sample Location (SECOR, 1996)
- ⊕ Soil Boring (ENVIRON, 2014)

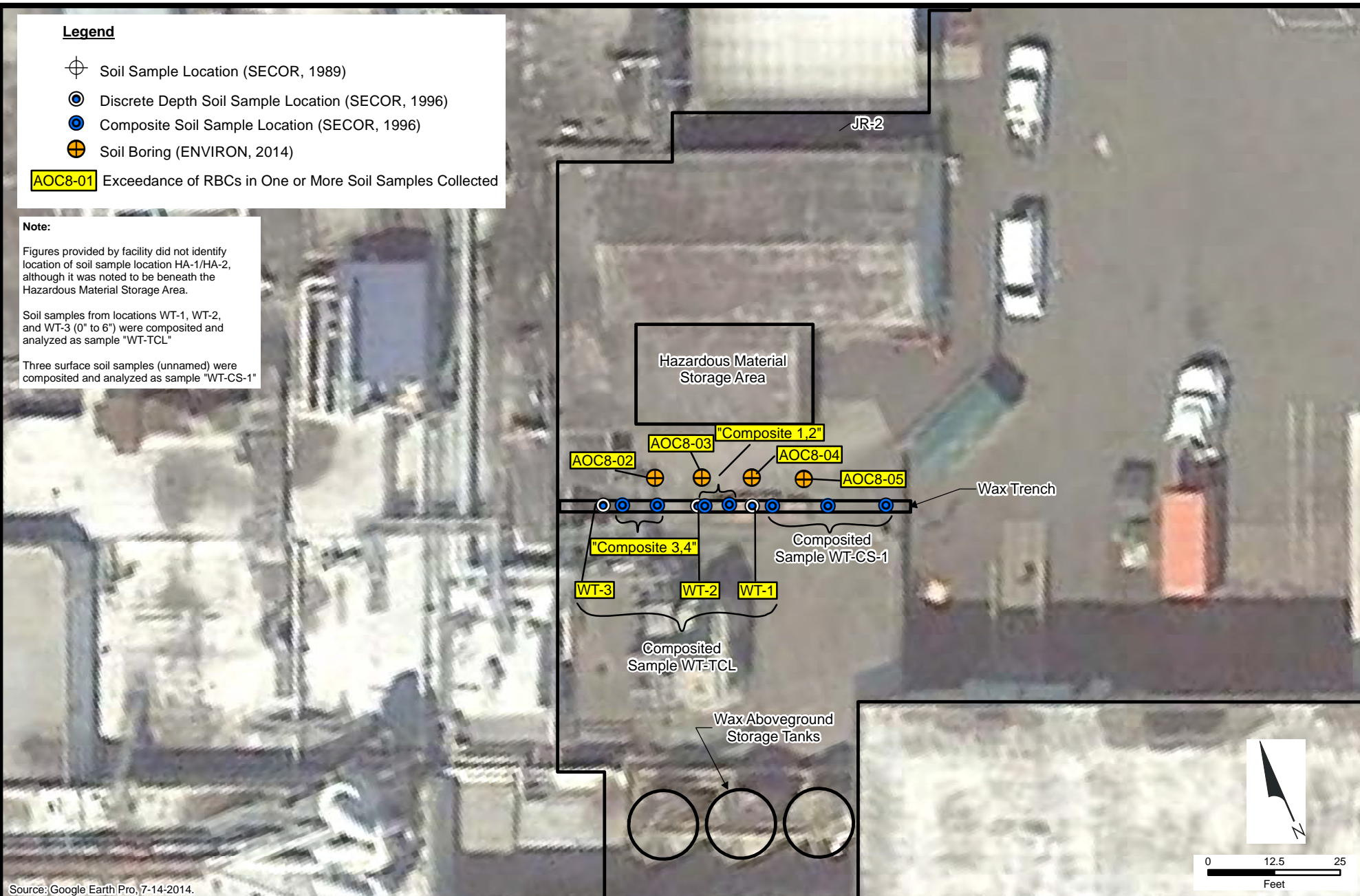
AOC8-01 Exceedance of RBCs in One or More Soil Samples Collected

Note:

Figures provided by facility did not identify location of soil sample location HA-1/HA-2, although it was noted to be beneath the Hazardous Material Storage Area.

Soil samples from locations WT-1, WT-2, and WT-3 (0" to 6") were composited and analyzed as sample "WT-TCL"

Three surface soil samples (unnamed) were composited and analyzed as sample "WT-CS-1"



Source: Google Earth Pro, 7-14-2014.

RAMBOLL ENVIRON

Soil Sampling Location Map
Wax Trench Area (AOC 8)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

7a

Drafter: RS

Date: 2/13/2015

Contract Number: 03-35786A

Approved:

Revised:

Legend

- Shallow Monitoring Well Location (SECOR, 1989)
- Groundwater Sampling Location (ENVIRON, 2014)



Source: Google Earth Pro, 7-14-2014.



Groundwater Sampling Locations
Wax Trench Area (AOC 8)
Graphic Packaging International, Inc.,
3400 N. Marine Drive, Portland, Oregon

Figure

7b

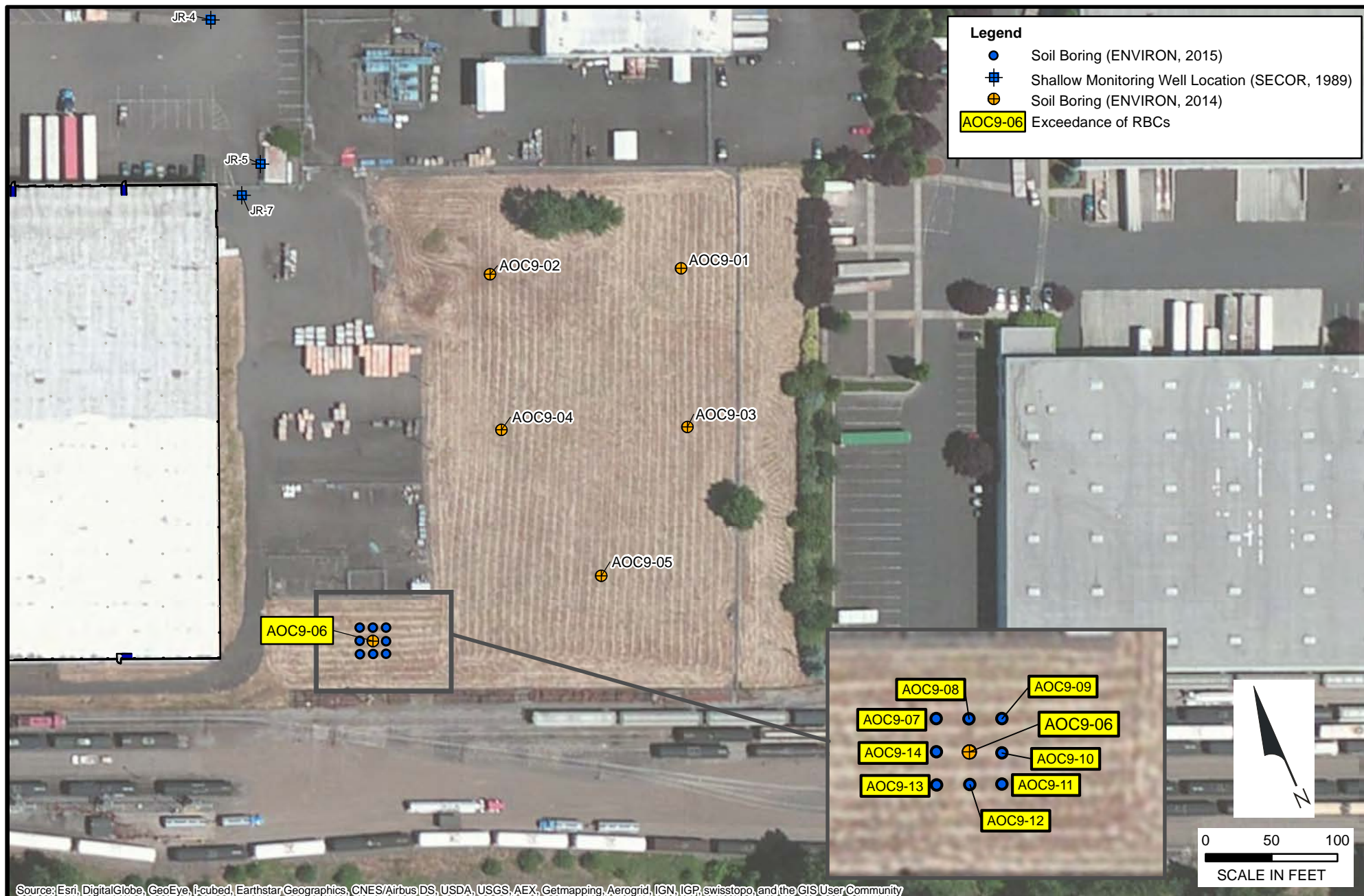
Drafter: RS

Date: 2/13/2015

Contract Number: 03-35786A

Approved:

Revised:



Soil Sampling Location Map
 Vacant Field Area (AOC 9)
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

8

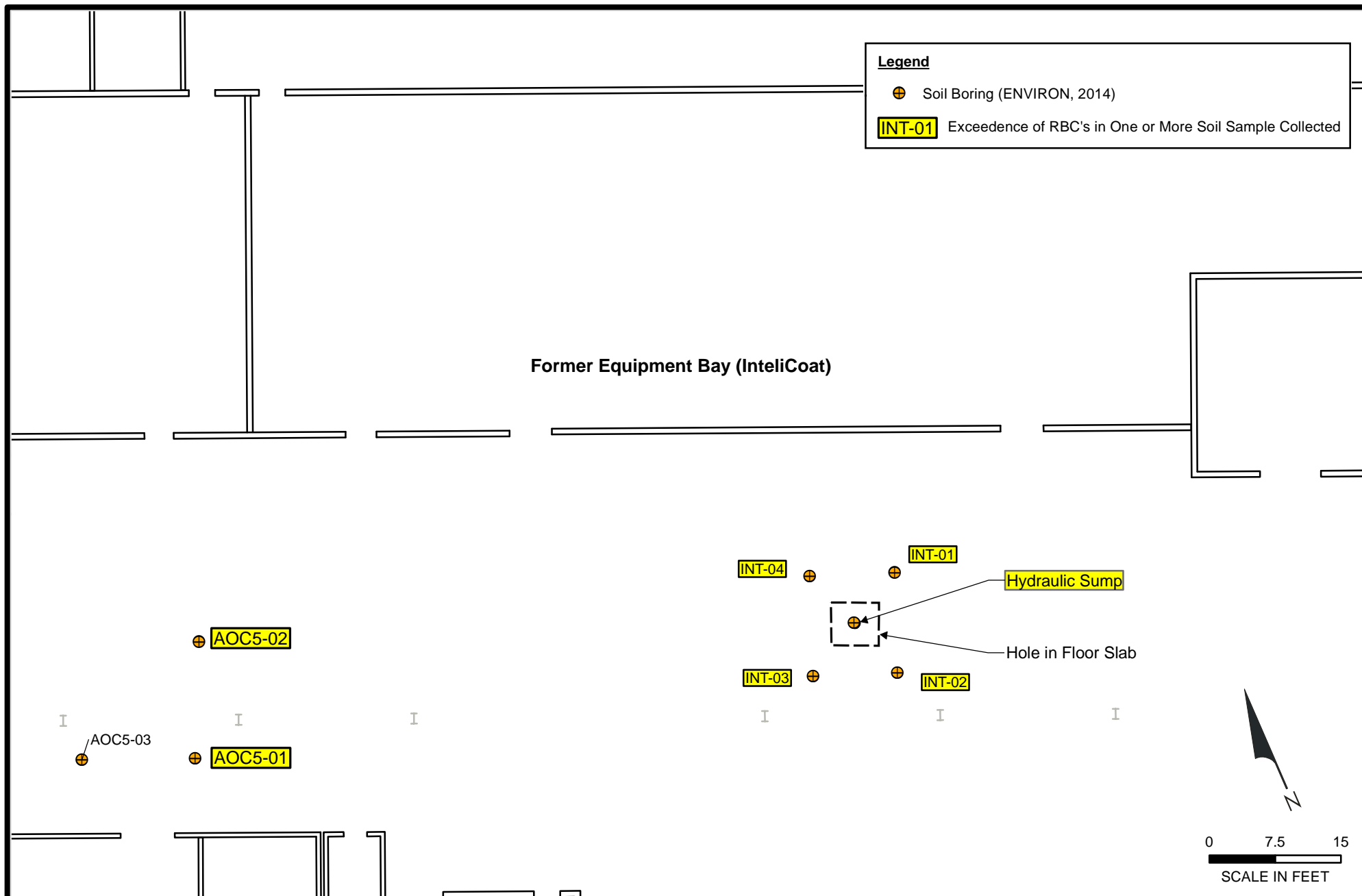
Drafter: RS

Date: 5/18/2015

Contract Number: 03-35786A

Approved:

Revised:



Soil Sampling Location Map
Former IntelliCoat Area
 Graphic Packaging International, Inc.,
 3400 N. Marine Drive, Portland, Oregon

Figure

9a

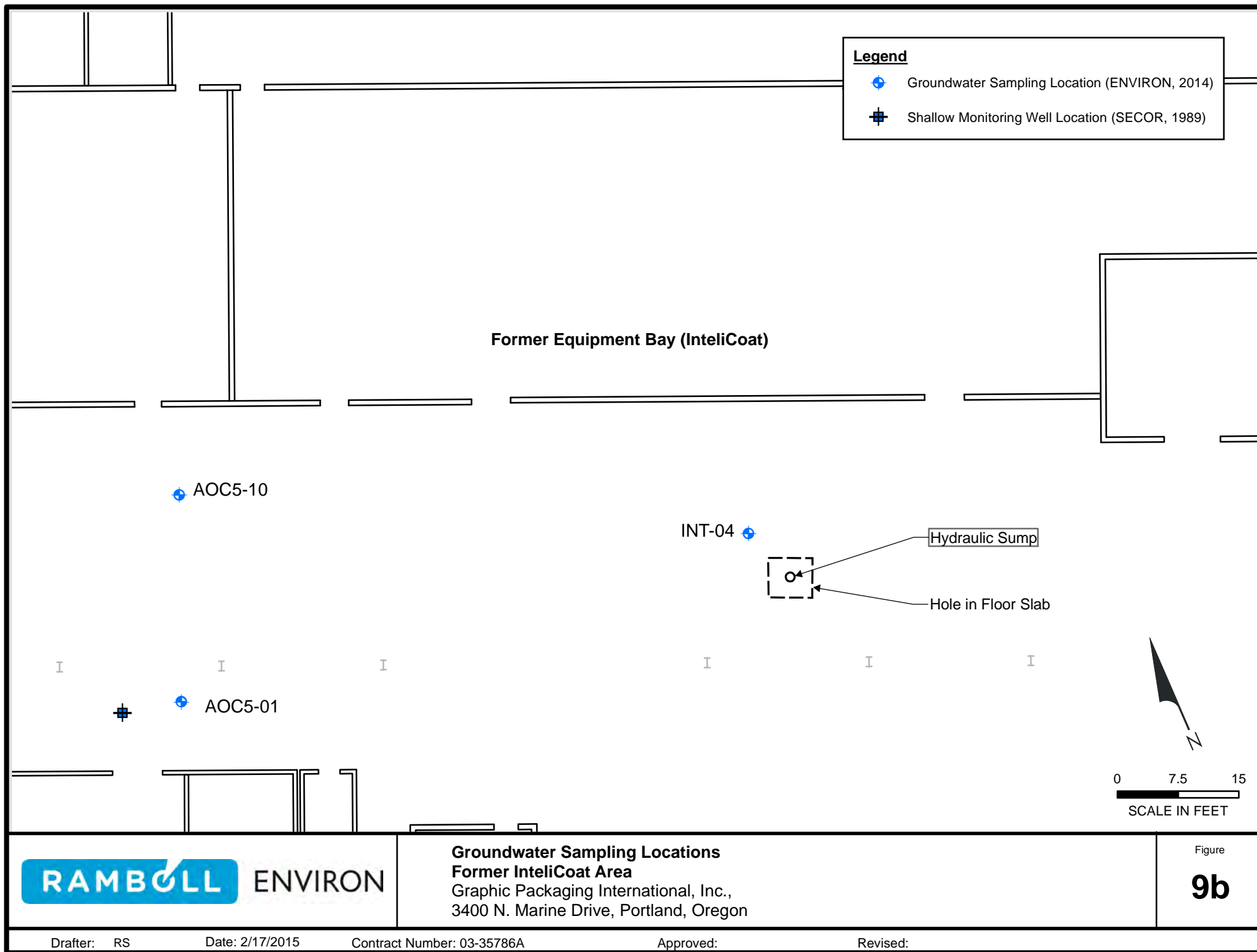
Drafter: RS

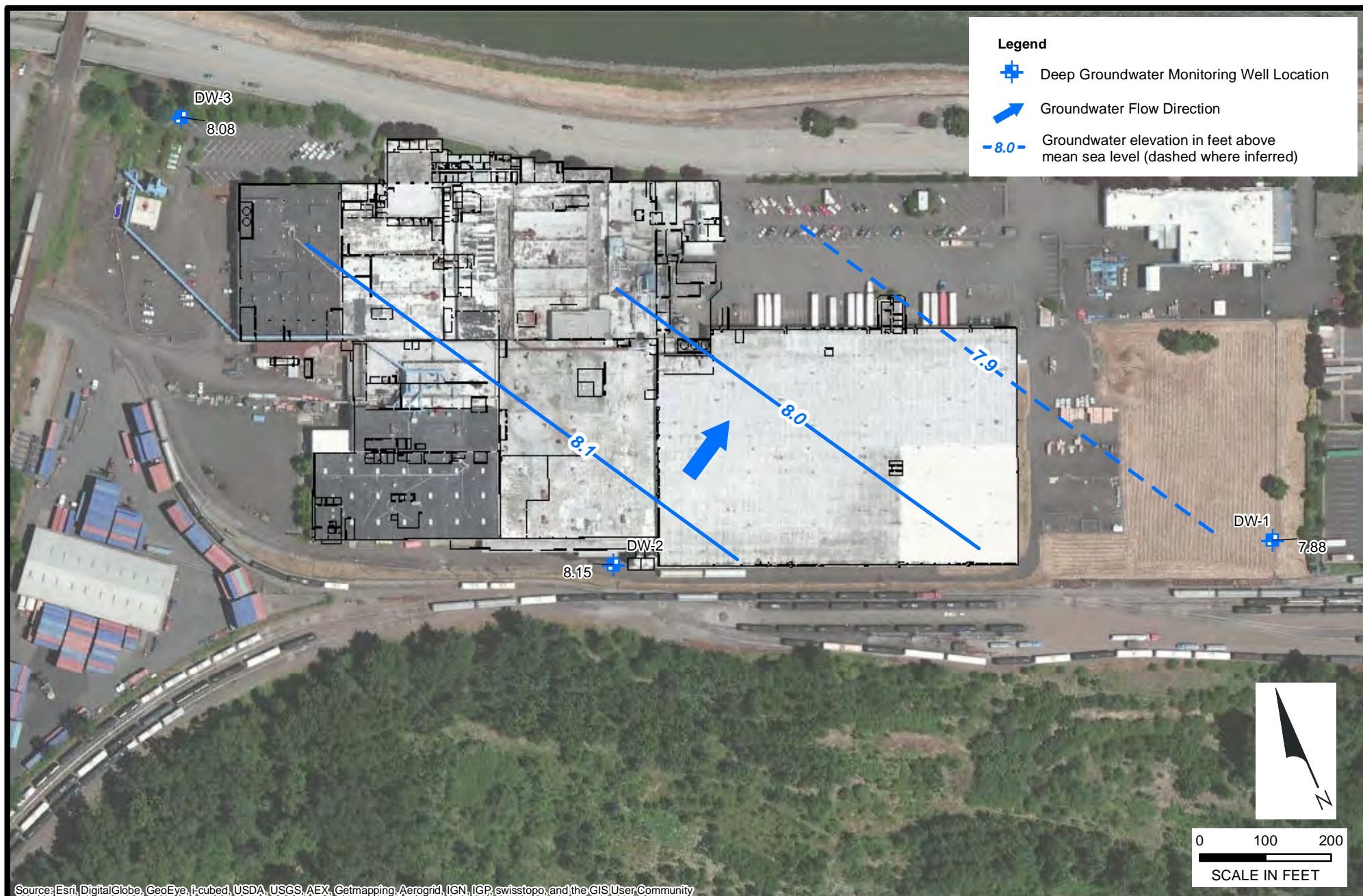
Date: 2/13/2015

Contract Number: 03-35786A

Approved:

Revised:





**Deep Groundwater Monitoring Well Location Map and
Groundwater Flow Direction (August, 2014)**
Graphic Packaging International, Inc.,
3400 N. Marine Drive, Portland, Oregon

Figure

10

Drafter: RS

Date: 2/10/2015

Contract Number: 03-35786A

Approved:

Revised:

APPENDIX A LABORATORY RESULTS

ENVIRON

6001 Shellmound Street, Suite 700
Emeryville, California 94608
(510) 655-7400
(510) 655-9517 (fax)

CHAIN-OF-CUSTODY

03047

PROJECT NAME / FACILITY ID: GP11FIELD PERSON: Tony WangPAGE 1 of 1PROJECT NUMBER: 03-35786ADATE: 8/18-8/20/2014PROJECT MANAGER: Devin RowePROJECT LOCATION: 7.41412 ORLABORATORY: ESNIS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #: _____

WO#: _____

SAMPLER:	SIGNATURE:	YEAR	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED	COMMENTS
						(S) SOIL (G) GAS (W) WATER					
TE-1-08182014	<u>TS</u>	2014	8/18	510			1	U	I	X	Port mostly to
GW-SR-22			8/18	512			3	U	I	X	Probe @ 100m depth
GW-SR-12			8/19	0726			3	U	I	X	Trigger
GW-DW-3			8/19	1036			3	U	I	X	
GW-SR-15			8/19	1154			3	U	I	X	
GW-SR-16			8/19	1153			3	U	I	X	
GW-SR-18			8/19	1242			3	U	I	X	
GW-DW-2			8/19	1100			3	U	I	X	
EB-1			8/19	1710			3	U	I	X	
GW-DW-1			8/19	1755			3	U	I	X	
TOTAL			X	X	X	X	28	X	X	X	
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	TURNAROUND TIME (CIRCLE ONE)	SAMEDAY 24 HOURS 48 HOURS	72 HOURS 5 DAYS NORMAL	IF SEALED, SEAL INTEGRITY	INTACT: Y N	Temp	INTACT: Y N	
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	TURNAROUND TIME (CIRCLE ONE)	SAMEDAY 24 HOURS 48 HOURS	72 HOURS 5 DAYS NORMAL	IF SEALED, SEAL INTEGRITY	INTACT: Y N	Temp	INTACT: Y N	
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	TURNAROUND TIME (CIRCLE ONE)	SAMEDAY 24 HOURS 48 HOURS	72 HOURS 5 DAYS NORMAL	IF SEALED, SEAL INTEGRITY	INTACT: Y N	Temp	INTACT: Y N	

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

CHAIN-OF-CUSTODY

03048

PAGE 2 of 1

PROJECT NAME / FACILITY ID: C711FIELD PERSON: Tommy WingerPROJECT NUMBER: 02-35786APROJECT MANAGER: Donna CasePROJECT LOCATION: Redwood SRLABORATORY: ESNIS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #:

WO#:

