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Personal and Confidential

January 24, 2011

Stumptown Coffee Roasters
Attn: Mary Ellen Signer
3377 SE Division Street, Suite 101
Portland, Oregon 97214

RE: Phase II Environmental Site Assessment, Former Salvation Army Facility
139 SE Martin Luther King Jr. Boulevard, Portland, Oregon
ODEQ ESCI File Number: Pending

Dear Mary Ellen:

Enclosed, please find three copies of our report, entitled "Phase II Environmental Site Assessment", detailing preliminary screening assessment efforts at the above-referenced subject site in Portland, Oregon. The report shows significant risk from potential vapor intrusion into the building. However, the report further explains that although this risk pathway was identified, additional site characterization and delineation is required to further explore and understand subsurface conditions beneath the property. In addition, I understand that you intend to move forward with obtaining a Prospective Purchaser Agreement (PPA) from Oregon Department of Environmental Quality (ODEQ) and intend to provide ODEQ with the Phase II Report. ODEQ is also likely to require additional investigation at the site as part of the PPA process and to achieve regulatory closure. At a minimum, we believe ODEQ is likely to require the following:

- Further explore the underlying drainage system onsite. A thorough survey by camera all the floor drains and sewer lines beneath the building should be conducted. Additional characterization boreholes should be sited along any areas of interest identified in this survey.
- Further characterize the shallow water-bearing unit identified at about 13-feet depth below the subject site for possible impacts by exploration drilling.
- Site additional boreholes to delineate impacts to soil and to resolve any additional areas of concern identified above.
- The dry well/cistern provides an avenue by which ground water may be impacted. The dry well/cistern needs to be appropriately decommissioned according to State requirements.
- The underground storage tank under the south sidewalk is no longer in service, and should be decommissioned according to State and municipal standards.

Environmental and Natural Resource Consulting

- Based on data previously collected, and data to be collected above, develop a remedial action plan to address potential human health risk.

Please let me know if you have any questions or comments regarding this proposed work.

Kind regards,

Lynn Green
EVREN Northwest, Inc.

Encl. Phase II Environmental Site Assessment

Cc: **Jessica Hamilton**, Perkins Coie, 1120 NW Couch Street, Tenth Floor,
Portland, Or 97209 (w/ENCL)

**PHASE II
ENVIRONMENTAL SITE ASSESSMENT**

**SALVATION ARMY FACILITY
139 SE MARTIN LUTHER KING JR. BOULEVARD
PORTLAND, OREGON 97214**



Prepared for:

Stumptown Coffee Roasters
3377 SE Division Street, Suite 101
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Prepared by:



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January 24, 2011

ENW Project No. 495-10001-02

**PHASE II
ENVIRONMENTAL SITE ASSESSMENT**

**SALVATION ARMY FACILITY
139 SE MARTIN LUTHER KING JR. BOULEVARD
PORTLAND, OREGON 97214**

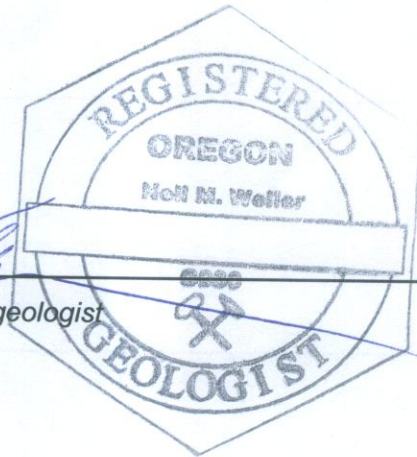
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Neil M. Woller, R.G., Senior Hydrogeologist





Lynn Green, Project Manager

January 24, 2011

ENW Project No. 495-10001-02

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
CAB	cellulose acetate butyrate
COCs	constituents of concern
COIs	constituents of interest
COPCs	constituents of potential concern
DRO	diesel-range organics
ENW	EVREN Northwest, Inc.
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
GRO	gasoline-range organics
mg/Kg	milligrams per Kilogram
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
OWRDGD	Oregon Water Resources Department Grid Database
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene
PID	photoionization detector
RBCs	risk-based concentrations
RBDM	<i>Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites</i> , ODEQ 2003 guidance document
RCRA	Resource Conservation and Recovery Act
RRO	residual-range organics
SOW	scope of work
subject site	139 SE Martin Luther King Jr. Boulevard
TCE	trichloroethene
TMB	trimethylbenzene
TPH	Total Petroleum Hydrocarbons
UST	underground storage tank
VOA	volatile organic analysis
VOCs	volatile organic constituents
µg/m ³	micrograms per cubic meter

EXECUTIVE SUMMARY

At the request of Stumptown Coffee Roasters, EVREN Northwest, Inc. performed a Phase II Environmental Site Assessment at the Salvation Army facility located at 139 SE Martin Luther King Jr. Boulevard, Portland, Oregon in December 2010. This work was conducted to evaluate potential impacts to the subsurface from recognized environmental conditions identified by a Phase I Environmental Site Assessment conducted in November 2010 by EVREN Northwest.

The Phase II Environmental Site Assessment included:

- A geophysical survey to identify features of potential environmental concern and provide borehole clearance.
- Fifteen (15) borings from which selected soil samples were analyzed.
- Sampling of water within the dry well/cistern located within the building.
- Collection of five (5) sub-slab vapor samples.

The geophysical survey was performed by Geopotential Inc., under the supervision of ENW. The survey identified drain and subsurface utility lines, confirmed that the tank at the northwest corner of the building had been removed, confirmed the position of the tank at the south side of the building, and cleared locations for soil borings. No other magnetic or other anomalies were identified.

Soil Sampling. Soil sampling identified gasoline impacts at 1,100 milligrams per Kilogram at the former location of a fuel dispenser at the northwest corner of the building. The location had been previously associated with a diesel tank that was decommissioned in 1996 by another consultant.

A low concentration of a PCB (Arochlor 1254) was detected in shallow soils along with diesel and oil impacts (11,000 and 620 milligrams per Kilogram, respectively) next to a catch basin in the southern portion of the building (Boring B5B location). The impacts at this location exceeded Soil Matrix Cleanup Level II standards. Diesel impacts were also present in soils associated with the former boiler and hazmat rooms, also above Soil Matrix Cleanup Level II standards.

Dry Well/Cistern. A water sample was collected from the dry well discovered after the Phase I Environmental Site Assessment was completed. The sample had no detectable petroleum hydrocarbon impacts or volatile organic compound constituents.

Sub-Slab Vapor Sampling. Sub-slab vapor samples were collected from five (5) locations. Diesel-range organics, benzene, ethylbenzene, naphthalene, tetrachloroethene, trichloroethene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were detected at concentrations exceeding the most conservative (screening) risk-based concentrations. All five (5) locations had at least one of the listed constituents exceeding its screening risk-based concentration, with the greatest

impacts under the “hazmat” room and in the northwest corner of the building near the former fuel dispenser.

Risk Screening. A risk-based screening using all data available to date was performed to provide a preliminary conceptual site model and assessment of possible exposures to human receptors. The preliminary conceptual site model identified possible receptors as current and future occupational workers, construction workers, and excavation workers. Complete exposure pathways identified were vapor intrusion into occupational interior air space, volatilization to exterior air, and dermal contact-inhalation-incident ingestion for future occupational and construction workers (if the site were to be remodeled/redeveloped) and current and future excavation workers.

The risk screening showed that for surface soils (i.e., soils within three [3] feet of the ground surface/local main floor level), only arsenic, detected at a maximum concentration of 12.7 milligrams per Kilogram, exceeded its lowest risk-based concentration for a complete exposure pathway, dermal exposure of a future occupational worker (assumes unlikely scenario that concrete will be removed in the future and surface soils will be exposed to occupational workers). All other hazardous constituent impacts do not present an unacceptable health risk. It should be noted that the maximum arsenic detection only slightly exceeds background concentrations.

The risk screening showed that for subsurface soils (i.e, soils at greater than three [3] feet depth below ground surface/local main floor level), ethylbenzene and naphthalene may present an unacceptable health risk for vapor intrusion into occupational interior air. Naphthalene additionally may present an unacceptable health risk for volatilization to exterior air.

Vapor intrusion was further evaluated using the sub-slab vapor data from the five (5) sampled locations. The risk screening indicated that naphthalene and tetrachloroethene (commonly known as PCE) may present an unacceptable health risk by the vapor intrusion to occupational interior air pathway.

Based on the Phase II Environmental Site Assessment results, ENW makes the following recommendations:

1. All impacts need to be further delineated and should be further characterized to provide better resolution in areas of concern.
2. The dry well/cistern provides an avenue by which ground water may be impacted. The dry well/cistern needs to be appropriately decommissioned according to State requirements.
3. The underground storage tank under the south sidewalk is no longer in service, and should be decommissioned according to State and municipal standards.