SAMPLER:	YEAR	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED	COMMENTS
TB-2	2014	8/20/14	0835		W	1	U	I	X	
CU-SR-21	2014	8/20/14	0837		W	3	U	I	X	
CU-SR-20	2014	8/20/14	0836		W	3	U	I	X	
CU-SR-26	2014	8/20/14	0835		W	3	U	I	X	
CU-SR-27	2014	8/20/14	0838		W	3	U	I	X	
CU-SR-25	2014	8/20/14	0831		W	3	U	I	X	
CU-SR-24	2014	8/20/14	0834		W	3	U	I	X	
AC1-10 ^{MC}	2014	8/20/14	0830		W	3	U	I	X	
CU-SR-23	2014	8/20/14	0836		W	3	U	I	X	
AC1-01-06-082014	2014	8/20/14	0835		W	4	U	I	X	
TOTAL						29				
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	TURNAROUND TIME (CIRCLE ONE)	SAMEDAY 24 HOURS	72 HOURS 5 DAYS	IF SEALED, SEAL INTEGRITY	IF SEALED, SEAL INTEGRITY		
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	48 HOURS						
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:							

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

03049

PAGE 3 of 4

FIELD PERSON: Tommy Wilson

DATE: 8/20/74

PROJECT MANAGER: Devin R. Moore

LABORATORY: E310

WO#:

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

03050

PAGE of

FIELD PERSON: T. J. Jones

PROJECT MANAGER: 2006

LABORATORY: ECN

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #: _____ WO#:

WO#:

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

ADDRESS: 2440 Sunnybrook Blvd

PHONE: 503-305-2373

FAX:

CLIENT PROJECT #: 03-35786A

PROJECT MANAGER:

COLLECTOR: D. Row

DATE OF
COLLECTION: 8/22/14

DATE: 2/12/14 PAGE 1 OF 9

PROJECT NAME: Graphic Book design

LOCATION: 3400 N. Main & Dr. Portland

COLLECTOR:	D. Rowe	DATE OF	8/22/99
COLLECTION:			

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES																	NOTES	Total Number of Containers	Laboratory Note Number																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
					TPH - HCID	TPH - Diesel & Oil	TPH - Gasoline	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos - PLM	GRO Suite	DRO Suite	WO Suite																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
1. AUCS-04-SB-3-08214 3'		1045	Soil	VOC + TPH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

1210 Eastside Street SE, Suite 200
Olympia, Washington 98501

Phone: 360-459-4670
Fax: 360-459-3432

Website: www.esnnw.com
E-Mail: info@esnnw.com

6001 Spellbound Street, Suite 700
Emeryville, California 94608
(510) 655-7400
(510) 655-9517 (fax)

PAGE 2 of 9

PROJECT NAME / FACILITY ID: Goodridge PackagingFIELD PERSON: D. RosePROJECT NUMBER: 03-357864DATE: 10/28/08PROJECT MANAGER: D. RosePROJECT LOCATION: 3400 N. Mainland Blvd., O.C.LABORATORY: ES&I

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #:

WO#:

SAMPLER:	SIGNATURE:	YEAR	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED		COMMENTS	
										VOCs	SVOCs		
AOC1-04-SB-2-082214	D. Rose	2004	8/22/04	2	5	3	3	1	0	X			Soils prepared with methanol
AOC1-04-SB-5-082214			8/27/04	5	1	3	3	1	1	X			
AOC1-04-SB-10-082214			08/20/04	10	1	3	3	1	1	X			
AOC1-05-SB-2-082214			08/16/04	2	1	3	3	1	1	X			
AOC1-05-SB-5-082214			08/16/04	5	1	3	3	1	1	X			
AOC1-05-SB-10-082214			08/16/04	10	1	3	3	1	1	X			
AOC1-06-SB-2-082214			09/21/04	2	1	3	3	1	1	X			
AOC1-06-SB-5-082214			09/21/04	5	1	3	3	1	1	X			
AOC1-06-SB-10-082214			09/21/04	10	1	3	3	1	1	X			
TOTAL													

RELINQUISHED BY: <u>D. Rose</u>	TIME/DATE: <u>10/28/08</u>	RECEIVED BY: <u>D. Rose</u>	TIME/DATE: <u>10/28/08</u>	TURNAROUND TIME (CIRCLE ONE) 24 HOURS 48 HOURS	72 HOURS 5 DAYS NORMAL
RELINQUISHED BY: <u>D. Rose</u>	TIME/DATE: <u>10/28/08</u>	RECEIVED BY: <u>D. Rose</u>	TIME/DATE: <u>10/28/08</u>	SAMPLE INTEGRITY INTACT: Y N Temp: <u> </u>	IF SEALED, SEAL INTEGRITY INTACT: Y N

03080

(510) 655-7400
(510) 655-9517 (fax)

PAGE 3 of 9

FIELD PERSON: Conc

PROJECT MANAGER: D. Vance

LABORATORY: ESN

WO#:

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

ADDRESS: 8440 Sunnybrook Blvd Clearwater OR

CLIENT PROJECT #: 08-55786A PROJECT MANAGER: D. Lowe

DATE: 1/22/14 PAGE 4 OF 9
PROJECT NAME: Graphic Packaging
LOCATION: 3400 N. Vassar Dr. Portland, OR
COLLECTOR: De von Kane DATE OF COLLECTION: 8/21/14

COLLECTOR: De Vries DATE OF COLLECTION: 8/2/47

Website: www.esnnw.com
E-Mail: info@esnnw.com

CHAIN-OF-CUSTODY

03077

6001 Shellmound Street, Suite 700
Emeryville, California 94608
(510) 655-7400
(510) 655-9517 (fax)

PAGE 5 of 8

PROJECT NAME / FACILITY ID:

FIELD PERSON: D. House

PROJECT NUMBER: 03-35786A DATE: 8/22/14

PROJECT MANAGER: D. Korte

PROJECT LOCATION: 3400 N. Marine Drive, Redford, OR

LABORATORY: CSN

LABORATORY: CSN

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #:

WOM

SAMPLER:	D. Rowe								
SIGNATURE:	[Signature]								
SAMPLE I.D. NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED	COMMENTS
INT-04-SB-8.5-0822H	8/22/14	8:15	5	3	-	0	X	X	Soil samples
INT-04-SB-10.5-0822H	8/22/14	10:5	5	3	-	0	X	X	ground water
INT-04-SB-15-0822H	8/22/14	15:3	5	3	-	0	X	X	methanol
INT-04-W6-0822H	8/22/14	17:13	14	4	-	H	X	X	
TOTAL	X	X	X	X	13	X	X		
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	TURNAROUND TIME (CIRCLE ONE) 24 HOURS 48 HOURS	SAVEDAY 72 HOURS 5 DAYS NORMAL				
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY:	TIME/DATE:	SAMPLE INTEGRITY INTACT: Y N Temp _____	IF SEALED, SEAL INTEGRITY INTACT: Y N				

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

6001 Shellmound Street, Suite 700
Emeryville, California 94608
(510) 655-7400
(510) 655-9517 (fax)

PAGE 46 of 99

PROJECT NAME / FACILITY ID:

FIELD PERSON: D. D. D. D.

PROJECT NUMBER: 03-35786A

DATE: 8/22/14

PROJECT MANAGER: D. Force

PROJECT LOCATION: 3400 N. Marine Drive, Portland, OR

LABORATORY: ES4

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #:

WO#:

SAMPLER: <i>Debra Rose</i>		YEAR										
SIGNATURE: <i>Debra Rose</i>		2014										
SAMPLE I.D. NUMBER		SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED <i>VOCs (8260B)</i>		COMMENTS	
AOC1-01-SG-2-082214		8/22/14	0705	2	S	3	1	0	X			<i>Soils preserved with methanol</i>
AOC1-01-SG-5-082214			719	5	S	3			X			
AOC1-01-SG-10-082214			733	10	S	3			X			
AOC1-02-SG-2-082214			745	2	S	3			X			
AOC1-02-SG-5-082214			0853	5	S	3			X			
AOC1-02-SG-10-082214			0955	10	S	3			X			
AOC1-03-SB-2-082214			0603	2	S	3			X			
AOC1-03-SB-5-082214			0610	5	S	3			X			
AOC1-03-SB-10-082214			0630	10	S	3			X			
TOTAL		X	X	X	X	24	X	X				
RELINQUISHED BY: <i>Debra Rose</i>		TIME/DATE: <i>18/10/8/22/14</i>	RECEIVED BY: <i>Colo Vetterling</i>		TIME/DATE: <i>18/10/8/22/14</i>	TURNAROUND TIME (CIRCLE ONE) <i>24</i> HOURS		SAMPLE INTEGRITY INTACT: Y N Temp <i>48</i> HOURS		IF SEALED, SEAL INTEGRITY INTACT: Y N <i>NORMAL</i>		
RELINQUISHED BY:		TIME/DATE:	RECEIVED BY:		TIME/DATE:	TURNAROUND TIME (CIRCLE ONE)		SAMPLE INTEGRITY INTACT: Y N Temp		IF SEALED, SEAL INTEGRITY INTACT: Y N		

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

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PAGE 7 of 9

FIELD PERSON: D. Kous

PROJECT MANAGER: D. Kone

LABORATORY: ESN

WO#:

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

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Emeryville, California 94608
(510) 655-7400
(510) 655-9517 (fax)

PAGE 8 of 9

PROJECT NAME / FACILITY ID: Graphic Packaging

FIELD PERSON: D. Roue

PROJECT NUMBER: 03-35786A DATE: 8/22/14

PROJECT MANAGER: D. Roue

PROJECT LOCATION: 3400 N. Mainline Drive, Redwood, CA

LABORATORY: CSN

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y N IF YES, GLOBAL ID #: WO#:

SAMPLER:	YEAR	SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	MATRIX (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED	COMMENTS
SIGNATURE: D. Roue	2014									
SAMPLE I.D. NUMBER										
AC08-01-082214		8/22/14	11:05	05	S	3	-	0	X	Cold samples are
AC08-02-082214			11:10	2	S	3	-	0	X	metanol preserved
AC08-02-082214			11:25	4	S	3	-	0	X	
AC08-02-082214			11:35	8	S	3	-	0	X	
AC08-03-082214			11:38	0.5	S	3	-	0	X	
AC08-03-082214			11:59	2	S	3	-	0	X	
AC08-03-082214			12:08	4	S	3	-	0	X	
AC08-03-082214			12:14	8	S	3	-	0	X	
AC08-03-082214			13:12		W	3	-	0	X	
TOTAL										
RELINQUISHED BY: D. Roue	TIME/DATE: 8/22/14	RECEIVED BY: D. Roue	TIME/DATE: 8/22/14	TURNAROUND TIME (CIRCLE ONE) 24 HOURS 48 HOURS	SAMEDAY	72 HOURS 5 DAYS NORMAL	IF SEALED, SEAL INTEGRITY	INTACT: Y N	INTACT: Y N	

H = HCL; N = HNO₃; S = H₂SO₄; U = UNKNOWN; NO = NONE; O = OTHER

03079

PAGE 9 of 9

FIELD PERSON: _____

PROJECT MANAGER: D. Lowe

LABORATORY: ESN

WO#:

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ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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lab@esnmw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-01-SB-3-082214	AOC5-01-SB-6.5-082214	AOC5-01-SB-11.5-082214
Date extracted		08/25/14	08/25/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture				20%	7%	22%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	73%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	77%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	87%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	91%	nd	nd	0.47
Trichloroethene (TCE)	0.02	nd	95%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	96%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	91%	nd	nd	0.43
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	95%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	95%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	95%	nd	nd	0.19
Xylenes	0.15	nd	95%	nd	nd	0.50
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
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PROJECT #03-35786A
Portland, Oregon

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lab@esnww.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-01-SB-3-082214	AOC5-01-SB-6.5-082214	AOC5-01-SB-11.5-082214
Date extracted		08/25/14	08/25/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture				20%	7%	22%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	0.06
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		104%	95%	100%	101%	100%
Toluene-d8		104%	94%	105%	106%	110%
4-Bromofluorobenzene		97%	101%	103%	106%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-01-SB-14-082214	AOC5-02-SB-6-082214	AOC5-02-SB-9-082214	AOC5-02-SB-11.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		35%	25%	9%	28%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	0.58
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	0.11
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	0.24
Xylenes	0.15	nd	nd	nd	0.68
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	0.06

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-01-SB-14-082214	AOC5-02-SB-6-082214	AOC5-02-SB-9-082214	AOC5-02-SB-11.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		35%	25%	9%	28%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	0.06	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	0.15	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		101%	105%	101%	105%
Toluene-d8		103%	102%	109%	112%
4-Bromofluorobenzene		102%	105%	103%	105%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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Portland, Oregon

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	RL	AOC5-03-SB-4-082214	AOC5-03-SB-9-082214	AOC5-03-SB-13-082214	AOC5-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		11%	6%	12%	8%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	0.04	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	2.0	1.6	0.80	230
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	0.36	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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lab@esnww.com

	RL	AOC5-03-SB-4-082214	AOC5-03-SB-9-082214	AOC5-03-SB-13-082214	AOC5-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		11%	6%	12%	8%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	0.14	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		104%	97%	97%	101%
Toluene-d8		108%	106%	110%	108%
4-Bromofluorobenzene		100%	109%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-04-SB-10-082214	AOC5-04-SB-15-082214	AOC5-05-SB-5-082214
Date extracted		08/28/14	08/28/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture				11%	17%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	83%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	93%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	105%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	114%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	114%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	115%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	99%	0.26	nd	0.14
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	112%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	111%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	110%	nd	nd	nd
Xylenes	0.15	nd	111%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-04-SB-10-082214	AOC5-04-SB-15-082214	AOC5-05-SB-5-082214
Date extracted		08/28/14	08/28/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture				11%	17%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		0.11	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		94%	102%	98%	98%	98%
Toluene-d8		102%	94%	114%	109%	110%
4-Bromofluorobenzene		111%	99%	116%	110%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-05-SB-10.5-082214	AOC5-05-SB-14.5-082214	AOC1-04-SB-2-082214	AOC1-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture		13%	17%	8%	14%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	0.40	nd	nd	0.12
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	0.20	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC5-05-SB-10.5-082214	AOC5-05-SB-14.5-082214	AOC1-04-SB-2-082214	AOC1-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture		13%	17%	8%	14%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		100%	93%	98%	105%
Toluene-d8		111%	116%	112%	108%
4-Bromofluorobenzene		109%	113%	107%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC1-04-SB-10-082214	AOC1-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14
% Moisture		9%	5%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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	RL	AOC1-04-SB-10-082214	AOC1-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14
% Moisture		9%	5%

1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd

Surrogate recoveries

Dibromofluoromethane	100%	97%
Toluene-d8	108%	110%
4-Bromofluorobenzene	109%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	MB	LCS	AOC1-05-SB-5-082214	AOC1-05-SB-10-082214	AOC1-06-SB-2-082214
Date extracted		09/04/14	09/04/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture				4%	6%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	117%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	95%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	106%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	105%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	106%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	100%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	88%	0.29	0.09	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	100%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	95%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	91%	nd	nd	nd
Xylenes	0.15	nd	97%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RL	MB	LCS	AOC1-05-SB-5-082214	AOC1-05-SB-10-082214	AOC1-06-SB-2-082214
Date extracted		09/04/14	09/04/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture				4%	6%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	98%	110%	104%	106%	106%
Toluene-d8	106%	90%	104%	104%	110%
4-Bromofluorobenzene	98%	100%	105%	103%	95%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-06-SB-05-082214	AOC1-06-SB-10-082214	AOC1-07-SB-2-0822-14	AOC1-07-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		7%	7%	12%	20%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	1.6
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	0.27
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-06-SB-05-082214	AOC1-06-SB-10-082214	AOC1-07-SB-2-0822-14	AOC1-07-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		7%	7%	12%	20%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	0.05
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	0.16
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		97%	102%	104%	104%
Toluene-d8		107%	103%	102%	109%
4-Bromofluorobenzene		93%	103%	97%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-07-SB-10-082214	AOC1-08-SB-2-082214	AOC1-08-SB-5-082214	AOC1-08-SB-10-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		15%	10%	6%	28%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	0.23	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RI	AOC1-07-SB-10-082214	AOC1-08-SB-2-082214	AOC1-08-SB-5-082214	AOC1-08-SB-10-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		15%	10%	6%	28%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		99%	103%	100%	103%
Toluene-d8		105%	105%	104%	106%
4-Bromofluorobenzene		99%	103%	105%	101%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC1-09-SB-2-082214	AOC1-09-SB-5-082214	AOC1-09-SB-10-082214	AOC5-06-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		11%	7%	26%	7%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	0.15	0.12	0.05	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-09-SB-2-082214	AOC1-09-SB-5-082214	AOC1-09-SB-10-082214	AOC5-06-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		11%	7%	26%	7%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
<u>Surrogate recoveries</u>					
Dibromofluoromethane		102%	101%	106%	102%
Toluene-d8		104%	103%	103%	104%
4-Bromofluorobenzene		106%	99%	104%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	AOC5-06-SB-7.5
Date extracted		08/22/14
Date analyzed	(mg/Kg)	09/04/14
% Moisture		11%

Dichlorodifluoromethane	0.05	nd
Chloromethane	0.05	nd
Vinyl chloride	0.02	nd
Bromomethane	0.05	nd
Chloroethane	0.05	nd
Trichlorofluoromethane	0.05	nd
Acetone	0.25	nd
1,1-Dichloroethene	0.05	nd
Methylene chloride	0.05	nd
Methyl-t-butyl ether (MTBE)	0.05	nd
trans-1,2-Dichloroethene	0.05	nd
1,1-Dichloroethane	0.05	nd
2-Butanone (MEK)	0.25	nd
cis-1,2-Dichloroethene	0.05	nd
2,2-Dichloropropane	0.05	nd
Chloroform	0.05	nd
Bromochloromethane	0.05	nd
1,1,1-Trichloroethane	0.05	nd
1,2-Dichloroethane (EDC)	0.05	nd
1,1-Dichloropropene	0.05	nd
Carbon tetrachloride	0.05	nd
Benzene	0.25	nd
Trichloroethene (TCE)	0.02	nd
1,2-Dichloropropane	0.05	nd
Dibromomethane	0.05	nd
Bromodichloromethane	0.05	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd
cis-1,3-Dichloropropene	0.05	nd
Toluene	0.05	0.08
trans-1,3-Dichloropropene	0.05	nd
1,1,2-Trichloroethane	0.05	nd
2-Hexanone	0.25	nd
1,3-Dichloropropane	0.05	nd
Dibromochloromethane	0.05	nd
Tetrachloroethene (PCE)	0.02	0.03
1,2-Dibromoethane (EDB)	0.05	nd
Chlorobenzene	0.05	nd
1,1,1,2-Tetrachloroethane	0.05	nd
Ethylbenzene	0.05	nd
Xylenes	0.15	nd
Styrene	0.05	nd
Bromoform	0.05	nd
1,1,2,2-Tetrachloroethane	0.05	nd
Isopropylbenzene	0.05	nd

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	RL	AOC5-06-SB-7.5
Date extracted		08/22/14
Date analyzed	(mg/Kg)	09/04/14
% Moisture		11%

1,2,3-Trichloropropane	0.05	nd
Bromobenzene	0.05	nd
n-Propylbenzene	0.05	nd
2-Chlorotoluene	0.05	nd
4-Chlorotoluene	0.05	nd
1,3,5-Trimethylbenzene	0.05	nd
tert-Butylbenzene	0.05	nd
1,2,4-Trimethylbenzene	0.05	nd
sec-Butylbenzene	0.05	nd
1,3-Dichlorobenzene	0.05	nd
1,4-Dichlorobenzene	0.05	nd
Isopropyltoluene	0.05	nd
1,2-Dichlorobenzene	0.05	nd
n-Butylbenzene	0.05	nd
1,2-Dibromo-3-Chloropropane	0.05	nd
1,2,4-Trichlorobenzene	0.05	nd
Naphthalene	0.05	nd
Hexachloro-1,3-butadiene	0.05	nd
1,2,3-Trichlorobenzene	0.05	nd

Surrogate recoveries

Dibromofluoromethane	106%
Toluene-d8	101%
4-Bromofluorobenzene	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-06-SB-13-082214	AOC5-07-SB-4-082214	AOC5-07-SB-9-082214
Date extracted		08/29/14	08/29/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
% Moisture				18%	7%	13%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	91%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	126%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	124%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	92%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	105%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	102%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	103%	nd	0.12	8.3
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	104%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	97%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	102%	nd	nd	nd
Xylenes	0.15	nd	96%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-06-SB-13-082214	AOC5-07-SB-4-082214	AOC5-07-SB-9-082214
Date extracted		08/29/14	08/29/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
% Moisture				18%	7%	13%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		0.05	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane	126%	129%	126%	128%	126%	
Toluene-d8	110%	102%	114%	103%	108%	
4-Bromofluorobenzene	103%	93%	111%	114%	110%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-07-SB-14-082214	AOC5-08-SB-6-082214	AOC5-08-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14
% Moisture		17%	13%	18%
Dichlorodifluoromethane	0.05	nd	nd	nd
Chloromethane	0.05	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.05	nd	nd	nd
Chloroethane	0.05	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
Acetone	0.25	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
Chloroform	0.05	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd
1,1,1-Trichloromethane	0.05	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd
Benzene	0.25	nd	0.07	nd
Trichloroethene (TCE)	0.02	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd
Toluene	0.05	nd	390	0.26
trans-1,3-Dichloropropene	0.05	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd
Ethylbenzene	0.05	nd	0.43	nd
Xylenes	0.15	nd	1.4	nd
Styrene	0.05	nd	nd	nd
Bromoform	0.05	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-07-SB-14-082214	AOC5-08-SB-6-082214	AOC5-08-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14
% Moisture		17%	13%	18%
1,2,3-Trichloropropane	0.05	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	0.08	0.16	nd
sec-Butylbenzene	0.05	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd
Naphthalene	0.05	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd
<u>Surrogate recoveries</u>				
Dibromofluoromethane		113%	108%	119%
Toluene-d8		110%	105%	108%
4-Bromofluorobenzene		103%	106%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-08-SB-11-082214	AOC5-09-SB-5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14
% Moisture		8%	6%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	0.79	0.08
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RI	AOC5-08-SB-11-082214	AOC5-09-SB-5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14
% Moisture		8%	6%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		102%	120%
Toluene-d8		103%	101%
4-Bromofluorobenzene		127%	114%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-09-SB-10-082214	AOC5-09-SB-14.75-082214	INT-04-SB-8.5-082214
Date extracted	08/30/14	08/30/14	08/30/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture				18%	28%	9%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	78%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	123%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	117%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	88%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	88%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	95%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	95%	0.24	0.32	0.07
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	87%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	96%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	95%	nd	nd	nd
Xylenes	0.15	nd	86%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RL	MB	LCS	AOC5-09-SB-10-082214	AOC5-09-SB-14.75-082214	INT-04-SB-8.5-082214
Date extracted		08/30/14	08/30/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture				18%	28%	9%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		116%	125%	117%	120%	113%
Toluene-d8		107%	111%	106%	111%	108%
4-Bromofluorobenzene		103%	106%	118%	114%	116%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	INT-04-SB-10-5-082214	INT-04-SB-15-082214	AOC1-01-SB-2-082214	AOC1-01-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture		25%	26%	11%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	0.13	1.5
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	0.19
Xylenes	0.15	nd	nd	nd	0.72
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-04-SB-10.5-082214	INT-04-SB-15-082214	AOC1-01-SB-2-082214	AOC1-01-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture		25%	26%	11%	10%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	0.07
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	0.21
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		127%	119%	120%	117%
Toluene-d8		107%	102%	109%	103%
4-Bromofluorobenzene		115%	104%	112%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-01-SB-10-082214	AOC8-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14
% Moisture		13%	6%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	0.07
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-01-SB-10-082214	AOC8-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14
% Moisture		13%	6%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		115%	121%
Toluene-d8		106%	116%
4-Bromofluorobenzene		110%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-2-082214	AOC1-02-SB-5-082214
Date extracted		09/03/14	09/03/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/03/14	09/03/14	09/03/14	09/03/14
% Moisture				17%	9%
Dichlorodifluoromethane	0.05	nd		nd	nd
Chloromethane	0.05	nd		nd	nd
Vinyl chloride	0.02	nd	73%	nd	nd
Bromomethane	0.05	nd		nd	nd
Chloroethane	0.05	nd		nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd
Acetone	0.25	nd		nd	nd
1,1-Dichloroethene	0.05	nd	102%	nd	nd
Methylene chloride	0.05	nd		nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd
Chloroform	0.05	nd	114%	nd	nd
Bromochloromethane	0.05	nd		nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd
Carbon tetrachloride	0.05	nd		nd	nd
Benzene	0.02	nd	94%	nd	nd
Trichloroethene (TCE)	0.02	nd	96%	nd	nd
1,2-Dichloropropane	0.05	nd	89%	nd	nd
Dibromomethane	0.05	nd		nd	nd
Bromodichloromethane	0.05	nd		nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd
Toluene	0.05	nd	81%	nd	0.09
trans-1,3-Dichloropropene	0.05	nd		nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd
2-Hexanone	0.25	nd		nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd
Dibromochloromethane	0.05	nd		nd	nd
Tetrachloroethene (PCE)	0.02	nd	81%	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd
Chlorobenzene	0.05	nd	82%	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd
Ethylbenzene	0.05	nd	80%	nd	nd
Xylenes	0.15	nd	77%	nd	nd
Styrene	0.05	nd		nd	nd
Bromoform	0.05	nd		nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd
Isopropylbenzene	0.05	nd		nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOCI-02-SB-2-082214	AOCI-02-SB-5-082214
Date extracted		09/03/14	09/03/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/03/14	09/03/14	09/03/14	09/03/14
% Moisture				17%	9%
1,2,3-Trichloropropane	0.05	nd		nd	nd
Bromobenzene	0.05	nd		nd	nd
n-Propylbenzene	0.05	nd		nd	nd
2-Chlorotoluene	0.05	nd		nd	nd
4-Chlorotoluene	0.05	nd		nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd
tert-Butylbenzene	0.05	nd		nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd
sec-Butylbenzene	0.05	nd		nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd
Isopropyltoluene	0.05	nd		nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd
n-Butylbenzene	0.05	nd		nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd
Naphthalene	0.05	nd		nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd
Surrogate recoveries					
Dibromofluoromethane	127%	128%		109%	113%
Toluene-d8	97%	101%		110%	103%
4-Bromofluorobenzene	105%	100%		103%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-10-082214	AOC1-03-SB2-082214	AOC1-03-SB-5-082214
Date extracted		09/01/14	09/01/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture				6%	11%	13%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	93%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	127%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	*149%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	115%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	119%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	121%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	122%	nd	nd	0.07
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	114%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	126%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	114%	nd	0.05	nd
Xylenes	0.15	nd	115%	nd	0.22	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RL	MB	LCS	AOC1-02-SB-10-082214	AOC1-03-SB2-082214	AOC1-03-SB-5-082214
Date extracted		09/01/14	09/01/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture				6%	11%	13%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	0.05	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	0.23	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		117%	128%	112%	108%	120%
Toluene-d8		111%	105%	104%	104%	102%
4-Bromofluorobenzene		114%	103%	100%	110%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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	RL	AOC1-03-SB-10-082214	AOC8-04-SB-0.5-082214	AOC8-04-SB-2-082214	AOC8-04-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture		16%	23%	13%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	0.04	0.04
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	0.57	0.69	0.50
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC1-03-SB-10-082214	AOC8-04-SB-0.5-082214	AOC8-04-SB-2-082214	AOC8-04-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture		16%	23%	13%	10%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		118%	116%	123%	113%
Toluene-d8		104%	105%	100%	108%
4-Bromofluorobenzene		117%	113%	104%	118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-04-SB-8-082214	AOC8-05-SB-0.5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14
% Moisture		23%	18%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	0.04
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	0.16	0.90
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-04-SB-8-082214	AOC8-05-SB-0.5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14
% Moisture		23%	18%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		120%	117%
Toluene-d8		107%	102%
4-Bromofluorobenzene		108%	119%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC8-05-SB-4-082214	AOC8-05-SB-8-082214	AOC8-02-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture				10%	31%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	67%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	112%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	118%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	97%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	103%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	93%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	96%	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	92%	0.26	0.17	0.13
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	94%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	91%	nd	nd	nd
Xylenes	0.15	nd	88%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC8-05-SB-4-082214	AOC8-05-SB-8-082214	AOC8-02-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture				10%	31%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		113%	115%	125%	112%	133%
Toluene-d8		109%	99%	102%	108%	100%
4-Bromofluorobenzene		100%	107%	110%	110%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-02-SB-2-082214	AOC8-02-SB-4-082214	AOC8-02-SB-8-082214	AOC8-03-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		6%	20%	10%	7%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.02	0.13	0.16	0.26
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-02-SB-2-082214	AOC8-02-SB-4-082214	AOC8-02-SB-8-082214	AOC8-03-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		6%	20%	10%	7%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		115%	115%	110%	122%
Toluene-d8		111%	111%	110%	102%
4-Bromofluorobenzene		100%	106%	106%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/S035

	RL	AOC8-03-SB-2-082214	AOC8-03-SB-4-082214	AOC8-03-SB-8-082214	INT-01-SB-8.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		15%	9%	16%	8%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.08	0.06	0.13	0.06
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC8-03-SB-2-082214	AOC8-03-SB-4-082214	AOC8-03-SB-8-082214	INT-01-SB-8.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		15%	9%	16%	8%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropan	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		119%	117%	122%	119%
Toluene-d8		105%	106%	100%	104%
4-Bromofluorobenzene		102%	108%	104%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-01-SB-10.5-082214	INT-01-SB-15-082214	INT-02-SB-8.5-082214	INT-02-SB-10.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		13%	25%	8%	29%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	0.17	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoforn	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-01-SB-10.5-082214	INT-01-SB-15-082214	INT-02-SB-8.5-082214	INT-02-SB-10.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		13%	25%	8%	29%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		118%	113%	118%	127%
Toluene-d8		106%	105%	102%	94%
4-Bromofluorobenzene		107%	110%	107%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-02-SB-15-082214	INT-03-SB-8.5-082214	INT-03-SB-10.5-082214	INT-03-SB-15-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		26%	26%	25%	27%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	0.02	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	0.09	nd	nd
Xylenes	0.15	nd	0.36	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-02-SB-15-082214	INT-03-SB-8.5-082214	INT-03-SB-10.5-082214	INT-03-SB-15-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		26%	26%	25%	27%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		110%	115%	115%	120%
Toluene-d8		99%	109%	109%	99%
4-Bromofluorobenzene		106%	111%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	MB 08/28/14	LCS 08/28/14	TB-1 08/28/14	AOC5-06-WG 08/28/14	AOC5-11-WG 08/28/14	AOC5-07-WG-082214 08/28/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	78%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	*154%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	*147%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	112%	nd	2.4	nd	nd
Trichloroethene (TCE)	1.0	nd	116%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	115%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	127%	nd	380	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	111%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	117%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	125%	nd	6.2	nd	nd
Xylenes	3.0	nd	116%	nd	17	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	3.9	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1	AOC5-06-WG	AOC5-11-WG	AOC5-07-WG-082214
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	1.8	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	18	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	127%	133%	126%	135%	134%
Toluene-d8	113%	113%	114%	108%	113%	106%
4-Bromofluorobenzene	108%	100%	127%	103%	95%	106%

Data Qualifiers and Analytical Comments

*The LCS yielded out of control recoveries for 1,1-dichloroethene and chloroform. These analytes were not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analytical Results		
	RL	INT-04-WG-082214
Date analyzed	(ug/L)	08/28/14
Dichlorodifluoromethane	1.0	nd
Chloromethane	1.0	nd
Vinyl chloride	0.2	nd
Bromomethane	1.0	nd
Chloroethane	1.0	nd
Trichlorofluoromethane	1.0	nd
Acetone	10.0	nd
1,1-Dichloroethene	1.0	nd
Methylene chloride	1.0	nd
Methyl-t-butyl ether (MTBE)	1.0	nd
trans-1,2-Dichloroethene	1.0	nd
1,1-Dichloroethane	1.0	nd
2-Butanone (MEK)	10.0	nd
cis-1,2-Dichloroethene	1.0	6.6
2,2-Dichloropropane	1.0	nd
Chloroform	1.0	nd
Bromochloromethane	1.0	nd
1,1,1-Trichloroethane	1.0	nd
1,2-Dichloroethane (EDC)	1.0	nd
1,1-Dichloropropene	1.0	nd
Carbon tetrachloride	1.0	nd
Benzene	1.0	nd
Trichloroethene (TCE)	1.0	4.7
1,2-Dichloropropane	1.0	nd
Dibromomethane	1.0	nd
Bromodichloromethane	1.0	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd
cis-1,3-Dichloropropene	1.0	nd
Toluene	1.0	1.5
trans-1,3-Dichloropropene	1.0	nd
1,1,2-Trichloroethane	1.0	nd
2-Hexanone	1.0	nd
1,3-Dichloropropane	1.0	nd
Dibromochloromethane	1.0	nd
Tetrachloroethene (PCE)	1.0	nd
1,2-Dibromoethane (EDB)	1.0	nd
Chlorobenzene	1.0	nd
1,1,1,2-Tetrachloroethane	1.0	nd
Ethylbenzene	1.0	nd
Xylenes	3.0	nd
Styrene	1.0	nd
Bromoform	1.0	nd
1,1,2,2-Tetrachloroethane	1.0	nd
Isopropylbenzene	1.0	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	INT-04-WG-082214 08/28/14
1,2,3-Trichloropropane	1.0	nd
Bromobenzene	1.0	nd
n-Propylbenzene	1.0	nd
2-Chlorotoluene	1.0	nd
4-Chlorotoluene	1.0	nd
1,3,5-Trimethylbenzene	1.0	nd
tert-Butylbenzene	1.0	nd
1,2,4-Trimethylbenzene	1.0	2.4
sec-Butylbenzene	1.0	nd
1,3-Dichlorobenzene	1.0	nd
1,4-Dichlorobenzene	1.0	nd
Isopropyltoluene	1.0	nd
1,2-Dichlorobenzene	1.0	nd
n-Butylbenzene	1.0	nd
1,2-Dibromo-3-Chloropropane	1.0	nd
1,2,4-Trichlorobenzene	1.0	nd
Naphthalene	1.0	nd
Hexachloro-1,3-butadiene	1.0	nd
1,2,3-Trichlorobenzene	1.0	nd
Surrogate recoveries		
Dibromofluoromethane		134%
Toluene-d8		103%
4-Bromofluorobenzene		105%

Data Qualifiers and Analytical Comments

*The LCS yielded out of control recoveries for 1,1-dichloroethene and chloroform. These analytes were not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	MB 08/29/14	LCS 08/29/14	AOC5-01-WG 08/29/14	AOC5-10-WG 08/29/14	AOC8-01-WG-082214 08/29/14	AOC8-03-WG-082214 08/29/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	58**	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	105%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	7.2	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	111%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	81%	68	1.4	nd	nd
Trichloroethene (TCE)	1.0	nd	83%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	93%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	95%	nd	nd	4.6	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	86%	nd	nd	nd	1.1
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	94%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	92%	59	nd	nd	nd
Xylenes	3.0	nd	88%	90	nd	3.5	nd
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		2.3	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	MB 08/29/14	LCS 08/29/14	AOC5-01-WG 08/29/14	AOC5-10-WG 08/29/14	AOC8-01-WG-082214 08/29/14	AOC8-03-WG-082214 08/29/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		2.4	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		2.2	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		4.6	nd	3.6	1.0
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Surrogate recoveries							
Dibromofluoromethane		128%	132%	135%	120%	135%	124%
Toluene-d8		99%	113%	117%	100%	98%	105%
4-Bromofluorobenzene		103%	102%	116%	101%	104%	101%

Data Qualifiers and Analytical Comments

*The LCS yielded low recovery for vinyl chloride. This analyte was not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/8/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC8-03-SB-2-082214	9/8/2014	17	nd	26	3.7	nd	240	nd	nd
INT-01-SB-8.5-082214	9/8/2014	31	nd	22	2.9	nd	150	nd	nd
INT-01-SB-8.5-082214 Duplicate	9/8/2014	27	nd	21	3.3	nd	150	nd	nd
INT-01-SB-10.5-082214	9/8/2014	9.6	nd	36	4.6	nd	250	nd	nd
INT-01-SB-15-082214	9/8/2014	9.3	nd	37	3.2	nd	250	nd	nd
INT-02-SB-8.5-082214	9/8/2014	26	nd	16	1.8	nd	110	nd	nd
INT-02-SB-10.5-082214	9/8/2014	10	nd	39	5.1	nd	250	nd	nd
INT-02-SB-15-082214	9/8/2014	10	nd	35	4.1	nd	280	nd	nd
INT-03-SB-8.5-082214	9/8/2014	10	nd	34	4.2	nd	250	nd	nd
INT-03-SB-10.5-082214	9/8/2014	12	nd	37	4.6	nd	310	nd	nd
INT-03-SB-15-082214	9/8/2014	10	nd	36	3.9	nd	280	nd	nd
Reporting Limits		5.0	1.0	0.2	0.2	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: INT-01-SB-8.5-082214

	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	36.4	37.6	103	38.6	44.4	115	10.7
Cadmium	36.4	36.8	101	38.6	38.3	99.2	1.9
Chromium	36.4	53.8	148M	38.6	62.4	162M	9.0
Arsenic	36.4	41.9	115	38.6	44.7	116	0.6
Silver	36.4	34.2	94.0	38.6	34.9	90.4	3.8
Barium	36.4	42.9	118	38.6	108	280M	81.4M
Selenium	36.4	37.5	103	38.6	39.0	101	1.9
Mercury	3.64	4.00	110	3.86	4.14	107	2.4

Laboratory Control Sample

	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead	100	107	107
Cadmium	100	95.8	95.8
Chromium	100	96.4	96.4
Arsenic	100	91.9	91.9
Silver	100	98.1	98.1
Barium	100	104	104
Selenium	100	90.2	90.2
Mercury	10.0	10.6	106

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

M - Matrix Spike recovery failed due to matrix interference.

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/4/2014	nd	nd	nd	nd	nd	nd	nd	nd
INT-04-SB-8-5-082214	9/4/2014	39	nd	12	1.8	nd	110	nd	nd
INT-04-SB-10-5-082214	9/4/2014	8.3	nd	32	2.9	nd	210	nd	nd
INT-04-SB-15-082214	9/4/2014	6.8	nd	29	2.8	nd	190	nd	nd
AOC8-04-SB-0-5-082214	9/4/2014	92	nd	16	2.6	nd	210	nd	nd
AOC8-04-SB-2-082214	9/4/2014	65	nd	15	1.9	nd	160	nd	nd
AOC8-04-SB-4-082214	9/4/2014	9.7	nd	19	2.0	nd	140	nd	nd
AOC8-04-SB-8-082214	9/4/2014	8.5	nd	27	4.2	nd	200	nd	nd
AOC8-04-SB-8-082214 Duplicate	9/4/2014	8.7	nd	26	4.1	nd	170	nd	nd
AOC8-05-SB-0-5-082214	9/4/2014	110	nd	14	1.9	nd	180	nd	nd
AOC8-05-SB-2-082214	9/4/2014	nd	nd	12	1.4	nd	84	nd	nd
AOC8-05-SB-4-082214	9/4/2014	nd	nd	14	1.9	nd	140	nd	nd
AOC8-05-SB-8-082214	9/4/2014	9.0	nd	27	3.3	nd	200	nd	nd
AOC8-02-SB-0-5-082214	9/4/2014	50	nd	12	2.0	nd	120	nd	nd
AOC8-02-SB-2-082214	9/4/2014	nd	nd	12	1.4	nd	88	nd	nd
AOC8-02-SB-4-082214	9/4/2014	5.7	nd	23	3.0	nd	200	nd	nd
AOC8-02-SB-8-082214	9/4/2014	nd	nd	19	1.6	nd	150	nd	nd
AOC8-02-SB-8-082214 Duplicate	9/4/2014	nd	nd	19	1.7	nd	150	nd	nd
AOC8-03-SB-0-5-082214	9/4/2014	1200	nd	13	2.7	nd	320	nd	nd
AOC8-03-SB-4-082214	9/4/2014	19	nd	26	1.9	nd	130	nd	nd
AOC8-03-SB-8-082214	9/4/2014	nd	nd	20	2.6	nd	180	nd	nd
Reporting Limits		5.0	1.0	0.2	0.2	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: AOC8-4-SB-8.5

	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	39.0	31.3	80.3	38.8	29.1	75.0	6.8
Cadmium	39.0	32.6	83.6	38.8	31.3	80.7	3.6
Chromium	39.0	41	105	38.8	40.7	105	0.5
Arsenic	39.0	30.4	77.9M	38.8	29.4	75.8M	2.8
Silver	39.0	29.8	76.4M	38.8	28.4	73.2M	4.3
Barium	39.0	35.9	92.1	38.8	39.7	102	10.6
Selenium	39.0	26.9	69.0M	38.8	25.9	66.8M	3.3
Mercury	3.90	3.20	82.1	3.88	2.93	75.5	8.3

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead	100	101	101
Cadmium	100	91.2	91.2
Chromium	100	93.3	93.3
Arsenic	100	84.5	84.5
Silver	100	90.0	90.0
Barium	100	101	101
Selenium	100	84.5	84.5
Mercury	10.0	8.63	86.3

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

M - Matrix Spike recovery failed due to matrix interference.

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Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/4/2014	9/4/2014	85	nd	nd
LCS	9/4/2014	9/4/2014	99	104%	---
INT-04-SB-8.5-082214	9/4/2014	9/4/2014	80	nd	nd
INT-04-SB-10.5-082214	9/4/2014	9/4/2014	85	nd	nd
INT-04-SB-15-082214	9/4/2014	9/4/2014	91	nd	nd
INT-01-SB-8.5-082214	9/4/2014	9/4/2014	74	nd	nd
INT-01-SB-10.5-082214	9/4/2014	9/4/2014	58	nd	3400
INT-01-SB-15-082214	9/4/2014	9/4/2014	53	nd	nd
INT-02-SB-8.5-082214	9/4/2014	9/4/2014	112	nd	1500
INT-02-SB-10.5-082214	9/4/2014	9/4/2014	85	nd	nd
INT-03-SB-8.5-082214	9/4/2014	9/4/2014	79	nd	4600
INT-03-SB-10.5-082214	9/4/2014	9/4/2014	71	nd	190
INT-03-SB-15-082214	9/4/2014	9/4/2014	86	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/5/2014	9/5/2014	87	nd	nd
LCS	9/5/2014	9/5/2014	99	109%	---
INT-02-SB-15-082214	9/5/2014	9/5/2014	96	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Analysis of Diesel Range Organics & Lube Oil Range Organics in Water by Method NWTPH-Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L.)	Lube Oil Range Organics (ug/L.)
Method Blank	9/3/2014	9/3/2014	86	nd	nd
LCS	9/3/2014	9/3/2014	91	102%	---
INT-04-WG-082214	9/3/2014	9/3/2014	99	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1-08182014	GW-JR-22	GW-DW-3	GW-JR-15	GW-JR-16
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd	nd
Vinyl chloride	0.2	nd	*62%	nd	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	68%	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	5.2	17	nd	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd
Chloroform	1.0	nd	94%	nd	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd	nd
Benzene	1.0	nd	73%	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	79%	nd	nd	17	nd	nd
1,2-Dichloropropane	1.0	nd	88%	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd
Toluene	1.0	nd	71%	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	67%	nd	nd	10	nd	2.2
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	81%	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd	69%	nd	nd	nd	nd	nd
Xylenes	3.0	nd	66%	nd	nd	nd	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1-08182014	GW-JR-22	GW-DW-3	GW-JR-15	GW-JR-16
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	nd	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	133%	124%	130%	126%	131%	126%	132%
Toluene-d8	101%	94%	99%	102%	103%	103%	108%
4-Bromofluorobenzene	113%	97%	107%	97%	107%	106%	101%

Data Qualifiers and Analytical Comments

*The LCS yielded low % recovery for vinyl chloride. This analyte was not detected on any sample, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	GW-JR-18	EB-1	GW-DW-1	TB-2	GW-JR-21	GW-JR-25
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
Dichlorodifluoromethane	1.0	nd	nd	nd	nd	nd	nd
Chloromethane	1.0	nd	nd	nd	nd	nd	nd
Vinyl chloride	0.2	nd	nd	nd	nd	nd	nd
Bromomethane	1.0	nd	nd	nd	nd	nd	nd
Chloroethane	1.0	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd	nd	nd	nd	nd	nd
Acetone	10.0	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	2.1	nd	nd	nd
2,2-Dichloropropane	1.0	nd	nd	nd	nd	nd	nd
Chloroform	1.0	nd	nd	1.4	nd	nd	nd
Bromochloromethane	1.0	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd	nd	nd	nd	nd	nd
Carbon tetrachloride	1.0	nd	nd	nd	nd	nd	nd
Benzene	1.0	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	nd	4.3	nd	nd	nd
1,2-Dichloropropane	1.0	nd	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd	nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd	nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd	nd	nd	nd	nd
Toluene	1.0	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd	nd	nd	nd
2-Hexanone	1.0	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd	nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	nd	5.2	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd	nd	nd	nd	nd	nd
Xylenes	3.0	nd	nd	nd	nd	nd	nd
Styrene	1.0	nd	nd	nd	nd	nd	nd
Bromoform	1.0	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd	nd	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	GW-JR-18	EB-1	GW-DW-1	TB-2	GW-JR-21	GW-JR-25
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
1,2,3-Trichloropropane	1.0	nd	nd	nd	nd	nd	nd
Bromobenzene	1.0	nd	nd	nd	nd	nd	nd
n-Propylbenzene	1.0	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd	nd	nd	nd	nd
sec-Butylbenzene	1.0	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
n-Butylbenzene	1.0	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
Naphthalene	1.0	nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	132%	129%	132%	134%	134%	134%
Toluene-d8	101%	98%	103%	107%	108%	107%
4-Bromofluorobenzene	107%	113%	111%	114%	104%	100%