4. Risk screening has indicated that vapor intrusion of tetrachloroethene (PCE) and naphthalene may present an unacceptable health risk to occupational workers. Remedial measures will probably be required.

1.0 INTRODUCTION

On behalf of Stumptown Coffee Roasters, EVREN Northwest, Inc. (ENW) performed a Phase II Environmental Site Assessment (ESA) at the Salvation Army facility located at 139 SE Martin Luther King Jr. Boulevard in Portland, Oregon (subject site; see Figure 1).

1.1 Project Background

A Phase I ESA was performed at the subject site by ENW in November 2010. The following recognized environmental conditions were identified:

- The subject site was historically used for dry cleaning, a process that typically involved the use of hazardous solvents (i.e., Stoddard solvent, tetrachloroethylene, benzene, etc.).
- The subject site is listed as a historical automobile repair shop and possibly a refueling station, and Sanborn maps show a historical gasoline tank in the northwestern-most portion of the property.
- A diesel underground storage tank (UST) was historically present on the site that reportedly released low levels of petroleum hydrocarbons to adjacent soils. The tank decommissioning was granted regulatory closure in 1996; however, the analytical method used to assess soils is no longer accepted by the Oregon Department of Environmental Quality (ODEQ) and may have underestimated concentrations of residual impacts in soil.
- The adjacent property to the northeast was historically occupied by a machine shop and metal plating facility.

Subsequent to the Phase I ESA, items stored within the Salvation Army facility were moved, allowing identification of other features of interest. Included in these newly identified features were the following additional recognized environmental conditions:

- A dry well/cistern was discovered in the central portion of the building. The dry well contained piping, and was located adjacent to a room that historically contained a boiler. It is speculated that the dry well/cistern may have been a pressure blow-off/disposal feature for the historical boiler.
- An UST was discovered under the sidewalk at the south side of the Salvation Army facility.

This Phase II ESA was performed to assess the identified recognized environmental conditions.

1.2 Purpose

This Phase II ESA was performed to determine if there are any hazardous substance impacts to the subject property, particularly those that may present a potential unacceptable health risk to human receptors.

1.3 Scope

ENW completed the following scope of work (SOW) for this project:

- Arranged for a geophysical survey and for an underground public utility locate.
- Contracted with a drilling contractor for a hydraulic push-probe rig and trained operators.
- Obtained the necessary permit from the City of Portland for drilling in the City right-of-way (Appendix A).
- Supervised drilling investigation while collecting soil cores and selected soil samples.
- Collected a water sample from dry well/cistern feature.
- Collected sub-slab vapor samples to evaluate the vapor intrusion exposure pathway.
- Submitted samples to independent laboratories for selected chemical analyses.
- Evaluated analytical results with respect to the Oregon Soil Matrix Cleanup standards and risk-based guidance documents.
- Prepared this report documenting the work conducted and presenting conclusions and recommendations.

2.0 SITE SETTING

2.1 Description and Location

The subject site is composed of one (1) tax lot, with the situs address 139 SE Martin Luther King Jr. Boulevard, Portland, Oregon 97214 (Figures 1 and 2). The subject site is currently developed with one large warehouse structure owned and occupied by the Salvation Army.

The warehouse is divided into north, central, and south areas (Figure 2). The north and central portions are mainly used for the sorting and transporting of used household items. The south portion has four (4) levels that contain offices, a workshop, storage areas, and basement. The building does have storage for hazardous materials; however, the hazardous materials are not for on-site use.

2.2 Historical Use

The subject site was developed by the late 1880s with commercial storefronts and furnished rooms; however, the site was redeveloped by 1909 with several shops including a dry cleaner and dye works (Figure 3 shows the historical use and development of the Salvation Army facility location). In 1924 a creamery occupied a portion of the site along with the cleaners. A plating facility subsequently occupied a small portion of the adjacent property located in the northeast corner of the same block. By 1950 an auto garage shared the site with the cleaners, and gasoline and oil use was indicated at the northwest corner of the building property. The Salvation Army obtained the property in 1964. In 1996 a diesel UST was decommissioned with regulatory closure at the northwest corner of the building.

2.3 Topography

The subject site is located within the U.S. Geological Survey (USGS) Portland, Oregon 7.5-minute quadrangle, at an approximate elevation of 48 feet above mean sea level (Figure 1). The site is situated in southeast Portland, and slopes to the south and west, towards the Willamette River.