Data Qualifiers and Analytical Comments

*The LCS yielded low % recovery for vinyl chloride. This analyte was not detected on any sample, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-JR-12	GW-JR-26	GW-JR-24	AOC1-10-WG-082014
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	72%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	85%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		3.8	nd	nd	1.4
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	88%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	65%	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	73%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	73%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	66%	nd	nd	1.0	3.0
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	69%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	71%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	70%	nd	nd	nd	nd
Xylenes	3.0	nd	65%	nd	nd	nd	3.7
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-JR-12	GW-JR-26	GW-JR-24	AOC1-J0-WG-082014
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	1.9	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	1.7	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	124%	129%	130%	134%	129%	124%
Toluene-d8	106%	109%	104%	116%	106%	109%
4-Bromofluorobenzene	105%	99%	111%	105%	107%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	AOC3-01-WG-082014	GW-JR-1	GW-JR-5
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14
Dichlorodifluoromethane	1.0	nd	nd	nd
Chloromethane	1.0	nd	nd	nd
Vinyl chloride	0.2	nd	nd	nd
Bromomethane	1.0	nd	nd	nd
Chloroethane	1.0	nd	nd	nd
Trichlorofluoromethane	1.0	nd	nd	nd
Acetone	10.0	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd
Methylene chloride	1.0	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd
2-Butanone (MEK)	10.0	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	nd
2,2-Dichloropropane	1.0	nd	nd	nd
Chloroform	1.0	nd	nd	nd
Bromochloromethane	1.0	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd	nd
1,1-Dichloropropene	1.0	nd	nd	nd
Carbon tetrachloride	1.0	nd	nd	nd
Benzene	1.0	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	nd	nd
1,2-Dichloropropane	1.0	nd	nd	nd
Dibromomethane	1.0	nd	nd	nd
Bromodichloromethane	1.0	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd	nd
Toluene	1.0	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd
2-Hexanone	1.0	nd	nd	nd
1,3-Dichloropropane	1.0	nd	nd	nd
Dibromochloromethane	1.0	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	2.1	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd	nd
Chlorobenzene	1.0	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd
Ethylbenzene	1.0	nd	nd	nd
Xylenes	3.0	nd	nd	nd
Styrene	1.0	nd	nd	nd
Bromoform	1.0	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd
Isopropylbenzene	1.0	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	AOC3-01-WG-082014	GW-JR-1	GW-JR-5
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14
1,2,3-Trichloropropane	1.0	nd	nd	nd
Bromobenzene	1.0	nd	nd	nd
n-Propylbenzene	1.0	nd	nd	nd
2-Chlorotoluene	1.0	nd	nd	nd
4-Chlorotoluene	1.0	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd	nd
tert-Butylbenzene	1.0	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd	nd
sec-Butylbenzene	1.0	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd	nd
Isopropyltoluene	1.0	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd	nd
n-Butylbenzene	1.0	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd	nd
Naphthalene	1.0	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	132%	127%	132%
Toluene-d8	106%	111%	101%
4-Bromofluorobenzene	97%	112%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analytical Results

	RL	MB	I.C.S	GW-DW-2	GW-JR-20	GW-JR-27	GW-JR-23	GW-JR-4	GW-JR-2
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Vinyl chloride	0.2	nd	68%	nd	nd	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	116%	nd	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		3.4	nd	nd	1.9	nd	1.6
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
Chloroform	1.0	nd	117%	nd	nd	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd	nd	nd
Benzene	1.0	nd	84%	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	98%	8.4	nd	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	99%	nd	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd	nd
Toluene	1.0	nd	89%	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	85%	8.1	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	91%	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd	89%	nd	nd	nd	nd	nd	nd
Xylenes	3.0	nd	86%	nd	nd	nd	nd	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	nd	19	nd	nd	nd

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Analytical Results

	RL	MB	LCS	GW-DW-2	GW-JR-20	GW-JR-27	GW-JR-23	GW-JR-4	GW-JR-2
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	3.1	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	12	nd	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	132%	126%	134%	134%	134%	135%	131%
Toluene-d8	113%	111%	108%	113%	109%	110%	104%	113%
4-Bromofluorobenzene	108%	97%	110%	112%	102%	107%	108%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	GW-JR-7 08/28/14	GW-JR-70 08/28/14
Dichlorodifluoromethane	1.0	nd	nd
Chloromethane	1.0	nd	nd
Vinyl chloride	0.2	nd	nd
Bromomethane	1.0	nd	nd
Chloroethane	1.0	nd	nd
Trichlorofluoromethane	1.0	nd	nd
Acetone	10.0	nd	nd
1,1-Dichloroethene	1.0	nd	nd
Methylene chloride	1.0	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd
1,1-Dichloroethane	1.0	nd	nd
2-Butanone (MEK)	10.0	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd
2,2-Dichloropropane	1.0	nd	nd
Chloroform	1.0	nd	nd
Bromochloromethane	1.0	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd
1,1-Dichloropropene	1.0	nd	nd
Carbon tetrachloride	1.0	nd	nd
Benzene	1.0	nd	nd
Trichloroethene (TCE)	1.0	nd	nd
1,2-Dichloropropane	1.0	nd	nd
Dibromomethane	1.0	nd	nd
Bromodichloromethane	1.0	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd
Toluene	1.0	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd
2-Hexanone	1.0	nd	nd
1,3-Dichloropropane	1.0	nd	nd
Dibromochloromethane	1.0	nd	nd
Tetrachloroethene (PCE)	1.0	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd
Chlorobenzene	1.0	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd
Ethylbenzene	1.0	nd	nd
Xylenes	3.0	nd	nd
Styrene	1.0	nd	nd
Bromoform	1.0	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd
Isopropylbenzene	1.0	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	GW-JR-7 08/28/14	GW-JR-70 08/28/14
1,2,3-Trichloropropane	1.0	nd	nd
Bromobenzene	1.0	nd	nd
n-Propylbenzene	1.0	nd	nd
2-Chlorotoluene	1.0	nd	nd
4-Chlorotoluene	1.0	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd
tert-Butylbenzene	1.0	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd
sec-Butylbenzene	1.0	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd
Isopropyltoluene	1.0	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd
n-Butylbenzene	1.0	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd
Naphthalene	1.0	nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd

Surrogate recoveries

Dibromofluoromethane	129%	134%
Toluene-d8	114%	105%
4-Bromofluorobenzene	103%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-JR-50
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14
Dichlorodifluoromethane	1.0	nd		nd
Chloromethane	1.0	nd		nd
Vinyl chloride	0.2	nd	88%	nd
Bromomethane	1.0	nd		nd
Chloroethane	1.0	nd		nd
Trichlorofluoromethane	1.0	nd		nd
Acetone	10.0	nd		nd
1,1-Dichloroethene	1.0	nd	105%	nd
Methylene chloride	1.0	nd		nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd
trans-1,2-Dichloroethene	1.0	nd		nd
1,1-Dichloroethane	1.0	nd		nd
2-Butanone (MEK)	10.0	nd		nd
cis-1,2-Dichloroethene	1.0	nd		nd
2,2-Dichloropropane	1.0	nd		nd
Chloroform	1.0	nd	113%	nd
Bromochloromethane	1.0	nd		nd
1,1,1-Trichloroethane	1.0	nd		nd
1,2-Dichloroethane (EDC)	1.0	nd		nd
1,1-Dichloropropene	1.0	nd		nd
Carbon tetrachloride	1.0	nd		nd
Benzene	1.0	nd	81%	nd
Trichloroethene (TCE)	1.0	nd	83%	nd
1,2-Dichloropropane	1.0	nd	93%	nd
Dibromomethane	1.0	nd		nd
Bromodichloromethane	1.0	nd		nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd
cis-1,3-Dichloropropene	1.0	nd		nd
Toluene	1.0	nd	95%	nd
trans-1,3-Dichloropropene	1.0	nd		nd
1,1,2-Trichloroethane	1.0	nd		nd
2-Hexanone	1.0	nd		nd
1,3-Dichloropropane	1.0	nd		nd
Dibromochloromethane	1.0	nd		nd
Tetrachloroethene (PCE)	1.0	nd	86%	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd
Chlorobenzene	1.0	nd	94%	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd
Ethylbenzene	1.0	nd	92%	nd
Xylenes	3.0	nd	88%	nd
Styrene	1.0	nd		nd
Bromoform	1.0	nd		nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd
Isopropylbenzene	1.0	nd		nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-JR-50
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14
1,2,3-Trichloropropane	1.0	nd		nd
Bromobenzene	1.0	nd		nd
n-Propylbenzene	1.0	nd		nd
2-Chlorotoluene	1.0	nd		nd
4-Chlorotoluene	1.0	nd		nd
1,3,5-Trimethylbenzene	1.0	nd		nd
tert-Butylbenzene	1.0	nd		nd
1,2,4-Trimethylbenzene	1.0	nd		nd
sec-Butylbenzene	1.0	nd		nd
1,3-Dichlorobenzene	1.0	nd		nd
1,4-Dichlorobenzene	1.0	nd		nd
Isopropyltoluene	1.0	nd		nd
1,2-Dichlorobenzene	1.0	nd		nd
n-Butylbenzene	1.0	nd		nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd
1,2,4-Trichlorobenzene	1.0	nd		nd
Naphthalene	1.0	nd		nd
Hexachloro-1,3-butadiene	1.0	nd		nd
1,2,3-Trichlorobenzene	1.0	nd		nd

Surrogate recoveries

Dibromofluoromethane	128%	132%	128%
Toluene-d8	99%	113%	105%
4-Bromofluorobenzene	103%	102%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	8/28/2014	8/28/2014	88	nd	nd
LCS	8/28/2014	8/28/2014	81	76%	---
AOC3-01-WG-082014	8/28/2014	8/28/2014	89	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-01-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-02-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-03-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-04-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-05-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-06-SB-0.5-082014	9/2/2014	160	1.1	29	12	nd	280	nd	nd
AOC9-06-SB-0.5-082014 Duplicate	9/2/2014	112	1.0	21	9.2	nd	560	nd	nd
Reporting Limits		5.0	1.0	0.2	0.2	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: AOC9-06-SB-0.5-082014									
	Matrix Spike			Matrix Spike Duplicate			RPD		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)			
Lead	8.5	38.3	450M	8.96	18.1	202M	76.1M		
Cadmium	8.5	9.94	117	8.96	8.35	93.2	22.5		
Chromium	8.5	10.0	118	8.96	23.4	261M	75.9M		
Arsenic	8.5	8.63	101	8.96	9.19	103	1.1		
Silver	8.5	7.40	87.0	8.96	7.45	83.1	4.5		
Barium	8.5	36.6	430M	8.96	71.9	802M	60.4M		
Selenium	8.5	8.64	102	8.96	8.63	96.3	5.3		
Mercury	0.85	0.88	103	0.90	0.96	107	3.1		

Laboratory Control Sample				
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	10	10.6	103	
Cadmium	10	9.57	95.7	
Chromium	10	10.3	103	
Arsenic	10	9.34	93.4	
Silver	10	9.03	90.3	
Barium	10	10.1	101	
Selenium	10	9.05	90.5	
Mercury	1.0	1.02	102.0	

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/8/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC8-03-SB-2	9/8/2014	17	nd	26	3.7	nd	240	nd	nd
INT-01-SB-8.5-082214	9/8/2014	31	nd	22	2.9	nd	150	nd	nd
INT-01-SB-8.5-082214 Duplicate	9/8/2014	27	nd	21	3.3	nd	150	nd	nd
INT-01-SB-10.5-082214	9/8/2014	9.6	nd	36	4.6	nd	250	nd	nd
INT-01-SB-15-082214	9/8/2014	9.3	nd	37	3.2	nd	250	nd	nd
INT-02-SB-8.5-082214	9/8/2014	26	nd	16	1.8	nd	110	nd	nd
INT-02-SB-10.5-082214	9/8/2014	10	nd	39	5.1	nd	250	nd	nd
INT-02-SB-15-082214	9/8/2014	10	nd	35	4.1	nd	280	nd	nd
INT-03-SB-8.5-082214	9/8/2014	10	nd	34	4.2	nd	250	nd	nd
INT-03-SB-10.5-082214	9/8/2014	12	nd	37	4.6	nd	310	nd	nd
INT-03-SB-15-082214	9/8/2014	10	nd	36	3.9	nd	280	nd	nd
Reporting Limits		5.0	1.0	0.2	0.2	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: INT-01-SB-8.5-082214									
	Matrix Spike			Matrix Spike Duplicate			RPD		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)			
Lead	36.4	37.6	103	38.6	44.4	115			
Cadmium	36.4	36.8	101	38.6	38.3	99.2			
Chromium	36.4	53.8	148M	38.6	62.4	162M			
Arsenic	36.4	41.9	115	38.6	44.7	116			
Silver	36.4	34.2	94.0	38.6	34.9	90.4			
Barium	36.4	42.9	118	38.6	108	280M			
Selenium	36.4	37.5	103	38.6	39.0	101			
Mercury	3.64	4.00	110	3.86	4.14	107			

Laboratory Control Sample			
Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	100	107	
Cadmium	100	95.8	
Chromium	100	96.4	
Arsenic	100	91.9	
Silver	100	98.1	
Barium	100	104	
Selenium	100	90.2	
Mercury	10.0	10.6	

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

M - Matrix Spike recovery failed due to matrix interference.

ESN NORTHWEST CHEMISTRY LABORATORY

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/4/2014	nd	nd	nd	nd	nd	nd	nd	nd
INT-04-SB-8.5-082214	9/4/2014	39	nd	12	1.8	nd	110	nd	nd
INT-04-SB-10.5-082214	9/4/2014	8.3	nd	32	2.9	nd	210	nd	nd
INT-04-SB-15-082214	9/4/2014	6.8	nd	29	2.8	nd	190	nd	nd
AOC8-04-SB-0.5-082214	9/4/2014	92	nd	16	2.6	nd	210	nd	nd
AOC8-04-SB-2-082214	9/4/2014	65	nd	15	1.9	nd	160	nd	nd
AOC8-04-SB-4-082214	9/4/2014	9.7	nd	19	2.0	nd	140	nd	nd
AOC8-04-SB-8-082214	9/4/2014	8.5	nd	27	4.2	nd	200	nd	nd
AOC8-04-SB-8-082214 Duplicate	9/4/2014	8.7	nd	26	4.1	nd	170	nd	nd
AOC8-05-SB-0.5-082214	9/4/2014	110	nd	14	1.9	nd	180	nd	nd
AOC8-05-SB-2-082214	9/4/2014	nd	nd	12	1.4	nd	84	nd	nd
AOC8-05-SB-4-082214	9/4/2014	nd	nd	14	1.9	nd	140	nd	nd
AOC8-05-SB-8-082214	9/4/2014	9.0	nd	27	3.3	nd	200	nd	nd
AOC8-02-SB-0.5-082214	9/4/2014	50	nd	12	2.0	nd	120	nd	nd
AOC8-02-SB-2-082214	9/4/2014	nd	nd	12	1.4	nd	88	nd	nd
AOC8-02-SB-4-082214	9/4/2014	5.7	nd	23	3.0	nd	200	nd	nd
AOC8-02-SB-8-082214	9/4/2014	nd	nd	19	1.6	nd	150	nd	nd
AOC8-02-SB-8-082214 Duplicate	9/4/2014	nd	nd	19	1.7	nd	150	nd	nd
AOC8-03-SB-0.5-082214	9/4/2014	1200	nd	13	2.7	nd	320	nd	nd
AOC8-03-SB-4-082214	9/4/2014	19	nd	26	1.9	nd	130	nd	nd
AOC8-03-SB-8-082214	9/4/2014	nd	nd	20	2.6	nd	180	nd	nd
Reporting Limits		5.0	1.0	5.0	5.0	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: AOC8-4-SB-8.5									
	Matrix Spike			Matrix Spike Duplicate			RPD		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)			
Lead	39.0	31.3	80.3	38.8	29.1	75.0	6.8		
Cadmium	39.0	32.6	83.6	38.8	31.3	80.7	3.6		
Chromium	39.0	41	105	38.8	40.7	105	0.5		
Arsenic	39.0	30.4	77.9M	38.8	29.4	75.8M	2.8		
Silver	39.0	29.8	76.4M	38.8	28.4	73.2M	4.3		
Barium	39.0	35.9	92.1	38.8	39.7	102	10.6		
Selenium	39.0	26.9	69.0M	38.8	25.9	66.8M	3.3		
Mercury	3.90	3.20	82.1	3.88	2.93	75.5	8.3		

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead	100	101	101
Cadmium	100	91.2	91.2
Chromium	100	93.3	93.3
Arsenic	100	84.5	84.5
Silver	100	90.0	90.0
Barium	100	101	101
Selenium	100	84.5	84.5
Mercury	10.0	8.63	86.3

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

M - Matrix Spike recovery failed due to matrix interference.

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/4/2014	9/4/2014	85	nd	nd
LCS	9/4/2014	9/4/2014	99	104%	---
INT-04-SB-8.5-082214	9/4/2014	9/4/2014	80	nd	nd
INT-04-SB-10.5-082214	9/4/2014	9/4/2014	85	nd	nd
INT-04-SB-15-082214	9/4/2014	9/4/2014	91	nd	nd
INT-01-SB-8.5-082214	9/4/2014	9/4/2014	74	nd	nd
INT-01-SB-10.5-082214	9/4/2014	9/4/2014	58	nd	3400
INT-01-SB-15-082214	9/4/2014	9/4/2014	53	nd	nd
INT-02-SB-8.5-082214	9/4/2014	9/4/2014	112	nd	1500
INT-02-SB-10.5-082214	9/4/2014	9/4/2014	85	nd	nd
INT-03-SB-8.5-082214	9/4/2014	9/4/2014	79	nd	4600
INT-03-SB-10.5-082214	9/4/2014	9/4/2014	71	nd	190
INT-03-SB-15-082214	9/4/2014	9/4/2014	86	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/5/2014	9/5/2014	87	nd	nd
LCS	9/5/2014	9/5/2014	99	109%	---
INT-02-SB-15-082214	9/5/2014	9/5/2014	96	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	9/3/2014	9/3/2014	86	nd	nd
LCS	9/3/2014	9/3/2014	91	102%	---
INT-04-WG-082214	9/3/2014	9/3/2014	99	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-I	AOC5-06-WG	AOC5-11-WG	AOC5-07-WG-082214
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	78%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	*154%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	*147%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	112%	nd	2.4	nd	nd
Trichloroethene (TCE)	1.0	nd	116%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	115%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	127%	nd	380	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	111%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	117%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	125%	nd	6.2	nd	nd
Xylenes	3.0	nd	116%	nd	17	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	3.9	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1	AOC5-06-WG	AOC5-11-WG	AOC5-07-WG-082214
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	1.8	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	18	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	127%	133%	126%	135%	134%
Toluene-d8	113%	113%	114%	108%	113%	106%
4-Bromofluorobenzene	108%	100%	127%	103%	95%	106%

Data Qualifiers and Analytical Comments

*The LCS yielded out of control recoveries for 1,1-dichloroethene and chloroform. These analytes were not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	INT-04-WG-082214 08/28/14
Dichlorodifluoromethane	1.0	nd
Chloromethane	1.0	nd
Vinyl chloride	0.2	nd
Bromomethane	1.0	nd
Chloroethane	1.0	nd
Trichlorofluoromethane	1.0	nd
Acetone	10.0	nd
1,1-Dichloroethene	1.0	nd
Methylene chloride	1.0	nd
Methyl-t-butyl ether (MTBE)	1.0	nd
trans-1,2-Dichloroethene	1.0	nd
1,1-Dichloroethane	1.0	nd
2-Butanone (MEK)	10.0	nd
cis-1,2-Dichloroethene	1.0	6.6
2,2-Dichloropropane	1.0	nd
Chloroform	1.0	nd
Bromochloromethane	1.0	nd
1,1,1-Trichloroethane	1.0	nd
1,2-Dichloroethane (EDC)	1.0	nd
1,1-Dichloropropene	1.0	nd
Carbon tetrachloride	1.0	nd
Benzene	1.0	nd
Trichloroethene (TCE)	1.0	4.7
1,2-Dichloropropane	1.0	nd
Dibromomethane	1.0	nd
Bromodichloromethane	1.0	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd
cis-1,3-Dichloropropene	1.0	nd
Toluene	1.0	1.5
trans-1,3-Dichloropropene	1.0	nd
1,1,2-Trichloroethane	1.0	nd
2-Hexanone	1.0	nd
1,3-Dichloropropane	1.0	nd
Dibromochloromethane	1.0	nd
Tetrachloroethene (PCE)	1.0	nd
1,2-Dibromochloroethane (EDB)	1.0	nd
Chlorobenzene	1.0	nd
1,1,1,2-Tetrachloroethane	1.0	nd
Ethylbenzene	1.0	nd
Xylenes	3.0	nd
Styrene	1.0	nd
Bromoform	1.0	nd
1,1,2,2-Tetrachloroethane	1.0	nd
Isopropylbenzene	1.0	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	INT-04-WG-082214
Date analyzed	(ug/L)	08/28/14
1,2,3-Trichloropropane	1.0	nd
Bromobenzene	1.0	nd
n-Propylbenzene	1.0	nd
2-Chlorotoluene	1.0	nd
4-Chlorotoluene	1.0	nd
1,3,5-Trimethylbenzene	1.0	nd
tert-Butylbenzene	1.0	nd
1,2,4-Trimethylbenzene	1.0	2.4
sec-Butylbenzene	1.0	nd
1,3-Dichlorobenzene	1.0	nd
1,4-Dichlorobenzene	1.0	nd
Isopropyltoluene	1.0	nd
1,2-Dichlorobenzene	1.0	nd
n-Butylbenzene	1.0	nd
1,2-Dibromo-3-Chloropropane	1.0	nd
1,2,4-Trichlorobenzene	1.0	nd
Naphthalene	1.0	nd
Hexachloro-1,3-butadiene	1.0	nd
1,2,3-Trichlorobenzene	1.0	nd

Surrogate recoveries

Dibromofluoromethane	134%
Toluene-d8	103%
4-Bromofluorobenzene	105%

Data Qualifiers and Analytical Comments

*The LCS yielded out of control recoveries for 1,1-dichloroethene and chloroform. These analytes were not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	AOC5-01-WG	AOC5-10-WG	AOC8-01-WG-082214	AOC8-03-WG-082214
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	58**%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	105%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	7.2	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	111%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	81%	68	1.4	nd	nd
Trichloroethene (TCE)	1.0	nd	83%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	93%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	95%	nd	nd	4.6	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	86%	nd	nd	nd	1.1
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	94%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	92%	59	nd	nd	nd
Xylenes	3.0	nd	88%	90	nd	3.5	nd
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		2.3	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	AOC5-01-WG	AOC5-10-WG	AOC8-01-WG-082214	AOC8-03-WG-082214
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		2.4	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		2.2	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		4.6	nd	3.6	1.0
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	128%	132%	135%	120%	135%	124%
Toluene-d8	99%	113%	117%	100%	98%	105%
4-Bromofluorobenzene	103%	102%	116%	101%	104%	101%

Data Qualifiers and Analytical Comments

*The LCS yielded low recovery for vinyl chloride. This analyte was not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-01-SB-3-082214	AOC5-01-SB-6.5-082214	AOC5-01-SB-11.5-082214
Date extracted		08/25/14	08/25/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture				20%	7%	22%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	73%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	77%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	87%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	91%	nd	nd	0.47
Trichloroethene (TCE)	0.02	nd	95%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	96%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	91%	nd	nd	0.43
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	95%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	95%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	95%	nd	nd	0.19
Xylenes	0.15	nd	95%	nd	nd	0.50
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-01-SB-3-082214	AOC5-01-SB-6.5-082214	AOC5-01-SB-11.5-082214
Date extracted		08/25/14	08/25/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture				20%	7%	22%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	0.06
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		104%	95%	100%	101%	100%
Toluene-d8		104%	94%	105%	106%	110%
4-Bromofluorobenzene		97%	101%	103%	106%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-01-SB-14-082214	AOC5-02-SB-6-082214	AOC5-02-SB-9-082214	AOC5-02-SB-11.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed (mg/Kg)		08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		35%	25%	9%	28%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	0.58
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	0.11
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	0.24
Xylenes	0.15	nd	nd	nd	0.68
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	0.06

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-01-SB-14-082214	AOC5-02-SB-6-082214	AOC5-02-SB-9-082214	AOC5-02-SB-11.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		35%	25%	9%	28%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	0.06	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	0.15	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		101%	105%	101%	105%
Toluene-d8		103%	102%	109%	112%
4-Bromofluorobenzene		102%	105%	103%	105%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC5-03-SB-4-082214	AOC5-03-SB-9-082214	AOC5-03-SB-13-082214	AOC5-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		11%	6%	12%	8%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	0.04	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	2.0	1.6	0.80	230
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	0.36	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC5-03-SB-4-082214	AOC5-03-SB-9-082214	AOC5-03-SB-13-082214	AOC5-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		11%	6%	12%	8%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	0.14	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		104%	97%	97%	101%
Toluene-d8		108%	106%	110%	108%
4-Bromofluorobenzene		100%	109%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-04-SB-10-082214	AOC5-04-SB-15-082214	AOC5-05-SB-5-082214
Date extracted		08/28/14	08/28/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture				11%	17%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	83%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	93%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	105%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	114%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	114%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	115%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	99%	0.26	nd	0.14
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	112%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	111%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	110%	nd	nd	nd
Xylenes	0.15	nd	111%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RL	MB	LCS	AOC5-04-SB-10-082214	AOC5-04-SB-15-082214	AOC5-05-SB-5-082214
Date extracted		08/28/14	08/28/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture				11%	17%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		0.11	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		94%	102%	98%	98%	98%
Toluene-d8		102%	94%	114%	109%	110%
4-Bromofluorobenzene		111%	99%	116%	110%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

RL	AOC5-05-SB-10.5-082214	AOC5-05-SB-14.5-082214	AOC1-04-SB-2-082214	AOC1-04-SB-5-082214
Date extracted	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed (mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture	13%	17%	8%	14%
Dichlorodifluoromethane	0.05	nd	nd	nd
Chloromethane	0.05	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.05	nd	nd	nd
Chloroethane	0.05	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
Acetone	0.25	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
Chloroform	0.05	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd
Benzene	0.25	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd
Toluene	0.05	0.40	nd	0.12
trans-1,3-Dichloropropene	0.05	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd
Tetrachloroethene (PCE)	0.02	0.20	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd
Xylenes	0.15	nd	nd	nd
Styrene	0.05	nd	nd	nd
Bromoform	0.05	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd

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RI		AOC5-05-SB-10.5-082214	AOC5-05-SB-14.5-082214	AOC1-04-SB-2-082214	AOC1-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture		13%	17%	8%	14%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		100%	93%	98%	105%
Toluene-d8		111%	116%	112%	108%
4-Bromofluorobenzene		109%	113%	107%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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	RL	AOC1-04-SB-10-082214	AOC1-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14
% Moisture		9%	5%

Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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	RL	AOC1-04-SB-10-082214	AOC1-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14
% Moisture		9%	5%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		100%	97%
Toluene-d8		108%	110%
4-Bromofluorobenzene		109%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-06-SB-13-082214	AOC5-07-SB-4-082214	AOC5-07-SB-9-082214
Date extracted		08/29/14	08/29/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
% Moisture				18%	7%	13%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	91%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	126%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	124%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	92%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	105%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	102%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	103%	nd	0.12	8.3
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	104%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	97%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	102%	nd	nd	nd
Xylenes	0.15	nd	96%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-06-SB-13-082214	AOC5-07-SB-4-082214	AOC5-07-SB-9-082214
Date extracted		08/29/14	08/29/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
% Moisture				18%	7%	13%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		0.05	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		126%	129%	126%	128%	126%
Toluene-d8		110%	102%	114%	103%	108%
4-Bromofluorobenzene		103%	93%	111%	114%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-07-SB-14-082214	AOC5-02-SB6-082214	AOC5-08-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14
% Moisture		17%	13%	18%
Dichlorodifluoromethane	0.05	nd	nd	nd
Chloromethane	0.05	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.05	nd	nd	nd
Chloroethane	0.05	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
Acetone	0.25	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
Chloroform	0.05	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd
Benzene	0.25	nd	0.07	nd
Trichloroethene (TCE)	0.02	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd
Toluene	0.05	nd	390	0.26
trans-1,3-Dichloropropene	0.05	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd
Ethylbenzene	0.05	nd	0.43	nd
Xylenes	0.15	nd	1.4	nd
Styrene	0.05	nd	nd	nd
Bromoform	0.05	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-07-SB-14-082214	AOC5-02-SB6-082214	AOC5-08-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14
% Moisture		17%	13%	18%
1,2,3-Trichloropropane	0.05	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	0.08	0.16	nd
sec-Butylbenzene	0.05	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd
Naphthalene	0.05	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd
Surrogate recoveries				
Dibromofluoromethane		113%	108%	119%
Toluene-d8		110%	105%	108%
4-Bromofluorobenzene		103%	106%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-08-SB-11-082214	AOC5-09-SB-5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14
% Moisture		8%	6%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	0.79	0.08
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-08-SB-11-082214	AOC5-09-SB-5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14
% Moisture		8%	6%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		102%	120%
Toluene-d8		103%	101%
4-Bromofluorobenzene		127%	114%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-09-SB-10-082214	AOC5-09-SB-14.75-082214	INT-04-SB-8.5-082214
Date extracted		08/30/14	08/30/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture				18%	28%	9%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	78%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	123%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	117%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	88%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	88%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	95%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	95%	0.24	0.32	0.07
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	87%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	96%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	95%	nd	nd	nd
Xylenes	0.15	nd	86%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-09-SB-10-082214	AOC5-09-SB-14.75-082214	INT-04-SB-8.5-082214
Date extracted		08/30/14	08/30/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture				18%	28%	9%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane	116%	125%	117%	120%	113%	
Toluene-d8	107%	111%	106%	111%	108%	
4-Bromofluorobenzene	103%	106%	118%	114%	116%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-04-SB-10.5-082214	INT-04-SB-15-082214	AOC1-01-SB-2-082214	AOC1-01-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture		25%	26%	11%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	0.13	1.5
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	0.19
Xylenes	0.15	nd	nd	nd	0.72
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-04-SB-10.5-082214	INT-04-SB-15-082214	AOC1-01-SB-2-082214	AOC1-01-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture		25%	26%	11%	10%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	0.07
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	0.21
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		127%	119%	120%	117%
Toluene-d8		107%	102%	109%	103%
4-Bromofluorobenzene		115%	104%	112%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	AOC1-01-SB-10-082214	AOC8-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14
% Moisture		13%	6%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	0.07
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-01-SB-10-082214	AOC8-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14
% Moisture		13%	6%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		115%	121%
Toluene-d8		106%	116%
4-Bromofluorobenzene		110%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-10-082214	AOC1-03-SB2-082214	AOC1-03-SB-5-082214
Date extracted		09/01/14	09/01/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture				6%	11%	13%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	93%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	127%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	*149%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	115%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	119%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	121%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	122%	nd	nd	0.07
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	114%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	126%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	114%	nd	0.05	nd
Xylenes	0.15	nd	115%	nd	0.22	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-10-082214	AOC1-03-SB2-082214	AOC1-03-SB-5-082214
Date extracted		09/01/14	09/01/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture				6%	11%	13%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	0.05	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	0.23	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		117%	128%	112%	108%	120%
Toluene-d8		111%	105%	104%	104%	102%
4-Bromofluorobenzene		114%	103%	100%	110%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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	RL	AOC1-03-SB-10-082214	AOC8-04-SB-0.5-082214	AOC8-04-SB-2-082214	AOC8-04-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture		16%	23%	13%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	0.04	0.04
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	0.57	0.69	0.50
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-03-SB-10-082214	AOC8-04-SB-0.5-082214	AOC8-04-SB-2-082214	AOC8-04-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture		16%	23%	13%	10%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		118%	116%	123%	113%
Toluene-d8		104%	105%	100%	108%
4-Bromofluorobenzene		117%	113%	104%	118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-04-SB-8-082214	AOC8-05-SB-0.5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14
% Moisture		23%	18%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	0.04
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	0.16	0.90
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-04-SB-8-082214	AOC8-05-SB-0.5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14
% Moisture		23%	18%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		120%	117%
Toluene-d8		107%	102%
4-Bromofluorobenzene		108%	119%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC8-05-SB-4-082214	AOC8-05-SB-8-082214	AOC8-02-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture				10%	31%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	67%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	112%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	118%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	97%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	103%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	93%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	96%	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	92%	0.26	0.17	0.13
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	94%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	91%	nd	nd	nd
Xylenes	0.15	nd	88%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC8-05-SB-4-082214	AOC8-05-SB-8-082214	AOC8-02-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture				10%	31%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		113%	115%	125%	112%	133%
Toluene-d8		109%	99%	102%	108%	100%
4-Bromofluorobenzene		100%	107%	110%	110%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	AOC8-02-SB-2-082214	AOC8-02-SB-4-082214	AOC8-02-SB-8-082214	AOC8-03-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		6%	20%	10%	7%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.02	0.13	0.16	0.26
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC8-02-SB-2-082214	AOC8-02-SB-4-082214	AOC8-02-SB-8-082214	AOC8-03-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		6%	20%	10%	7%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		115%	115%	110%	122%
Toluene-d8		111%	111%	110%	102%
4-Bromofluorobenzene		100%	106%	106%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC8-03-SB-2-082214	AOC8-03-SB-4-082214	AOC8-03-SB-8-082214	INT-01-SB-8.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		15%	9%	16%	8%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBk)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.08	0.06	0.13	0.06
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/S035

	RL	AOC8-03-SB-2-082214	AOC8-03-SB-4-082214	AOC8-03-SB-8-082214	INT-01-SB-8.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		15%	9%	16%	8%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropan	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		119%	117%	122%	119%
Toluene-d8		105%	106%	100%	104%
4-Bromofluorobenzene		102%	108%	104%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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Portland, Oregon

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-01-SB-10.5-082214	INT-01-SB-15-082214	INT-02-SB-8.5-082214	INT-02-SB-10.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		13%	25%	8%	29%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	0.17	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	INT-01-SB-10.5-082214	INT-01-SB-15-082214	INT-02-SB-8.5-082214	INT-02-SB-10.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		13%	25%	8%	29%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		118%	113%	118%	127%
Toluene-d8		106%	105%	102%	94%
4-Bromofluorobenzene		107%	110%	107%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-02-SB-15-082214	INT-03-SB-8.5-082214	INT-03-SB-10.5-082214	INT-03-SB-15-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		26%	26%	25%	27%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	0.02	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	0.09	nd	nd
Xylenes	0.15	nd	0.36	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	INT-02-SB-15-082214	INT-03-SB-8.5-082214	INT-03-SB-10.5-082214	INT-03-SB-15-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		26%	26%	25%	27%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		110%	115%	115%	120%
Toluene-d8		99%	109%	109%	99%
4-Bromofluorobenzene		106%	111%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-2-082214	AOC1-02-SB-5-082214
Date extracted		09/03/14	09/03/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/03/14	09/03/14	09/03/14	09/03/14
% Moisture				17%	9%
Dichlorodifluoromethane	0.05	nd		nd	nd
Chloromethane	0.05	nd		nd	nd
Vinyl chloride	0.02	nd	73%	nd	nd
Bromomethane	0.05	nd		nd	nd
Chloroethane	0.05	nd		nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd
Acetone	0.25	nd		nd	nd
1,1-Dichloroethene	0.05	nd	102%	nd	nd
Methylene chloride	0.05	nd		nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd
Chloroform	0.05	nd	114%	nd	nd
Bromochloromethane	0.05	nd		nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd
Carbon tetrachloride	0.05	nd		nd	nd
Benzene	0.02	nd	94%	nd	nd
Trichloroethene (TCE)	0.02	nd	96%	nd	nd
1,2-Dichloropropane	0.05	nd	89%	nd	nd
Dibromomethane	0.05	nd		nd	nd
Bromodichloromethane	0.05	nd		nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd
Toluene	0.05	nd	81%	nd	0.09
trans-1,3-Dichloropropene	0.05	nd		nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd
2-Hexanone	0.25	nd		nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd
Dibromochloromethane	0.05	nd		nd	nd
Tetrachloroethene (PCE)	0.02	nd	81%	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd
Chlorobenzene	0.05	nd	82%	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd
Ethylbenzene	0.05	nd	80%	nd	nd
Xylenes	0.15	nd	77%	nd	nd
Styrene	0.05	nd		nd	nd
Bromoform	0.05	nd		nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd
Isopropylbenzene	0.05	nd		nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-2-082214	AOC1-02-SB-5-082214
Date extracted		09/03/14	09/03/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/03/14	09/03/14	09/03/14	09/03/14
% Moisture				17%	9%
1,2,3-Trichloropropane	0.05	nd		nd	nd
Bromobenzene	0.05	nd		nd	nd
n-Propylbenzene	0.05	nd		nd	nd
2-Chlorotoluene	0.05	nd		nd	nd
4-Chlorotoluene	0.05	nd		nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd
tert-Butylbenzene	0.05	nd		nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd
sec-Butylbenzene	0.05	nd		nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd
Isopropyltoluene	0.05	nd		nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd
n-Butylbenzene	0.05	nd		nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd
Naphthalene	0.05	nd		nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	128%	109%	113%
Toluene-d8	97%	101%	110%	103%
4-Bromofluorobenzene	105%	100%	103%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC1-05-SB-5-082214	AOC1-05-SB-10-082214	AOC1-06-SB-2-082214
Date extracted		09/04/14	09/04/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture				4%	6%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	117%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	95%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	106%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	105%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	106%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	100%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	88%	0.29	0.09	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	100%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	95%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	91%	nd	nd	nd
Xylenes	0.15	nd	97%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RI	MB	LCS	AOC1-05-SB-5-082214	AOC1-05-SB-10-082214	AOC1-06-SB-2-082214
Date extracted		09/04/14	09/04/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture				4%	6%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		98%	110%	104%	106%	106%
Toluene-d8		106%	90%	104%	104%	110%
4-Bromofluorobenzene		98%	100%	105%	103%	95%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-06-SB-05-082214	AOC1-06-SB-10-082214	AOC1-07-SB-2-0822-14	AOC1-07-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		7%	7%	12%	20%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	1.6
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	0.27
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-06-SB-05-082214	AOC1-06-SB-10-082214	AOC1-07-SB-2-0822-14	AOC1-07-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		7%	7%	12%	20%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	0.05
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	0.16
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		97%	102%	104%	104%
Toluene-d8		107%	103%	102%	109%
4-Bromofluorobenzene		93%	103%	97%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-07-SB-10-082214	AOC1-08-SB-2-082214	AOC1-08-SB-5-082214	AOC1-08-SB-10-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		15%	10%	6%	28%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	0.23	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-07-SB-10-082214	AOC1-08-SB-2-082214	AOC1-08-SB-5-082214	AOC1-08-SB-10-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		15%	10%	6%	28%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		99%	103%	100%	103%
Toluene-d8		105%	105%	104%	106%
4-Bromofluorobenzene		99%	103%	105%	101%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-09-SB-2-082214	AOC1-09-SB-5-082214	AOC1-09-SB-19-082214	AOC1-09-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		11%	7%	26%	7%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	0.15	0.12	0.05	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-09-SB-2-082214	AOC1-09-SB-5-082214	AOC1-09-SB-10-082214	AOC5-06-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		11%	7%	26%	7%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		102%	101%	106%	102%
Toluene-d8		104%	103%	103%	104%
4-Bromofluorobenzene		106%	99%	104%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-06-SB-7.5
Date extracted		08/22/14
Date analyzed	(mg/Kg)	09/04/14
% Moisture		11%

Dichlorodifluoromethane	0.05	nd
Chloromethane	0.05	nd
Vinyl chloride	0.02	nd
Bromomethane	0.05	nd
Chloroethane	0.05	nd
Trichlorofluoromethane	0.05	nd
Acetone	0.25	nd
1,1-Dichloroethene	0.05	nd
Methylene chloride	0.05	nd
Methyl-t-butyl ether (MTBE)	0.05	nd
trans-1,2-Dichloroethene	0.05	nd
1,1-Dichloroethane	0.05	nd
2-Butanone (MEK)	0.25	nd
cis-1,2-Dichloroethene	0.05	nd
2,2-Dichloropropane	0.05	nd
Chloroform	0.05	nd
Bromochloromethane	0.05	nd
1,1,1-Trichloroethane	0.05	nd
1,2-Dichloroethane (EDC)	0.05	nd
1,1-Dichloropropene	0.05	nd
Carbon tetrachloride	0.05	nd
Benzene	0.25	nd
Trichloroethene (TCE)	0.02	nd
1,2-Dichloropropane	0.05	nd
Dibromomethane	0.05	nd
Bromodichloromethane	0.05	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd
cis-1,3-Dichloropropene	0.05	nd
Toluene	0.05	0.08
trans-1,3-Dichloropropene	0.05	nd
1,1,2-Trichloroethane	0.05	nd
2-Hexanone	0.25	nd
1,3-Dichloropropane	0.05	nd
Dibromochloromethane	0.05	nd
Tetrachloroethene (PCE)	0.02	0.03
1,2-Dibromoethane (EDB)	0.05	nd
Chlorobenzene	0.05	nd
1,1,1,2-Tetrachloroethane	0.05	nd
Ethylbenzene	0.05	nd
Xylenes	0.15	nd
Styrene	0.05	nd
Bromoform	0.05	nd
1,1,2,2-Tetrachloroethane	0.05	nd
Isopropylbenzene	0.05	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-06-SB-7.5
Date extracted		08/22/14
Date analyzed	(mg/Kg)	09/04/14
% Moisture		11%

1,2,3-Trichloropropane	0.05	nd
Bromobenzene	0.05	nd
n-Propylbenzene	0.05	nd
2-Chlorotoluene	0.05	nd
4-Chlorotoluene	0.05	nd
1,3,5-Trimethylbenzene	0.05	nd
tert-Butylbenzene	0.05	nd
1,2,4-Trimethylbenzene	0.05	nd
sec-Butylbenzene	0.05	nd
1,3-Dichlorobenzene	0.05	nd
1,4-Dichlorobenzene	0.05	nd
Isopropyltoluene	0.05	nd
1,2-Dichlorobenzene	0.05	nd
n-Butylbenzene	0.05	nd
1,2-Dibromo-3-Chloropropane	0.05	nd
1,2,4-Trichlorobenzene	0.05	nd
Naphthalene	0.05	nd
Hexachloro-1,3-butadiene	0.05	nd
1,2,3-Trichlorobenzene	0.05	nd

Surrogate recoveries	
Dibromofluoromethane	106%
Toluene-d8	101%
4-Bromofluorobenzene	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

ENVIRON
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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Copper (Cu) (mg/kg)	Zinc (Zn) (mg/kg)
Method Blank	9/29/2014	nd	nd
AOC9-01-SB-0.5-082014	9/29/2014	18	94
AOC9-02-SB-0.5-082014	9/29/2014	15	80
AOC9-03-SB-0.5-082014	9/29/2014	18	75
AOC9-04-SB-0.5-082014	9/29/2014	18	91
AOC9-05-SB-0.5-082014	9/29/2014	17	70
AOC9-06-SB-0.5-082014	9/29/2014	41	5600
Reporting Limits		5.0	5.0

QA/QC Data - Total Metals EPA-6020

Sample Number: AOC9-01-SB-0.5-082014							
	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Copper	53.2	55.7	105	53.8	55.8	104	0.9
Zinc	53.2	53.5	101	53.8	54.1	101	0.0

Laboratory Control Sample			
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Copper	100	104	104
Zinc	100	102	102

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1-08182014	GW-JR-22	GW-DW-3	GW-JR-15	GW-JR-16
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd	nd
Vinyl chloride	0.2	nd	*62%	nd	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	68%	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	5.2	17	nd	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd
Chloroform	1.0	nd	94%	nd	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd	nd
Benzene	1.0	nd	73%	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	79%	nd	nd	17	nd	nd
1,2-Dichloropropane	1.0	nd	88%	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd
Toluene	1.0	nd	71%	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	67%	nd	nd	10	nd	2.2
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	81%	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd	69%	nd	nd	nd	nd	nd
Xylenes	3.0	nd	66%	nd	nd	nd	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1-08182014	GW-JR-22	GW-DW-3	GW-JR-15	GW-JR-16
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	nd	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	133%	124%	130%	126%	131%	126%	132%
Toluene-d8	101%	94%	99%	102%	103%	103%	108%
4-Bromofluorobenzene	113%	97%	107%	97%	107%	106%	101%

Data Qualifiers and Analytical Comments

*The LCS yielded low % recovery for vinyl chloride. This analyte was not detected on any sample, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analytical Results

	RL	GW-JR-18	EB-1	GW-DW-1	TB-2	GW-JR-21	GW-JR-25
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
Dichlorodifluoromethane	1.0	nd	nd	nd	nd	nd	nd
Chloromethane	1.0	nd	nd	nd	nd	nd	nd
Vinyl chloride	0.2	nd	nd	nd	nd	nd	nd
Bromomethane	1.0	nd	nd	nd	nd	nd	nd
Chloroethane	1.0	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd	nd	nd	nd	nd	nd
Acetone	10.0	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	2.1	nd	nd	nd
2,2-Dichloropropane	1.0	nd	nd	nd	nd	nd	nd
Chloroform	1.0	nd	nd	1.4	nd	nd	nd
Bromochloromethane	1.0	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd	nd	nd	nd	nd	nd
Carbon tetrachloride	1.0	nd	nd	nd	nd	nd	nd
Benzene	1.0	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	nd	4.3	nd	nd	nd
1,2-Dichloropropane	1.0	nd	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd	nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd	nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd	nd	nd	nd	nd
Toluene	1.0	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd	nd	nd	nd
2-Hexanone	1.0	nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd	nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	nd	5.2	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd	nd	nd	nd	nd	nd
Xylenes	3.0	nd	nd	nd	nd	nd	nd
Styrene	1.0	nd	nd	nd	nd	nd	nd
Bromoform	1.0	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd	nd	nd	nd	nd	nd

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Analytical Results

	RL	GW-JR-18	EB-1	GW-DW-1	TB-2	GW-JR-21	GW-JR-25
Date analyzed	(ug/L)	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14	08/26/14
1,2,3-Trichloropropane	1.0	nd	nd	nd	nd	nd	nd
Bromobenzene	1.0	nd	nd	nd	nd	nd	nd
n-Propylbenzene	1.0	nd	nd	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd	nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd	nd	nd	nd	nd
sec-Butylbenzene	1.0	nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
n-Butylbenzene	1.0	nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd	nd	nd	nd	nd
Naphthalene	1.0	nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	132%	129%	132%	134%	134%	134%
Toluene-d8	101%	98%	103%	107%	108%	107%
4-Bromofluorobenzene	107%	113%	111%	114%	104%	100%

Data Qualifiers and Analytical Comments

*The LCS yielded low % recovery for vinyl chloride. This analyte was not detected on any sample, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analytical Results

	RL	MB	LCS	GW-JR-12	GW-JR-26	GW-JR-24	AOC1-10-WG-082014
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	72%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	85%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		3.8	nd	nd	1.4
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	88%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	65%	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	73%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	73%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	66%	nd	nd	1.0	3.0
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	69%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	71%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	70%	nd	nd	nd	nd
Xylenes	3.0	nd	65%	nd	nd	nd	3.7
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	nd	nd	nd