2.4 Geologic Setting

The site is located in the Portland Basin. The Portland Basin is a low-lying area between the Oregon Cascade Range to the east and the Portland Hills and Tualatin Mountains to the west. The Columbia and Willamette Rivers are the principal streams within the basin.

During the late Pleistocene (approximately 12,000 years ago), numerous catastrophic floods swept into the Portland Basin through the Columbia River Gorge to the east. The floods deposited great thicknesses of sediments within the basin. The subject site is mapped as

located on channel facies of the late Pleistocene catastrophic flood deposits. These sediments are typically composed of boulders, cobbles, gravels, and sands and silts in this area¹.

Borings completed at the site indicate that the upper soils below the site consist of silts, clayey silts and silty clays, probably placed as fill (Appendix B). Gravel-bearing sediments were encountered at between 17 and 25 feet below ground surface (bgs) in the deeper borings. However, much of the soils sampled below the site may have been placed as fill, based on fragments of brick and wood seen at significant depths (e.g., 28 feet bgs in Boring B12) in some of the deeper borings.

2.5 Hydrogeologic Setting

2.5.1 Surface Water

The site is situated in a gently southwest sloping area, towards the Willamette River. Consequently surface drainage, where unmodified, would also be to the southwest. According to the FEMA website, the site is outside the 100-year flood plain. There are no creeks, seeps, wetlands, ponds, or ephemeral drainages in the vicinity of the site.

2.5.2 Ground Water

ENW accessed the Oregon Water Resources Department Grid Database (OWRDGD) to determine ground-water conditions in the vicinity of the subject site. The OWRDGD did not indicate that any wells are present on the subject site. According to borings at the site, first water was encountered at approximately 18 feet below floor grade. Based on regional studies, ground-water flow direction should be to the west or southwest, towards the Willamette River.

¹ Beeson, M.H., Tolan, T.L., and Madin, I.P. 1989. Geologic map of the Portland Quadrangle, Multnomah and Washington Counties, Oregon, and Clark County, Washington: Oregon Department of Geology and Mineral Industries, Geological Map Series, GMS-75, 1:24,000.

3.0 METHODS AND PROCEDURES

Field activities for this project were performed during December 2010. Field activities were photographed, and a summary photographic log is included in Appendix C. The analytical results are described in Section 4.

3.1 Geophysical Survey

Geopotential, Inc. was contracted to perform the geophysical investigation. The geophysical investigation was performed to identify any underground features (USTs, septic tanks, etc.) of potential environmental significance, identify utilities and utility corridors in the vicinity of each of the identified subsurface features, and to provide borehole clearance for subsurface investigations. ENW supervised and directed the geophysical investigation. The following instruments were utilized: a Schonstead (magnetometer, conductivity), a looped feed conductivity instrument, and a radio-wave based electromagnetic tracer.

In addition, ENW requested the public utility locate service to identify subsurface utilities and improvements so that no damage to property or work hazards to project staff would occur.

3.2 Soil Boring Investigation

On December 7 and 16, ENW supervised the completion of 15 borings (B1 through B15) with a GeoProbe Systems® track-mounted hydraulic push probe operated by Cascade Drilling, Inc., and with a manually-operated push probe operated by Varchan Environmental Construction (Figure 4). The 2.25-inch diameter Geoprobe boreholes were completed at up to 30 feet bgs or floor grade. Manually operated push-probe borings were 1.5-inch diameter. Before and after drilling each boring, drilling tools were decontaminated with a steam-cleaner or by undergoing a sequential wash of Alconox® solution, tap water, and final distilled water rinse. The sampler was pushed or driven to complete each boring in five (5)-foot long runs for the Geoprobe rig, and two (2)-foot long runs for the manually-advanced push probe. A clean, cellulose acetate butyrate (CAB) sleeve was used for each drive, allowing for the continuous logging of recovered materials. All borings were logged by an Oregon Registered Geologist, or by a staff geologist under direct supervision of an Oregon Registered Geologist.

Each boring was designated with a “B” prefix and a number (e.g., B1, B2, etc.). Individual soil samples are designated with the sample’s depth appended to the boring number [e.g., B1-10 would indicate a sample collected at 10 feet bgs in Boring B1; “IF” or “INT” inserted into the sample name indicated that the soil sample was taken from the soil/ground-water interface].