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Analytical Results

	RL	MB	LCS	GW-JR-12	GW-JR-26	GW-JR-24	AOC1-J0-WG-082014
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14	08/27/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	1.9	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	1.7	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	124%	129%	130%	134%	129%	124%
Toluene-d8	106%	109%	104%	116%	106%	109%
4-Bromofluorobenzene	105%	99%	111%	105%	107%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	AOC3-01-WG-082014	GW-JR-1	GW-JR-5
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14
Dichlorodifluoromethane	1.0	nd	nd	nd
Chloromethane	1.0	nd	nd	nd
Vinyl chloride	0.2	nd	nd	nd
Bromomethane	1.0	nd	nd	nd
Chloroethane	1.0	nd	nd	nd
Trichlorofluoromethane	1.0	nd	nd	nd
Acetone	10.0	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd
Methylene chloride	1.0	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd
2-Butanone (MEK)	10.0	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	nd
2,2-Dichloropropane	1.0	nd	nd	nd
Chloroform	1.0	nd	nd	nd
Bromochloromethane	1.0	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd	nd
1,1-Dichloropropene	1.0	nd	nd	nd
Carbon tetrachloride	1.0	nd	nd	nd
Benzene	1.0	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	nd	nd
1,2-Dichloropropane	1.0	nd	nd	nd
Dibromomethane	1.0	nd	nd	nd
Bromodichloromethane	1.0	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd	nd
Toluene	1.0	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd
2-Hexanone	1.0	nd	nd	nd
1,3-Dichloropropane	1.0	nd	nd	nd
Dibromochloromethane	1.0	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	2.1	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd	nd
Chlorobenzene	1.0	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd
Ethylbenzene	1.0	nd	nd	nd
Xylenes	3.0	nd	nd	nd
Styrene	1.0	nd	nd	nd
Bromoform	1.0	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd
Isopropylbenzene	1.0	nd	nd	nd

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Analytical Results

	RL	AOC3-01-WG-082014	GW-JR-1	GW-JR-5
Date analyzed	(ug/L)	08/27/14	08/27/14	08/27/14
1,2,3-Trichloropropane	1.0	nd	nd	nd
Bromobenzene	1.0	nd	nd	nd
n-Propylbenzene	1.0	nd	nd	nd
2-Chlorotoluene	1.0	nd	nd	nd
4-Chlorotoluene	1.0	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd	nd
tert-Butylbenzene	1.0	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd	nd
sec-Butylbenzene	1.0	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd	nd
Isopropyltoluene	1.0	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd	nd
n-Butylbenzene	1.0	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd	nd
Naphthalene	1.0	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	132%	127%	132%
Toluene-d8	106%	111%	101%
4-Bromofluorobenzene	97%	112%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	I.C.S	GW-DW-2	GW-JR-20	GW-JR-27	GW-JR-23	GW-JR-4	GW-JR-2
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Vinyl chloride	0.2	nd	68%	nd	nd	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	116%	nd	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		3.4	nd	nd	1.9	nd	1.6
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
Chloroform	1.0	nd	117%	nd	nd	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd	nd	nd
Benzene	1.0	nd	84%	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	1.0	nd	98%	8.4	nd	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	99%	nd	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd	nd
Toluene	1.0	nd	89%	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	85%	8.1	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	91%	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
Ethylbenzene	1.0	nd	89%	nd	nd	nd	nd	nd	nd
Xylenes	3.0	nd	86%	nd	nd	nd	nd	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	nd	19	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-DW-2	GW-JR-20	GW-JR-27	GW-JR-23	GW-JR-4	GW-JR-2
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	3.1	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	12	nd	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	132%	126%	134%	134%	134%	135%	131%
Toluene-d8	113%	111%	108%	113%	109%	110%	104%	113%
4-Bromofluorobenzene	108%	97%	110%	112%	102%	107%	108%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	GW-JR-7 08/28/14	GW-JR-70 08/28/14
Dichlorodifluoromethane	1.0	nd	nd
Chloromethane	1.0	nd	nd
Vinyl chloride	0.2	nd	nd
Bromomethane	1.0	nd	nd
Chloroethane	1.0	nd	nd
Trichlorofluoromethane	1.0	nd	nd
Acetone	10.0	nd	nd
1,1-Dichloroethene	1.0	nd	nd
Methylene chloride	1.0	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd
1,1-Dichloroethane	1.0	nd	nd
2-Butanone (MEK)	10.0	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd
2,2-Dichloropropane	1.0	nd	nd
Chloroform	1.0	nd	nd
Bromochloromethane	1.0	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd
1,1-Dichloropropene	1.0	nd	nd
Carbon tetrachloride	1.0	nd	nd
Benzene	1.0	nd	nd
Trichloroethene (TCE)	1.0	nd	nd
1,2-Dichloropropane	1.0	nd	nd
Dibromomethane	1.0	nd	nd
Bromodichloromethane	1.0	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd
Toluene	1.0	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd
2-Hexanone	1.0	nd	nd
1,3-Dichloropropane	1.0	nd	nd
Dibromochloromethane	1.0	nd	nd
Tetrachloroethene (PCE)	1.0	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd
Chlorobenzene	1.0	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd
Ethylbenzene	1.0	nd	nd
Xylenes	3.0	nd	nd
Styrene	1.0	nd	nd
Bromoform	1.0	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd
Isopropylbenzene	1.0	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

Date analyzed	RL (ug/L)	GW-JR-7 08/28/14	GW-JR-70 08/28/14
1,2,3-Trichloropropane	1.0	nd	nd
Bromobenzene	1.0	nd	nd
n-Propylbenzene	1.0	nd	nd
2-Chlorotoluene	1.0	nd	nd
4-Chlorotoluene	1.0	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd
tert-Butylbenzene	1.0	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd
sec-Butylbenzene	1.0	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd
Isopropyltoluene	1.0	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd
n-Butylbenzene	1.0	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd
Naphthalene	1.0	nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd

Surrogate recoveries

Dibromofluoromethane	129%	134%
Toluene-d8	114%	105%
4-Bromofluorobenzene	103%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-JR-50
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14
Dichlorodifluoromethane	1.0	nd		nd
Chloromethane	1.0	nd		nd
Vinyl chloride	0.2	nd	88%	nd
Bromomethane	1.0	nd		nd
Chloroethane	1.0	nd		nd
Trichlorofluoromethane	1.0	nd		nd
Acetone	10.0	nd		nd
1,1-Dichloroethene	1.0	nd	105%	nd
Methylene chloride	1.0	nd		nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd
trans-1,2-Dichloroethene	1.0	nd		nd
1,1-Dichloroethane	1.0	nd		nd
2-Butanone (MEK)	10.0	nd		nd
cis-1,2-Dichloroethene	1.0	nd		nd
2,2-Dichloropropane	1.0	nd		nd
Chloroform	1.0	nd	113%	nd
Bromochloromethane	1.0	nd		nd
1,1,1-Trichloroethane	1.0	nd		nd
1,2-Dichloroethane (EDC)	1.0	nd		nd
1,1-Dichloropropene	1.0	nd		nd
Carbon tetrachloride	1.0	nd		nd
Benzene	1.0	nd	81%	nd
Trichloroethene (TCE)	1.0	nd	83%	nd
1,2-Dichloropropane	1.0	nd	93%	nd
Dibromomethane	1.0	nd		nd
Bromodichloromethane	1.0	nd		nd
4-Methyl-2-pentanone (MTBK)	1.0	nd		nd
cis-1,3-Dichloropropene	1.0	nd		nd
Toluene	1.0	nd	95%	nd
trans-1,3-Dichloropropene	1.0	nd		nd
1,1,2-Trichloroethane	1.0	nd		nd
2-Hexanone	1.0	nd		nd
1,3-Dichloropropane	1.0	nd		nd
Dibromochloromethane	1.0	nd		nd
Tetrachloroethene (PCE)	1.0	nd	86%	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd
Chlorobenzene	1.0	nd	94%	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd
Ethylbenzene	1.0	nd	92%	nd
Xylenes	3.0	nd	88%	nd
Styrene	1.0	nd		nd
Bromoform	1.0	nd		nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd
Isopropylbenzene	1.0	nd		nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	GW-JR-50
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14
1,2,3-Trichloropropane	1.0	nd		nd
Bromobenzene	1.0	nd		nd
n-Propylbenzene	1.0	nd		nd
2-Chlorotoluene	1.0	nd		nd
4-Chlorotoluene	1.0	nd		nd
1,3,5-Trimethylbenzene	1.0	nd		nd
tert-Butylbenzene	1.0	nd		nd
1,2,4-Trimethylbenzene	1.0	nd		nd
sec-Butylbenzene	1.0	nd		nd
1,3-Dichlorobenzene	1.0	nd		nd
1,4-Dichlorobenzene	1.0	nd		nd
Isopropyltoluene	1.0	nd		nd
1,2-Dichlorobenzene	1.0	nd		nd
n-Butylbenzene	1.0	nd		nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd
1,2,4-Trichlorobenzene	1.0	nd		nd
Naphthalene	1.0	nd		nd
Hexachloro-1,3-butadiene	1.0	nd		nd
1,2,3-Trichlorobenzene	1.0	nd		nd

Surrogate recoveries

Dibromofluoromethane	128%	132%	128%
Toluene-d8	99%	113%	105%
4-Bromofluorobenzene	103%	102%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	8/28/2014	8/28/2014	88	nd	nd
LCS	8/28/2014	8/28/2014	81	76%	---
AOC3-01-WG-082014	8/28/2014	8/28/2014	89	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-01-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-02-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-03-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-04-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-05-SB-0.5-082014	9/2/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC9-06-SB-0.5-082014	9/2/2014	160	1.1	29	12	nd	280	nd	nd
AOC9-06-SB-0.5-082014 Duplicate	9/2/2014	112	1.0	21	9.2	nd	560	nd	nd
Reporting Limits		5.0	1.0	0.2	0.2	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: AOC9-06-SB-0.5-082014									
	Matrix Spike			Matrix Spike Duplicate			RPD		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)			
Lead	8.5	38.3	450M	8.96	18.1	202M	76.1M		
Cadmium	8.5	9.94	117	8.96	8.35	93.2	22.5		
Chromium	8.5	10.0	118	8.96	23.4	261M	75.9M		
Arsenic	8.5	8.63	101	8.96	9.19	103	1.1		
Silver	8.5	7.40	87.0	8.96	7.45	83.1	4.5		
Barium	8.5	36.6	430M	8.96	71.9	802M	60.4M		
Selenium	8.5	8.64	102	8.96	8.63	96.3	5.3		
Mercury	0.85	0.88	103	0.90	0.96	107	3.1		

Laboratory Control Sample				
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	10	10.6	103	
Cadmium	10	9.57	95.7	
Chromium	10	10.3	103	
Arsenic	10	9.34	93.4	
Silver	10	9.03	90.3	
Barium	10	10.1	101	
Selenium	10	9.05	90.5	
Mercury	1.0	1.02	102.0	

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/8/2014	nd	nd	nd	nd	nd	nd	nd	nd
AOC8-03-SB-2	9/8/2014	17	nd	26	3.7	nd	240	nd	nd
INT-01-SB-8.5-082214	9/8/2014	31	nd	22	2.9	nd	150	nd	nd
INT-01-SB-8.5-082214 Duplicate	9/8/2014	27	nd	21	3.3	nd	150	nd	nd
INT-01-SB-10.5-082214	9/8/2014	9.6	nd	36	4.6	nd	250	nd	nd
INT-01-SB-15-082214	9/8/2014	9.3	nd	37	3.2	nd	250	nd	nd
INT-02-SB-8.5-082214	9/8/2014	26	nd	16	1.8	nd	110	nd	nd
INT-02-SB-10.5-082214	9/8/2014	10	nd	39	5.1	nd	250	nd	nd
INT-02-SB-15-082214	9/8/2014	10	nd	35	4.1	nd	280	nd	nd
INT-03-SB-8.5-082214	9/8/2014	10	nd	34	4.2	nd	250	nd	nd
INT-03-SB-10.5-082214	9/8/2014	12	nd	37	4.6	nd	310	nd	nd
INT-03-SB-15-082214	9/8/2014	10	nd	36	3.9	nd	280	nd	nd
Reporting Limits		5.0	1.0	0.2	0.2	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: INT-01-SB-8.5-082214									
	Matrix Spike			Matrix Spike Duplicate			RPD		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)			
Lead	36.4	37.6	103	38.6	44.4	115			
Cadmium	36.4	36.8	101	38.6	38.3	99.2			
Chromium	36.4	53.8	148M	38.6	62.4	162M			
Arsenic	36.4	41.9	115	38.6	44.7	116			
Silver	36.4	34.2	94.0	38.6	34.9	90.4			
Barium	36.4	42.9	118	38.6	108	280M			
Selenium	36.4	37.5	103	38.6	39.0	101			
Mercury	3.64	4.00	110	3.86	4.14	107			

Laboratory Control Sample			
Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	100	107	
Cadmium	100	95.8	
Chromium	100	96.4	
Arsenic	100	91.9	
Silver	100	98.1	
Barium	100	104	
Selenium	100	90.2	
Mercury	10.0	10.6	

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

M - Matrix Spike recovery failed due to matrix interference.

ESN NORTHWEST CHEMISTRY LABORATORY

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Lead (Pb) (mg/kg)	Cadmium (Cd) (mg/kg)	Chromium (Cr) (mg/kg)	Arsenic (As) (mg/kg)	Silver (Ag) (mg/kg)	Barium (Ba) (mg/kg)	Selenium (Se) (mg/kg)	Mercury (Hg) (mg/kg)
Method Blank	9/4/2014	nd	nd	nd	nd	nd	nd	nd	nd
INT-04-SB-8.5-082214	9/4/2014	39	nd	12	1.8	nd	110	nd	nd
INT-04-SB-10.5-082214	9/4/2014	8.3	nd	32	2.9	nd	210	nd	nd
INT-04-SB-15-082214	9/4/2014	6.8	nd	29	2.8	nd	190	nd	nd
AOC8-04-SB-0.5-082214	9/4/2014	92	nd	16	2.6	nd	210	nd	nd
AOC8-04-SB-2-082214	9/4/2014	65	nd	15	1.9	nd	160	nd	nd
AOC8-04-SB-4-082214	9/4/2014	9.7	nd	19	2.0	nd	140	nd	nd
AOC8-04-SB-8-082214	9/4/2014	8.5	nd	27	4.2	nd	200	nd	nd
AOC8-04-SB-8-082214 Duplicate	9/4/2014	8.7	nd	26	4.1	nd	170	nd	nd
AOC8-05-SB-0.5-082214	9/4/2014	110	nd	14	1.9	nd	180	nd	nd
AOC8-05-SB-2-082214	9/4/2014	nd	nd	12	1.4	nd	84	nd	nd
AOC8-05-SB-4-082214	9/4/2014	nd	nd	14	1.9	nd	140	nd	nd
AOC8-05-SB-8-082214	9/4/2014	9.0	nd	27	3.3	nd	200	nd	nd
AOC8-02-SB-0.5-082214	9/4/2014	50	nd	12	2.0	nd	120	nd	nd
AOC8-02-SB-2-082214	9/4/2014	nd	nd	12	1.4	nd	88	nd	nd
AOC8-02-SB-4-082214	9/4/2014	5.7	nd	23	3.0	nd	200	nd	nd
AOC8-02-SB-8-082214	9/4/2014	nd	nd	19	1.6	nd	150	nd	nd
AOC8-02-SB-8-082214 Duplicate	9/4/2014	nd	nd	19	1.7	nd	150	nd	nd
AOC8-03-SB-0.5-082214	9/4/2014	1200	nd	13	2.7	nd	320	nd	nd
AOC8-03-SB-4-082214	9/4/2014	19	nd	26	1.9	nd	130	nd	nd
AOC8-03-SB-8-082214	9/4/2014	nd	nd	20	2.6	nd	180	nd	nd
Reporting Limits		5.0	1.0	5.0	5.0	20	50	20	0.5

"nd" Indicates not detected at listed detection limits.

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QA/QC Data - Total Metals EPA-6020

Sample Number: AOC8-4-SB-8.5									
	Matrix Spike			Matrix Spike Duplicate			RPD		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)			
Lead	39.0	31.3	80.3	38.8	29.1	75.0	6.8		
Cadmium	39.0	32.6	83.6	38.8	31.3	80.7	3.6		
Chromium	39.0	41	105	38.8	40.7	105	0.5		
Arsenic	39.0	30.4	77.9M	38.8	29.4	75.8M	2.8		
Silver	39.0	29.8	76.4M	38.8	28.4	73.2M	4.3		
Barium	39.0	35.9	92.1	38.8	39.7	102	10.6		
Selenium	39.0	26.9	69.0M	38.8	25.9	66.8M	3.3		
Mercury	3.90	3.20	82.1	3.88	2.93	75.5	8.3		

Laboratory Control Sample				
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Lead	100	101	101	
Cadmium	100	91.2	91.2	
Chromium	100	93.3	93.3	
Arsenic	100	84.5	84.5	
Silver	100	90.0	90.0	
Barium	100	101	101	
Selenium	100	84.5	84.5	
Mercury	10.0	8.63	86.3	

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

M - Matrix Spike recovery failed due to matrix interference.

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Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/4/2014	9/4/2014	85	nd	nd
LCS	9/4/2014	9/4/2014	99	104%	---
INT-04-SB-8.5-082214	9/4/2014	9/4/2014	80	nd	nd
INT-04-SB-10.5-082214	9/4/2014	9/4/2014	85	nd	nd
INT-04-SB-15-082214	9/4/2014	9/4/2014	91	nd	nd
INT-01-SB-8.5-082214	9/4/2014	9/4/2014	74	nd	nd
INT-01-SB-10.5-082214	9/4/2014	9/4/2014	58	nd	3400
INT-01-SB-15-082214	9/4/2014	9/4/2014	53	nd	nd
INT-02-SB-8.5-082214	9/4/2014	9/4/2014	112	nd	1500
INT-02-SB-10.5-082214	9/4/2014	9/4/2014	85	nd	nd
INT-03-SB-8.5-082214	9/4/2014	9/4/2014	79	nd	4600
INT-03-SB-10.5-082214	9/4/2014	9/4/2014	71	nd	190
INT-03-SB-15-082214	9/4/2014	9/4/2014	86	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	9/5/2014	9/5/2014	87	nd	nd
LCS	9/5/2014	9/5/2014	99	109%	---
INT-02-SB-15-082214	9/5/2014	9/5/2014	96	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	9/3/2014	9/3/2014	86	nd	nd
LCS	9/3/2014	9/3/2014	91	102%	---
INT-04-WG-082214	9/3/2014	9/3/2014	99	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-I	AOC5-06-WG	AOC5-11-WG	AOC5-07-WG-082214
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	78%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	*154%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	*147%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	112%	nd	2.4	nd	nd
Trichloroethene (TCE)	1.0	nd	116%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	115%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	127%	nd	380	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	111%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	117%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	125%	nd	6.2	nd	nd
Xylenes	3.0	nd	116%	nd	17	nd	nd
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		nd	3.9	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	TB-1	AOC5-06-WG	AOC5-11-WG	AOC5-07-WG-082214
Date analyzed	(ug/L)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	1.8	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	18	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	127%	133%	126%	135%	134%
Toluene-d8	113%	113%	114%	108%	113%	106%
4-Bromofluorobenzene	108%	100%	127%	103%	95%	106%

Data Qualifiers and Analytical Comments

*The LCS yielded out of control recoveries for 1,1-dichloroethene and chloroform. These analytes were not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	INT-04-WG-082214
Date analyzed	(ug/L)	08/28/14
Dichlorodifluoromethane	1.0	nd
Chloromethane	1.0	nd
Vinyl chloride	0.2	nd
Bromomethane	1.0	nd
Chloroethane	1.0	nd
Trichlorofluoromethane	1.0	nd
Acetone	10.0	nd
1,1-Dichloroethene	1.0	nd
Methylene chloride	1.0	nd
Methyl-t-butyl ether (MTBE)	1.0	nd
trans-1,2-Dichloroethene	1.0	nd
1,1-Dichloroethane	1.0	nd
2-Butanone (MEK)	10.0	nd
cis-1,2-Dichloroethene	1.0	6.6
2,2-Dichloropropane	1.0	nd
Chloroform	1.0	nd
Bromochloromethane	1.0	nd
1,1,1-Trichloroethane	1.0	nd
1,2-Dichloroethane (EDC)	1.0	nd
1,1-Dichloropropene	1.0	nd
Carbon tetrachloride	1.0	nd
Benzene	1.0	nd
Trichloroethene (TCE)	1.0	4.7
1,2-Dichloropropane	1.0	nd
Dibromomethane	1.0	nd
Bromodichloromethane	1.0	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd
cis-1,3-Dichloropropene	1.0	nd
Toluene	1.0	1.5
trans-1,3-Dichloropropene	1.0	nd
1,1,2-Trichloroethane	1.0	nd
2-Hexanone	1.0	nd
1,3-Dichloropropane	1.0	nd
Dibromochloromethane	1.0	nd
Tetrachloroethene (PCE)	1.0	nd
1,2-Dibromochloroethane (EDB)	1.0	nd
Chlorobenzene	1.0	nd
1,1,1,2-Tetrachloroethane	1.0	nd
Ethylbenzene	1.0	nd
Xylenes	3.0	nd
Styrene	1.0	nd
Bromoform	1.0	nd
1,1,2,2-Tetrachloroethane	1.0	nd
Isopropylbenzene	1.0	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	INT-04-WG-082214
Date analyzed	(ug/L)	08/28/14
1,2,3-Trichloropropane	1.0	nd
Bromobenzene	1.0	nd
n-Propylbenzene	1.0	nd
2-Chlorotoluene	1.0	nd
4-Chlorotoluene	1.0	nd
1,3,5-Trimethylbenzene	1.0	nd
tert-Butylbenzene	1.0	nd
1,2,4-Trimethylbenzene	1.0	2.4
sec-Butylbenzene	1.0	nd
1,3-Dichlorobenzene	1.0	nd
1,4-Dichlorobenzene	1.0	nd
Isopropyltoluene	1.0	nd
1,2-Dichlorobenzene	1.0	nd
n-Butylbenzene	1.0	nd
1,2-Dibromo-3-Chloropropane	1.0	nd
1,2,4-Trichlorobenzene	1.0	nd
Naphthalene	1.0	nd
Hexachloro-1,3-butadiene	1.0	nd
1,2,3-Trichlorobenzene	1.0	nd

Surrogate recoveries

Dibromofluoromethane	134%
Toluene-d8	103%
4-Bromofluorobenzene	105%

Data Qualifiers and Analytical Comments

*The LCS yielded out of control recoveries for 1,1-dichloroethene and chloroform. These analytes were not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	AOC5-01-WG	AOC5-10-WG	AOC8-01-WG-082214	AOC8-03-WG-082214
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
Dichlorodifluoromethane	1.0	nd		nd	nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd	nd
Vinyl chloride	0.2	nd	58**%	nd	nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd	nd
Acetone	10.0	nd		nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	105%	nd	nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd		nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd	nd
2-Butanone (MEK)	10.0	nd		nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	7.2	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd	nd
Chloroform	1.0	nd	111%	nd	nd	nd	nd
Bromochloromethane	1.0	nd		nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd	nd
Carbon tetrachloride	1.0	nd		nd	nd	nd	nd
Benzene	1.0	nd	81%	68	1.4	nd	nd
Trichloroethene (TCE)	1.0	nd	83%	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	93%	nd	nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	1.0	nd		nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
Toluene	1.0	nd	95%	nd	nd	4.6	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd	nd
2-Hexanone	1.0	nd		nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd	nd
Tetrachloroethene (PCE)	1.0	nd	86%	nd	nd	nd	1.1
1,2-Dibromoethane (EDB)	1.0	nd		nd	nd	nd	nd
Chlorobenzene	1.0	nd	94%	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Ethylbenzene	1.0	nd	92%	59	nd	nd	nd
Xylenes	3.0	nd	88%	90	nd	3.5	nd
Styrene	1.0	nd		nd	nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
Isopropylbenzene	1.0	nd		2.3	nd	nd	nd

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Analysis of Volatile Organic Compounds in Water by Method 8260

Analytical Results

	RL	MB	LCS	AOC5-01-WG	AOC5-10-WG	AOC8-01-WG-082214	AOC8-03-WG-082214
Date analyzed	(ug/L)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		2.4	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		2.2	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		4.6	nd	3.6	1.0
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd

Surrogate recoveries

Dibromofluoromethane	128%	132%	135%	120%	135%	124%
Toluene-d8	99%	113%	117%	100%	98%	105%
4-Bromofluorobenzene	103%	102%	116%	101%	104%	101%

Data Qualifiers and Analytical Comments

*The LCS yielded low recovery for vinyl chloride. This analyte was not detected in any samples, so no further action was taken.

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-01-SB-3-082214	AOC5-01-SB-6.5-082214	AOC5-01-SB-11.5-082214
Date extracted		08/25/14	08/25/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture				20%	7%	22%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	73%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	77%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	87%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	91%	nd	nd	0.47
Trichloroethene (TCE)	0.02	nd	95%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	96%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	91%	nd	nd	0.43
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	95%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	95%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	95%	nd	nd	0.19
Xylenes	0.15	nd	95%	nd	nd	0.50
Styrene	0.05	nd		nd	nd	nd
Bromoforn	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-01-SB-3-082214	AOC5-01-SB-6.5-082214	AOC5-01-SB-11.5-082214
Date extracted		08/25/14	08/25/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture				20%	7%	22%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	0.06
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		104%	95%	100%	101%	100%
Toluene-d8		104%	94%	105%	106%	110%
4-Bromofluorobenzene		97%	101%	103%	106%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC5-01-SB-14-082214	AOC5-02-SB-6-082214	AOC5-02-SB-9-082214	AOC5-02-SB-11.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		35%	25%	9%	28%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	0.58
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	0.11
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	0.24
Xylenes	0.15	nd	nd	nd	0.68
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	0.06

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	RL	AOC5-01-SB-14-082214	AOC5-02-SB-6-082214	AOC5-02-SB-9-082214	AOC5-02-SB-11.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		35%	25%	9%	28%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	0.06	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	0.15	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		101%	105%	101%	105%
Toluene-d8		103%	102%	109%	112%
4-Bromofluorobenzene		102%	105%	103%	105%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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RL		AOC5-03-SB-4-082214	AOC5-03-SB-9-082214	AOC5-03-SB-13-082214	AOC5-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		11%	6%	12%	8%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	0.04	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	2.0	1.6	0.80	230
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	0.36	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC5-03-SB-4-082214	AOC5-03-SB-9-082214	AOC5-03-SB-13-082214	AOC5-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/25/14	08/25/14	08/25/14	08/25/14
% Moisture		11%	6%	12%	8%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	0.14	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		104%	97%	97%	101%
Toluene-d8		108%	106%	110%	108%
4-Bromofluorobenzene		100%	109%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-04-SB-10-082214	AOC5-04-SB-15-082214	AOC5-05-SB-5-082214
Date extracted		08/28/14	08/28/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture				11%	17%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	83%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	93%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	105%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	114%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	114%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	115%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	99%	0.26	nd	0.14
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	112%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	111%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	110%	nd	nd	nd
Xylenes	0.15	nd	111%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC5-04-SB-10-082214	AOC5-04-SB-15-082214	AOC5-05-SB-5-082214
Date extracted		08/28/14	08/28/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture				11%	17%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		0.11	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		94%	102%	98%	98%	98%
Toluene-d8		102%	94%	114%	109%	110%
4-Bromofluorobenzene		111%	99%	116%	110%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

RL	AOC5-05-SB-10.5-082214	AOC5-05-SB-14.5-082214	AOC1-04-SB-2-082214	AOC1-04-SB-5-082214
Date extracted	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed (mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture	13%	17%	8%	14%
Dichlorodifluoromethane	0.05	nd	nd	nd
Chloromethane	0.05	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.05	nd	nd	nd
Chloroethane	0.05	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
Acetone	0.25	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
Chloroform	0.05	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd
Benzene	0.25	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd
Toluene	0.05	0.40	nd	0.12
trans-1,3-Dichloropropene	0.05	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd
Tetrachloroethene (PCE)	0.02	0.20	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd
Xylenes	0.15	nd	nd	nd
Styrene	0.05	nd	nd	nd
Bromoform	0.05	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

RI		AOC5-05-SB-10.5-082214	AOC5-05-SB-14.5-082214	AOC1-04-SB-2-082214	AOC1-04-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14	08/28/14	08/28/14
% Moisture		13%	17%	8%	14%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		100%	93%	98%	105%
Toluene-d8		111%	116%	112%	108%
4-Bromofluorobenzene		109%	113%	107%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC1-04-SB-10-082214	AOC1-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14
% Moisture		9%	5%

Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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	RL	AOC1-04-SB-10-082214	AOC1-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/28/14	08/28/14
% Moisture		9%	5%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		100%	97%
Toluene-d8		108%	110%
4-Bromofluorobenzene		109%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-06-SB-13-082214	AOC5-07-SB-4-082214	AOC5-07-SB-9-082214
Date extracted		08/29/14	08/29/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
% Moisture				18%	7%	13%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	91%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	126%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	124%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	92%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	105%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	102%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	103%	nd	0.12	8.3
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	104%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	97%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	102%	nd	nd	nd
Xylenes	0.15	nd	96%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RL	MB	LCS	AOC5-06-SB-13-082214	AOC5-07-SB-4-082214	AOC5-07-SB-9-082214
Date extracted		08/29/14	08/29/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14	08/29/14	08/29/14
% Moisture				18%	7%	13%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		0.05	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		126%	129%	126%	128%	126%
Toluene-d8		110%	102%	114%	103%	108%
4-Bromofluorobenzene		103%	93%	111%	114%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-07-SB-14-082214	AOC5-02-SB6-082214	AOC5-08-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14
% Moisture		17%	13%	18%
Dichlorodifluoromethane	0.05	nd	nd	nd
Chloromethane	0.05	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd
Bromomethane	0.05	nd	nd	nd
Chloroethane	0.05	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd
Acetone	0.25	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd
Chloroform	0.05	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd
Benzene	0.25	nd	0.07	nd
Trichloroethene (TCE)	0.02	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd
Toluene	0.05	nd	390	0.26
trans-1,3-Dichloropropene	0.05	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd
Ethylbenzene	0.05	nd	0.43	nd
Xylenes	0.15	nd	1.4	nd
Styrene	0.05	nd	nd	nd
Bromoform	0.05	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-07-SB-14-082214	AOC5-02-SB6-082214	AOC5-08-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14	08/29/14
% Moisture		17%	13%	18%
1,2,3-Trichloropropane	0.05	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	0.08	0.16	nd
sec-Butylbenzene	0.05	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd
Naphthalene	0.05	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd
Surrogate recoveries				
Dibromofluoromethane		113%	108%	119%
Toluene-d8		110%	105%	108%
4-Bromofluorobenzene		103%	106%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-08-SB-11-082214	AOC5-09-SB-5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14
% Moisture		8%	6%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	0.79	0.08
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC5-08-SB-11-082214	AOC5-09-SB-5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/29/14	08/29/14
% Moisture		8%	6%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		102%	120%
Toluene-d8		103%	101%
4-Bromofluorobenzene		127%	114%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-09-SB-10-082214	AOC5-09-SB-14.75-082214	INT-04-SB-8.5-082214
Date extracted		08/30/14	08/30/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture				18%	28%	9%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	78%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	123%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	117%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	88%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	88%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	95%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	95%	0.24	0.32	0.07
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	87%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	96%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	95%	nd	nd	nd
Xylenes	0.15	nd	86%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC5-09-SB-10-082214	AOC5-09-SB-14.75-082214	INT-04-SB-8.5-082214
Date extracted		08/30/14	08/30/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture				18%	28%	9%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane	116%	125%	117%	120%	113%	
Toluene-d8	107%	111%	106%	111%	108%	
4-Bromofluorobenzene	103%	106%	118%	114%	116%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-04-SB-10.5-082214	INT-04-SB-15-082214	AOC1-01-SB-2-082214	AOC1-01-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture		25%	26%	11%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	0.13	1.5
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	0.19
Xylenes	0.15	nd	nd	nd	0.72
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	INT-04-SB-10.5-082214	INT-04-SB-15-082214	AOC1-01-SB-2-082214	AOC1-01-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14	08/30/14	08/30/14
% Moisture		25%	26%	11%	10%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	0.07
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	0.21
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		127%	119%	120%	117%
Toluene-d8		107%	102%	109%	103%
4-Bromofluorobenzene		115%	104%	112%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-01-SB-10-082214	AOC8-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14
% Moisture		13%	6%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	nd
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	0.07
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-01-SB-10-082214	AOC8-05-SB-2-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	08/30/14	08/30/14
% Moisture		13%	6%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		115%	121%
Toluene-d8		106%	116%
4-Bromofluorobenzene		110%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-10-082214	AOC1-03-SB2-082214	AOC1-03-SB-5-082214
Date extracted		09/01/14	09/01/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture				6%	11%	13%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	93%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	127%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	*149%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	115%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	119%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	121%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	122%	nd	nd	0.07
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	114%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	126%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	114%	nd	0.05	nd
Xylenes	0.15	nd	115%	nd	0.22	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-10-082214	AOC1-03-SB2-082214	AOC1-03-SB-5-082214
Date extracted		09/01/14	09/01/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture				6%	11%	13%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	0.05	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	0.23	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		117%	128%	112%	108%	120%
Toluene-d8		111%	105%	104%	104%	102%
4-Bromofluorobenzene		114%	103%	100%	110%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC1-03-SB-10-082214	AOC8-04-SB-0.5-082214	AOC8-04-SB-2-082214	AOC8-04-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture		16%	23%	13%	10%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	0.04	0.04
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	0.57	0.69	0.50
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC1-03-SB-10-082214	AOC8-04-SB-0.5-082214	AOC8-04-SB-2-082214	AOC8-04-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14	09/01/14	09/01/14
% Moisture		16%	23%	13%	10%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		118%	116%	123%	113%
Toluene-d8		104%	105%	100%	108%
4-Bromofluorobenzene		117%	113%	104%	118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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	RL	AOC8-04-SB-8-082214	AOC8-05-SB-0.5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14
% Moisture		23%	18%
Dichlorodifluoromethane	0.05	nd	nd
Chloromethane	0.05	nd	nd
Vinyl chloride	0.02	nd	nd
Bromomethane	0.05	nd	nd
Chloroethane	0.05	nd	nd
Trichlorofluoromethane	0.05	nd	nd
Acetone	0.25	nd	nd
1,1-Dichloroethene	0.05	nd	nd
Methylene chloride	0.05	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd
1,1-Dichloroethane	0.05	nd	nd
2-Butanone (MEK)	0.25	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd
2,2-Dichloropropane	0.05	nd	nd
Chloroform	0.05	nd	nd
Bromochloromethane	0.05	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd
1,1-Dichloropropene	0.05	nd	nd
Carbon tetrachloride	0.05	nd	nd
Benzene	0.25	nd	nd
Trichloroethene (TCE)	0.02	nd	0.04
1,2-Dichloropropane	0.05	nd	nd
Dibromomethane	0.05	nd	nd
Bromodichloromethane	0.05	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd
Toluene	0.05	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd
2-Hexanone	0.25	nd	nd
1,3-Dichloropropane	0.05	nd	nd
Dibromochloromethane	0.05	nd	nd
Tetrachloroethene (PCE)	0.05	0.16	0.90
1,2-Dibromoethane (EDB)	0.05	nd	nd
Chlorobenzene	0.05	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Xylenes	0.15	nd	nd
Styrene	0.05	nd	nd
Bromoform	0.05	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd
Isopropylbenzene	0.05	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-04-SB-8-082214	AOC8-05-SB-0.5-082214
Date extracted		08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/01/14	09/01/14
% Moisture		23%	18%
1,2,3-Trichloropropane	0.05	nd	nd
Bromobenzene	0.05	nd	nd
n-Propylbenzene	0.05	nd	nd
2-Chlorotoluene	0.05	nd	nd
4-Chlorotoluene	0.05	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd
tert-Butylbenzene	0.05	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd
sec-Butylbenzene	0.05	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd
Isopropyltoluene	0.05	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd
n-Butylbenzene	0.05	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd
Naphthalene	0.05	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd
Surrogate recoveries			
Dibromofluoromethane		120%	117%
Toluene-d8		107%	102%
4-Bromofluorobenzene		108%	119%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

*The LCS yielded high recovery for chloroform. This analyte was not detected in any samples, so no further action was taken.

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC8-05-SB-4-082214	AOC8-05-SB-8-082214	AOC8-02-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture				10%	31%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	67%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	112%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	118%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	97%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	103%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	93%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	96%	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	92%	0.26	0.17	0.13
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	94%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	91%	nd	nd	nd
Xylenes	0.15	nd	88%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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	RL	MB	LCS	AOC8-05-SB-4-082214	AOC8-05-SB-8-082214	AOC8-02-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture				10%	31%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		113%	115%	125%	112%	133%
Toluene-d8		109%	99%	102%	108%	100%
4-Bromofluorobenzene		100%	107%	110%	110%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	AOC8-02-SB-2-082214	AOC8-02-SB-4-082214	AOC8-02-SB-8-082214	AOC8-03-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		6%	20%	10%	7%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.02	0.13	0.16	0.26
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-02-SB-2-082214	AOC8-02-SB-4-082214	AOC8-02-SB-8-082214	AOC8-03-SB-0.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		6%	20%	10%	7%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		115%	115%	110%	122%
Toluene-d8		111%	111%	110%	102%
4-Bromofluorobenzene		100%	106%	106%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	AOC8-03-SB-2-082214	AOC8-03-SB-4-082214	AOC8-03-SB-8-082214	INT-01-SB-8.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		15%	9%	16%	8%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBk)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	0.08	0.06	0.13	0.06
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260/S035

	RL	AOC8-03-SB-2-082214	AOC8-03-SB-4-082214	AOC8-03-SB-8-082214	INT-01-SB-8.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		15%	9%	16%	8%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropan	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		119%	117%	122%	119%
Toluene-d8		105%	106%	100%	104%
4-Bromofluorobenzene		102%	108%	104%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	INT-01-SB-10.5-082214	INT-01-SB-15-082214	INT-02-SB-8.5-082214	INT-02-SB-10.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		13%	25%	8%	29%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	0.17	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	INT-01-SB-10.5-082214	INT-01-SB-15-082214	INT-02-SB-8.5-082214	INT-02-SB-10.5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		13%	25%	8%	29%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		118%	113%	118%	127%
Toluene-d8		106%	105%	102%	94%
4-Bromofluorobenzene		107%	110%	107%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	INT-02-SB-15-082214	INT-03-SB-8.5-082214	INT-03-SB-10.5-082214	INT-03-SB-15-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		26%	26%	25%	27%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	0.02	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.05	nd	0.05	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	0.09	nd	nd
Xylenes	0.15	nd	0.36	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	INT-02-SB-15-082214	INT-03-SB-8.5-082214	INT-03-SB-10.5-082214	INT-03-SB-15-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/02/14	09/02/14	09/02/14	09/02/14
% Moisture		26%	26%	25%	27%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		110%	115%	115%	120%
Toluene-d8		99%	109%	109%	99%
4-Bromofluorobenzene		106%	111%	111%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-2-082214	AOC1-02-SB-5-082214
Date extracted		09/03/14	09/03/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/03/14	09/03/14	09/03/14	09/03/14
% Moisture				17%	9%
Dichlorodifluoromethane	0.05	nd		nd	nd
Chloromethane	0.05	nd		nd	nd
Vinyl chloride	0.02	nd	73%	nd	nd
Bromomethane	0.05	nd		nd	nd
Chloroethane	0.05	nd		nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd
Acetone	0.25	nd		nd	nd
1,1-Dichloroethene	0.05	nd	102%	nd	nd
Methylene chloride	0.05	nd		nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd
Chloroform	0.05	nd	114%	nd	nd
Bromochloromethane	0.05	nd		nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd
Carbon tetrachloride	0.05	nd		nd	nd
Benzene	0.02	nd	94%	nd	nd
Trichloroethene (TCE)	0.02	nd	96%	nd	nd
1,2-Dichloropropane	0.05	nd	89%	nd	nd
Dibromomethane	0.05	nd		nd	nd
Bromodichloromethane	0.05	nd		nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd
Toluene	0.05	nd	81%	nd	0.09
trans-1,3-Dichloropropene	0.05	nd		nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd
2-Hexanone	0.25	nd		nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd
Dibromochloromethane	0.05	nd		nd	nd
Tetrachloroethene (PCE)	0.02	nd	81%	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd
Chlorobenzene	0.05	nd	82%	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd
Ethylbenzene	0.05	nd	80%	nd	nd
Xylenes	0.15	nd	77%	nd	nd
Styrene	0.05	nd		nd	nd
Bromoform	0.05	nd		nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd
Isopropylbenzene	0.05	nd		nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

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Analysis of Volatile Organic Compounds in Soil by Method 8260/5035

	RL	MB	LCS	AOC1-02-SB-2-082214	AOC1-02-SB-5-082214
Date extracted		09/03/14	09/03/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/03/14	09/03/14	09/03/14	09/03/14
% Moisture				17%	9%
1,2,3-Trichloropropane	0.05	nd		nd	nd
Bromobenzene	0.05	nd		nd	nd
n-Propylbenzene	0.05	nd		nd	nd
2-Chlorotoluene	0.05	nd		nd	nd
4-Chlorotoluene	0.05	nd		nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd
tert-Butylbenzene	0.05	nd		nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd
sec-Butylbenzene	0.05	nd		nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd
Isopropyltoluene	0.05	nd		nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd
n-Butylbenzene	0.05	nd		nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd
Naphthalene	0.05	nd		nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd

Surrogate recoveries

Dibromofluoromethane	127%	128%	109%	113%
Toluene-d8	97%	101%	110%	103%
4-Bromofluorobenzene	105%	100%	103%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	AOC1-05-SB-5-082214	AOC1-05-SB-10-082214	AOC1-06-SB-2-082214
Date extracted		09/04/14	09/04/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture				4%	6%	7%
Dichlorodifluoromethane	0.05	nd		nd	nd	nd
Chloromethane	0.05	nd		nd	nd	nd
Vinyl chloride	0.02	nd	117%	nd	nd	nd
Bromomethane	0.05	nd		nd	nd	nd
Chloroethane	0.05	nd		nd	nd	nd
Trichlorofluoromethane	0.05	nd		nd	nd	nd
Acetone	0.25	nd		nd	nd	nd
1,1-Dichloroethene	0.05	nd	95%	nd	nd	nd
Methylene chloride	0.05	nd		nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd		nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd		nd	nd	nd
1,1-Dichloroethane	0.05	nd		nd	nd	nd
2-Butanone (MEK)	0.25	nd		nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd		nd	nd	nd
2,2-Dichloropropane	0.05	nd		nd	nd	nd
Chloroform	0.05	nd	106%	nd	nd	nd
Bromochloromethane	0.05	nd		nd	nd	nd
1,1,1-Trichloroethane	0.05	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd		nd	nd	nd
1,1-Dichloropropene	0.05	nd		nd	nd	nd
Carbon tetrachloride	0.05	nd		nd	nd	nd
Benzene	0.02	nd	105%	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	106%	nd	nd	nd
1,2-Dichloropropane	0.05	nd	100%	nd	nd	nd
Dibromomethane	0.05	nd		nd	nd	nd
Bromodichloromethane	0.05	nd		nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd		nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd		nd	nd	nd
Toluene	0.05	nd	88%	0.29	0.09	nd
trans-1,3-Dichloropropene	0.05	nd		nd	nd	nd
1,1,2-Trichloroethane	0.05	nd		nd	nd	nd
2-Hexanone	0.25	nd		nd	nd	nd
1,3-Dichloropropane	0.05	nd		nd	nd	nd
Dibromochloromethane	0.05	nd		nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	100%	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd		nd	nd	nd
Chlorobenzene	0.05	nd	95%	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Ethylbenzene	0.05	nd	91%	nd	nd	nd
Xylenes	0.15	nd	97%	nd	nd	nd
Styrene	0.05	nd		nd	nd	nd
Bromoform	0.05	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd		nd	nd	nd
Isopropylbenzene	0.05	nd		nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RI	MB	LCS	AOC1-05-SB-5-082214	AOC1-05-SB-10-082214	AOC1-06-SB-2-082214
Date extracted		09/04/14	09/04/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture				4%	6%	7%
1,2,3-Trichloropropane	0.05	nd		nd	nd	nd
Bromobenzene	0.05	nd		nd	nd	nd
n-Propylbenzene	0.05	nd		nd	nd	nd
2-Chlorotoluene	0.05	nd		nd	nd	nd
4-Chlorotoluene	0.05	nd		nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd		nd	nd	nd
tert-Butylbenzene	0.05	nd		nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd		nd	nd	nd
sec-Butylbenzene	0.05	nd		nd	nd	nd
1,3-Dichlorobenzene	0.05	nd		nd	nd	nd
1,4-Dichlorobenzene	0.05	nd		nd	nd	nd
Isopropyltoluene	0.05	nd		nd	nd	nd
1,2-Dichlorobenzene	0.05	nd		nd	nd	nd
n-Butylbenzene	0.05	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd		nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd		nd	nd	nd
Naphthalene	0.05	nd		nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd		nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd		nd	nd	nd
Surrogate recoveries						
Dibromofluoromethane		98%	110%	104%	106%	106%
Toluene-d8		106%	90%	104%	104%	110%
4-Bromofluorobenzene		98%	100%	105%	103%	95%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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	RL	AOC1-06-SB-05-082214	AOC1-06-SB-10-082214	AOC1-07-SB-2-0822-14	AOC1-07-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		7%	7%	12%	20%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	1.6
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	0.27
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC1-06-SB-05-082214	AOC1-06-SB-10-082214	AOC1-07-SB-2-0822-14	AOC1-07-SB-5-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		7%	7%	12%	20%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	0.05
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	0.16
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		97%	102%	104%	104%
Toluene-d8		107%	103%	102%	109%
4-Bromofluorobenzene		93%	103%	97%	104%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	AOC1-07-SB-10-082214	AOC1-08-SB-2-082214	AOC1-08-SB-5-082214	AOC1-08-SB-10-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		15%	10%	6%	28%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	0.23	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

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	RL	AOC1-07-SB-10-082214	AOC1-08-SB-2-082214	AOC1-08-SB-5-082214	AOC1-08-SB-10-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		15%	10%	6%	28%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		99%	103%	100%	103%
Toluene-d8		105%	105%	104%	106%
4-Bromofluorobenzene		99%	103%	105%	101%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

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	RL	AOC1-09-SB-2-082214	AOC1-09-SB-5-082214	AOC1-09-SB-19-082214	AOC1-09-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		11%	7%	26%	7%
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	0.15	0.12	0.05	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

Environ
PROJECT GRAPHIC PACKAGING
PROJECT #03-35786A
Portland, Oregon

ESN Northwest
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lab@esnrv.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC1-09-SB-2-082214	AOC1-09-SB-5-082214	AOC1-09-SB-10-082214	AOC5-06-SB-4-082214
Date extracted		08/22/14	08/22/14	08/22/14	08/22/14
Date analyzed	(mg/Kg)	09/04/14	09/04/14	09/04/14	09/04/14
% Moisture		11%	7%	26%	7%
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		102%	101%	106%	102%
Toluene-d8		104%	103%	103%	104%
4-Bromofluorobenzene		106%	99%	104%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

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PROJECT #03-35786A
Portland, Oregon

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lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-06-SB-7.5
Date extracted		08/22/14
Date analyzed	(mg/Kg)	09/04/14
% Moisture		11%

Dichlorodifluoromethane	0.05	nd
Chloromethane	0.05	nd
Vinyl chloride	0.02	nd
Bromomethane	0.05	nd
Chloroethane	0.05	nd
Trichlorofluoromethane	0.05	nd
Acetone	0.25	nd
1,1-Dichloroethene	0.05	nd
Methylene chloride	0.05	nd
Methyl-t-butyl ether (MTBE)	0.05	nd
trans-1,2-Dichloroethene	0.05	nd
1,1-Dichloroethane	0.05	nd
2-Butanone (MEK)	0.25	nd
cis-1,2-Dichloroethene	0.05	nd
2,2-Dichloropropane	0.05	nd
Chloroform	0.05	nd
Bromochloromethane	0.05	nd
1,1,1-Trichloroethane	0.05	nd
1,2-Dichloroethane (EDC)	0.05	nd
1,1-Dichloropropene	0.05	nd
Carbon tetrachloride	0.05	nd
Benzene	0.25	nd
Trichloroethene (TCE)	0.02	nd
1,2-Dichloropropane	0.05	nd
Dibromomethane	0.05	nd
Bromodichloromethane	0.05	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd
cis-1,3-Dichloropropene	0.05	nd
Toluene	0.05	0.08
trans-1,3-Dichloropropene	0.05	nd
1,1,2-Trichloroethane	0.05	nd
2-Hexanone	0.25	nd
1,3-Dichloropropane	0.05	nd
Dibromochloromethane	0.05	nd
Tetrachloroethene (PCE)	0.02	0.03
1,2-Dibromoethane (EDB)	0.05	nd
Chlorobenzene	0.05	nd
1,1,1,2-Tetrachloroethane	0.05	nd
Ethylbenzene	0.05	nd
Xylenes	0.15	nd
Styrene	0.05	nd
Bromoform	0.05	nd
1,1,2,2-Tetrachloroethane	0.05	nd
Isopropylbenzene	0.05	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	AOC5-06-SB-7.5
Date extracted		08/22/14
Date analyzed	(mg/Kg)	09/04/14
% Moisture		11%

1,2,3-Trichloropropane	0.05	nd
Bromobenzene	0.05	nd
n-Propylbenzene	0.05	nd
2-Chlorotoluene	0.05	nd
4-Chlorotoluene	0.05	nd
1,3,5-Trimethylbenzene	0.05	nd
tert-Butylbenzene	0.05	nd
1,2,4-Trimethylbenzene	0.05	nd
sec-Butylbenzene	0.05	nd
1,3-Dichlorobenzene	0.05	nd
1,4-Dichlorobenzene	0.05	nd
Isopropyltoluene	0.05	nd
1,2-Dichlorobenzene	0.05	nd
n-Butylbenzene	0.05	nd
1,2-Dibromo-3-Chloropropane	0.05	nd
1,2,4-Trichlorobenzene	0.05	nd
Naphthalene	0.05	nd
Hexachloro-1,3-butadiene	0.05	nd
1,2,3-Trichlorobenzene	0.05	nd

Surrogate recoveries	
Dibromofluoromethane	106%
Toluene-d8	101%
4-Bromofluorobenzene	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

ENVIRON
PROJECT GP11
PROJECT #03-35786A
Portland, Oregon

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Total Metals in Soil by EPA-6020 Series

Sample Number	Date Analyzed	Copper (Cu) (mg/kg)	Zinc (Zn) (mg/kg)
Method Blank	9/29/2014	nd	nd
AOC9-01-SB-0.5-082014	9/29/2014	18	94
AOC9-02-SB-0.5-082014	9/29/2014	15	80
AOC9-03-SB-0.5-082014	9/29/2014	18	75
AOC9-04-SB-0.5-082014	9/29/2014	18	91
AOC9-05-SB-0.5-082014	9/29/2014	17	70
AOC9-06-SB-0.5-082014	9/29/2014	41	5600
Reporting Limits		5.0	5.0

QA/QC Data - Total Metals EPA-6020

Sample Number: AOC9-01-SB-0.5-082014							
	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	
Copper	53.2	55.7	105	53.8	55.8	104	0.9
Zinc	53.2	53.5	101	53.8	54.1	101	0.0
Laboratory Control Sample							
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)				
Copper	100	104	104				
Zinc	100	102	102				

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 80%-120%
ACCEPTABLE RPD IS 35%

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle

5755 8th Street East

Tacoma, WA 98424

Tel: (253)922-2310

TestAmerica Job ID: 580-48828-1

Client Project/Site: GP11 Portland

Revision: 1

For:

Environ International

8440 SE Sunnybrook Blvd

Suite 204

Clackamas, Oregon 97015

Attn: Devon Rowe



Authorized for release by:

4/28/2015 5:23:34 PM

Kristine Allen, Manager of Project Management

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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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Case Narrative

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Job ID: 580-48828-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-48828-1

Comments

No additional comments.

Receipt

The samples were received on 4/8/2015 11:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.4° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Qualifiers

Metals

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
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: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-09-SS

Lab Sample ID: 580-48828-1

Date Collected: 04/07/15 10:30

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 81.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.5		0.47	0.17	mg/Kg	☼	04/17/15 14:48	04/18/15 12:45	10
Lead	74		0.47	0.045	mg/Kg	☼	04/17/15 14:48	04/18/15 12:45	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	19		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-07-SS

Lab Sample ID: 580-48828-2

Date Collected: 04/07/15 10:45

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 80.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.0		0.48	0.17	mg/Kg	☼	04/17/15 14:48	04/18/15 13:18	10
Lead	53		0.48	0.046	mg/Kg	☼	04/17/15 14:48	04/18/15 13:18	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	20		0.10	0.10	%			04/16/15 16:17	1

TestAmerica Seattle

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-08-SS

Lab Sample ID: 580-48828-3

Date Collected: 04/07/15 10:55

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 82.2

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.8		0.47	0.17	mg/Kg	☼	04/17/15 14:48	04/18/15 13:22	10
Lead	21		0.47	0.045	mg/Kg	☼	04/17/15 14:48	04/18/15 13:22	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	18		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-10-SS

Lab Sample ID: 580-48828-4

Date Collected: 04/07/15 11:05

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 88.4

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.4		0.32	0.12	mg/Kg	☼	04/17/15 14:48	04/18/15 13:26	10
Lead	34		0.32	0.031	mg/Kg	☼	04/17/15 14:48	04/18/15 13:26	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	12		0.10	0.10	%			04/16/15 16:17	1

TestAmerica Seattle

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-11-SS

Lab Sample ID: 580-48828-5

Date Collected: 04/07/15 11:12

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.8

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		0.48	0.17	mg/Kg	☼	04/17/15 14:48	04/18/15 13:30	10
Lead	46		0.48	0.046	mg/Kg	☼	04/17/15 14:48	04/18/15 13:30	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	10		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-12-SS

Lab Sample ID: 580-48828-6

Date Collected: 04/07/15 11:19

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 90.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.0		0.47	0.17	mg/Kg	☼	04/17/15 14:48	04/18/15 13:34	10
Lead	36		0.47	0.045	mg/Kg	☼	04/17/15 14:48	04/18/15 13:34	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	9.9		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-13-SS

Lab Sample ID: 580-48828-7

Date Collected: 04/07/15 11:25

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 82.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.2		0.38	0.14	mg/Kg	☼	04/17/15 14:48	04/18/15 13:38	10
Lead	42		0.38	0.036	mg/Kg	☼	04/17/15 14:48	04/18/15 13:38	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	17		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-14-SS

Lab Sample ID: 580-48828-8

Date Collected: 04/07/15 11:35

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 87.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.1		0.51	0.18	mg/Kg	☼	04/17/15 14:48	04/18/15 13:42	10
Lead	44		0.51	0.049	mg/Kg	☼	04/17/15 14:48	04/18/15 13:42	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	12		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-07-SB-1.5

Lab Sample ID: 580-48828-9

Date Collected: 04/07/15 11:40

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 91.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.7		0.35	0.13	mg/Kg	☼	04/17/15 14:48	04/18/15 13:46	10
Lead	19		0.35	0.034	mg/Kg	☼	04/17/15 14:48	04/18/15 13:46	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	8.9		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-08-SB-1.5

Lab Sample ID: 580-48828-10

Date Collected: 04/07/15 11:45

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 87.3

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9		0.50	0.18	mg/Kg	☼	04/17/15 14:48	04/18/15 13:50	10
Lead	32		0.50	0.048	mg/Kg	☼	04/17/15 14:48	04/18/15 13:50	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	13		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-09-SB-1.5

Lab Sample ID: 580-48828-11

Date Collected: 04/07/15 11:50

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 85.3

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.6		0.38	0.14	mg/Kg	☼	04/17/15 14:48	04/22/15 15:44	10
Lead	40		0.38	0.037	mg/Kg	☼	04/17/15 14:48	04/22/15 15:44	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	15		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-10-SB-1.5

Lab Sample ID: 580-48828-12

Date Collected: 04/07/15 11:55

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.9		0.52	0.19	mg/Kg	☼	04/17/15 14:48	04/18/15 14:12	10
Lead	47		0.52	0.050	mg/Kg	☼	04/17/15 14:48	04/18/15 14:12	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	10		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-11-SB-1.5

Lab Sample ID: 580-48828-13

Date Collected: 04/07/15 12:00

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.2

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.4		0.51	0.18	mg/Kg	☼	04/17/15 14:48	04/18/15 14:16	10
Lead	27		0.51	0.049	mg/Kg	☼	04/17/15 14:48	04/18/15 14:16	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	11		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-12-SB-1.5

Lab Sample ID: 580-48828-14

Date Collected: 04/07/15 12:05

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 88.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.2		0.46	0.16	mg/Kg	☼	04/17/15 14:48	04/18/15 14:20	10
Lead	29		0.46	0.044	mg/Kg	☼	04/17/15 14:48	04/18/15 14:20	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	12		0.10	0.10	%			04/16/15 16:17	1

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-13-SB-1.5

Lab Sample ID: 580-48828-15

Date Collected: 04/07/15 12:10

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7		0.42	0.15	mg/Kg	☼	04/17/15 14:48	04/18/15 14:24	10
Lead	110		0.42	0.040	mg/Kg	☼	04/17/15 14:48	04/18/15 14:24	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	10		0.10	0.10	%			04/16/15 16:17	1

TestAmerica Seattle

Client Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-14-SB-1.5

Lab Sample ID: 580-48828-16

Date Collected: 04/07/15 12:15

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 84.8

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.8		0.50	0.18	mg/Kg	☼	04/17/15 14:48	04/18/15 14:28	10
Lead	51		0.50	0.048	mg/Kg	☼	04/17/15 14:48	04/18/15 14:28	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10	0.10	%	—		04/16/15 16:17	1
Percent Moisture	15		0.10	0.10	%			04/16/15 16:17	1

QC Sample Results

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-187144/20-A

Matrix: Solid

Analysis Batch: 187273

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 187144

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.18	mg/Kg		04/17/15 14:48	04/18/15 12:28	10
Lead	ND		0.50	0.048	mg/Kg		04/17/15 14:48	04/18/15 12:28	10

Lab Sample ID: LCS 580-187144/21-A

Matrix: Solid

Analysis Batch: 187273

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 187144

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	202		mg/Kg		101	80 - 120
Lead	50.0	55.6		mg/Kg		111	80 - 120

Lab Sample ID: LCSD 580-187144/22-A

Matrix: Solid

Analysis Batch: 187273

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 187144

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	202		mg/Kg		101	80 - 120	0	20
Lead	50.0	55.9		mg/Kg		112	80 - 120	1	20

Lab Sample ID: 580-48828-1 MS

Matrix: Solid

Analysis Batch: 187273

Client Sample ID: AOC09-09-SS

Prep Type: Total/NA

Prep Batch: 187144

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.5		222	237		mg/Kg	☼	106	80 - 120
Lead	74		55.6	123		mg/Kg	☼	88	80 - 120

Lab Sample ID: 580-48828-1 MSD

Matrix: Solid

Analysis Batch: 187273

Client Sample ID: AOC09-09-SS

Prep Type: Total/NA

Prep Batch: 187144

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	2.5		167	194		mg/Kg	☼	115	80 - 120	20	20
Lead	74		41.7	109		mg/Kg	☼	84	80 - 120	12	20

Lab Sample ID: 580-48828-1 DU

Matrix: Solid

Analysis Batch: 187273

Client Sample ID: AOC09-09-SS

Prep Type: Total/NA

Prep Batch: 187144

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	2.5		2.78		mg/Kg	☼	10	20
Lead	74		54.2	F3	mg/Kg	☼	31	20

TestAmerica Seattle

Lab Chronicle

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-09-SS

Date Collected: 04/07/15 10:30

Date Received: 04/08/15 11:50

Lab Sample ID: 580-48828-1

Matrix: Solid

Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 12:45	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-07-SS

Date Collected: 04/07/15 10:45

Date Received: 04/08/15 11:50

Lab Sample ID: 580-48828-2

Matrix: Solid

Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:18	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-08-SS

Date Collected: 04/07/15 10:55

Date Received: 04/08/15 11:50

Lab Sample ID: 580-48828-3

Matrix: Solid

Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:22	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-10-SS

Date Collected: 04/07/15 11:05

Date Received: 04/08/15 11:50

Lab Sample ID: 580-48828-4

Matrix: Solid

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:26	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-11-SS

Date Collected: 04/07/15 11:12

Date Received: 04/08/15 11:50

Lab Sample ID: 580-48828-5

Matrix: Solid

Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:30	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-12-SS

Lab Sample ID: 580-48828-6

Date Collected: 04/07/15 11:19

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:34	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-13-SS

Lab Sample ID: 580-48828-7

Date Collected: 04/07/15 11:25

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:38	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-14-SS

Lab Sample ID: 580-48828-8

Date Collected: 04/07/15 11:35

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:42	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-07-SB-1.5

Lab Sample ID: 580-48828-9

Date Collected: 04/07/15 11:40

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:46	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-08-SB-1.5

Lab Sample ID: 580-48828-10

Date Collected: 04/07/15 11:45

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 13:50	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-09-SB-1.5

Lab Sample ID: 580-48828-11

Date Collected: 04/07/15 11:50

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 85.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187556	04/22/15 15:44	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-10-SB-1.5

Lab Sample ID: 580-48828-12

Date Collected: 04/07/15 11:55

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 14:12	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-11-SB-1.5

Lab Sample ID: 580-48828-13

Date Collected: 04/07/15 12:00

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 14:16	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-12-SB-1.5

Lab Sample ID: 580-48828-14

Date Collected: 04/07/15 12:05

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 14:20	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

Client Sample ID: AOC09-13-SB-1.5

Lab Sample ID: 580-48828-15

Date Collected: 04/07/15 12:10

Matrix: Solid

Date Received: 04/08/15 11:50

Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 14:24	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Client Sample ID: AOC09-14-SB-1.5
Date Collected: 04/07/15 12:15
Date Received: 04/08/15 11:50

Lab Sample ID: 580-48828-16
Matrix: Solid
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			187144	04/17/15 14:48	PAB	TAL SEA
Total/NA	Analysis	6020A		10	187273	04/18/15 14:28	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	187053	04/16/15 16:17	MKN	TAL SEA

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

Certification Summary

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

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	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Sample Summary

Client: Environ International
Project/Site: GP11 Portland

TestAmerica Job ID: 580-48828-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48828-1	AOC09-09-SS	Solid	04/07/15 10:30	04/08/15 11:50
580-48828-2	AOC09-07-SS	Solid	04/07/15 10:45	04/08/15 11:50
580-48828-3	AOC09-08-SS	Solid	04/07/15 10:55	04/08/15 11:50
580-48828-4	AOC09-10-SS	Solid	04/07/15 11:05	04/08/15 11:50
580-48828-5	AOC09-11-SS	Solid	04/07/15 11:12	04/08/15 11:50
580-48828-6	AOC09-12-SS	Solid	04/07/15 11:19	04/08/15 11:50
580-48828-7	AOC09-13-SS	Solid	04/07/15 11:25	04/08/15 11:50
580-48828-8	AOC09-14-SS	Solid	04/07/15 11:35	04/08/15 11:50
580-48828-9	AOC09-07-SB-1.5	Solid	04/07/15 11:40	04/08/15 11:50
580-48828-10	AOC09-08-SB-1.5	Solid	04/07/15 11:45	04/08/15 11:50
580-48828-11	AOC09-09-SB-1.5	Solid	04/07/15 11:50	04/08/15 11:50
580-48828-12	AOC09-10-SB-1.5	Solid	04/07/15 11:55	04/08/15 11:50
580-48828-13	AOC09-11-SB-1.5	Solid	04/07/15 12:00	04/08/15 11:50
580-48828-14	AOC09-12-SB-1.5	Solid	04/07/15 12:05	04/08/15 11:50
580-48828-15	AOC09-13-SB-1.5	Solid	04/07/15 12:10	04/08/15 11:50
580-48828-16	AOC09-14-SB-1.5	Solid	04/07/15 12:15	04/08/15 11:50

TestAmerica Portland

9405 SW Milibus Avenue

Beaverton, OR 97008

Phone: 503.986.9200 Fax:

Chain of Custody Record

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580-48828 Chain of Custody

STANG
Inc.
0713

Regulatory Program: ☐ JW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: D. Gower		Site Contact:		Date:	
Company Name: ENVIRON		Tel/Fax: 360-601-8315		Lab Contact:		Carrier:	
Address: 9405 SW Milibus Ave, Ste 204		Analysis Turnaround Time		Perform MS/MSD (Y/N)		Sample Specific Notes:	
City/State/Zip: Clackamas, OR 97015		CALENDAR DAYS X WORKING DAYS		Filtered Sample (Y/N)		COCs	
Phone: 360-601-8315		TAT if different from Below				Sampler:	
Fax:		2 weeks				For Lab Use Only:	
Project Name: 6P11 Portland		1 week				Walk-in Client:	
Site:		2 days				Lab Sampling:	
PO # 03-35786A		1 day				Job / SDG No.:	
Sample Identification	Sample Date	Sample Time	Sample Type (e-Comp, G-Grab)	Matrix	# of Cont.		
AOC09-09-SS		1030				6"	
AOC09-07-SS		1045				6"	
AOC09-08-SS		1055				6"	
AOC09-10-SS		1105				6"	
AOC09-11-SS		1112				6"	
AOC09-12-SS		1119				6"	
AOC09-13-SS		1125				6"	
AOC09-14-SS		1135				6"	
AOC09-07-SB-1.5		1140				6"	
AOC09-08-SB-1.5		1145				6"	
AOC09-09-SB-1.5		1150				6"	
AOC09-10-SB-1.5		1155				6"	
Preservation Used: 1-ICE; 2-HCl; 3-H2SO4; 4-HNO3; 5-NaOH; 6-Other							
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							
Special Instructions/ICQ Requirements & Comments:							
Provide Equis EDD							
Custody Seal No.:		Cooler Temp (°C):		Obs'd:		Therm ID No.:	
Company: ENVIRON		Company: M-E		Company: TAP		Company:	
Date/Time: 4/8/15 11:20		Date/Time: 4/8/15 11:20		Date/Time: 4/8/15 11:50		Date/Time:	
Relinquished by: [Signature]		Relinquished by: [Signature]		Relinquished by: [Signature]		Relinquished by:	

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9925 Canoga Avenue • Canoga Park, CA 91303 • (818) 587-5550 • Fax (818) 587-5555

DATE _____ PAGE _____ OF _____

PAGE

OF.

PROJECT NAME GP II Portland #						ANALYSIS REQUESTED		REMARKS							
PROJECT MANAGER Devon Powell															
COMPANY/ADDRESS 8440 Sunnybrook Blvd Ste 204, Channahon, IL															
SAMPLE SIGNATURE [Signature]															
PHONE															
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	TPH Gas/BTEX 8015/8020/602	TPH/8015 Modified Diesel FC D Gasoline D	BTEX 602/8020	Total Petroleum Hydrocarbons EPA 418.1	Halogenated Volatiles 601/8010	Volatile Organics GC/MS 624/8240/8260	Base Neutral Acid Organic GC/MS 625/8270	CAM Metals 6010/7000		
AOC-09-11-SB-1.5	4/14/15	1200		S	1									X	
AOC-09-12-SB-1.5		1205		S	1									X	
AOC-09-13-SB-1.5		1210		S	1									X	
AOC-09-14-SB-1.5		1215		S	1									X	
<hr/>															
RELINQUISHED BY:						TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION:		SAMPLE RECEIPT:			
[Signature] Devon Powell Printed Name DEVON POWELL Firm						24 hr _____ Standard _____ Other (Specify) _____ Provide Verbal _____ Preliminary Results _____ Requested Report Date _____		I. Routine Report II. Report (includes DUP MS, MSD, as required, may be charged as samples) III. Data Validation Report (includes All Raw Data) RWQCB		P.O.# 03-35786A Bill To _____ Condition _____ Lab No. _____					
Date/Time 4/18/15 11:20															
RECEIVED BY:						SPECIAL INSTRUCTIONS/COMMENTS:									
[Signature] Jessica M. Printed Name JESSICA M. Firm						Provide ERMIS EDP.									
Date/Time 4/18/15 11:50															

DISTRIBUTION: WHITE - return to originator; YELLOW - lab

400-05

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TestAmerica Portland

9405 SW Winbus Avenue

Beaverton, OR 97008

Phone: 503.986.9200 Fax:

Chain of Custody Record

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580-48828 Chain of Custody

Inc. 0713

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: D. Rowle		Site Contact:		Date:		
Company Name: ENVIRON		Tel/Fax: 360-601-8315		Lab Contact:		Carrier:		
Address: 8440 Sunnybrook Blvd, Ste 204		Analysis Turnaround Time		For Lab Use Only:		COCs		
City/State/Zip: Clackamas, OR 97015		CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		Walk-in Client:				
Phone: 360-601-8315		TAT if different from below		Lab Sampling:				
Fax:		2 weeks		Job / SDG No.:				
Project Name: 8P11 Portland		1 week						
Site:		2 days						
PO # 03-35786A		1 day						
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Coni.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes
A0C09-09-SS		1030						6"
A0C09-07-SS		1045						6"
A0C09-08-SS		1055						6"
A0C09-10-SS		1105						6"
A0C09-11-SS		1112						6"
A0C09-12-SS		1119						6"
A0C09-13-SS		1125						6"
A0C09-14-SS		1135						6"
A0C09-07-SB-1.5		1140						6"
A0C09-08-SB-1.5		1145						6"
A0C09-09-SB-1.5		1150						6"
A0C09-10-SB-1.5		1155						6"

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Dispose by Lab ☐ Archive for _____ Months

540C JR16-2

Special Instructions/QC Requirements & Comments:

Provide Equis EDD

Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____		Therm ID No.:	
Relinquished by:	Company:	Received by:	Company:	Date/Time:	Date/Time:
Relinquished by:	Company:	Received by:	Company:	Date/Time:	Date/Time:
Relinquished by:	Company:	Received by:	Company:	Date/Time:	Date/Time:



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Rating	Percentage
1	10%
2	10%
3	10%
4	10%
5	10%
6	10%
7	10%
8	10%
9	10%
10	10%
11	10%

Login Sample Receipt Checklist

Client: Environ International

Job Number: 580-48828-1

Login Number: 48828

List Source: TestAmerica Seattle

List Number: 1

Creator: Lehman, Clarissa A

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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 containers received 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	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	