All borings were backfilled with bentonite “Holeplug” to the approximate ground surface, and the pavement/floor surface was then restored.

3.2.1 Soil Screening and Sampling

Soil cores and samples were visually and olfactorily screened for the presence of petroleum impacts. In addition, semi-quantitative headspace screening was performed by placing selected

soil samples in a plastic Zip-Lock bag, breaking the soil core to expose surface area inside the bag, and inserting a photoionization meter (PID) into the top of the bag. The cores were logged (Appendix B) with special attention to description of lithology, color, moisture, foreign clasts, physical properties and odor. Soil samples from each boring were collected for laboratory analysis, based on screening indicators, feature investigated, and/or at the soil/ground-water interface (all Field Sampling Data Sheets are included in Appendix D); however only selected soil samples were analyzed for this assessment.

Soil samples collected for laboratory analysis were transferred with fresh Nitrile gloves into sample containers provided by the laboratory. The containers were filled to minimize headspace before immediate sealing. Additionally, selected samples were collected according to the prescribed methodology and procedures of U.S. Environmental Protection Agency (EPA) sampling method 5035A. The samples were immediately labeled and placed in cooled storage until they were delivered to the laboratory following chain-of-custody protocols.

3.2.2 Water Sampling

ENW collected one water sample from the dry well/cistern (see Figure 5). A clean PVC well point was placed in the dry well/cistern so that its screen was opposite the top of the water surface. Clean polyethylene tubing was inserted into a clean temporary well point within the dry well and connected to a peristaltic pump.

The water samples collected for hydrocarbon analysis (NWTPH-HCID and NWTPH-Dx) were collected in (1)-liter Boston Round containers preserved with an aliquot of hydrochloric acid. Water samples for volatile organic constituent (VOC and NWTPH-Gx) analyses were collected in 40-milliliter volatile organic analysis (VOA) vials prepared with aliquots of hydrochloric acid. These vials were filled completely to eliminate headspace and immediately sealed. All samples were immediately placed in cooled storage until they were delivered to the laboratory following chain-of-custody protocols.

3.2.3 Sub-Slab Vapor Sampling

ODEQ has determined that sub-slab vapor sampling is an ideal method for assessing potential vapor intrusion of VOCs where onsite structures with concrete slab-on-grade construction are present (as is the case with the warehouse at the subject site). Use of sub-slab vapor analyses is considered more direct in evaluating the volatilization pathways, since assumptions used in modeling phase transitions in the subsurface environment are not required to evaluate the exposure by volatile intrusion pathway. Additionally, the empirical gas data is more indicative of processes (e.g., chemical and biological degradation) that occur in the subsurface environment.

ENW performed sub-slab vapor sampling on December 2, 2010 at the five (5) locations shown on Figure 6.

The sub-slab vapor samples were collected by coring 1/2-inch hole through the concrete basement floor slab in order to provide access to the sub-slab environment. Clean 1/4-inch Teflon[®] tubing was then set approximately one (1) inch above the bottom of the concrete floor

slab, and a seal of hydrated bentonite was set around the tubing at the top of the concrete floor to prevent ambient air intrusion. The system was then allowed to equilibrate 30 minutes prior to sampling.

A PID was connected to the tubing and allowed to perform initial purging and screening of the samples. The tubing was then connected to a flow regulator and finally to a low-flow vacuum pump, all connected via Teflon[®] tubing. The pump was activated and, using the flow regulator, the flow rate was calibrated to 50 milliliters per minute. The vacuum pump was then operated until at least three (3) air volumes of the sample tubing were purged to ensure that stagnant or ambient air was removed from the sampling system and to ensure that samples collected were representative of sub-slab vapor conditions. Following purging, a sample cartridge was inserted into the sampling train in between the down-hole tubing and the flow regulator. The sample cartridges consisted of a stainless-steel sorbent tube packed with activated carbon composed of Carboxpack C (a weak sorbent), Carboxpack B (a medium sorbent) and Carboxieve SIII (a strong sorbent). The sample cartridges were delivered, stored and transported on ice, for optimal preservation.

Prior to commencement of sampling, a rag with a small aliquot of isopropyl alcohol was placed around each sampler stem and seal on the ground surface to test for leakage. All samples were sampled for 20 minutes (total of 1,000 milliliters of air). All measurements were recorded on Field Sampling Data Sheets (included as Attachment D). After sampling was completed the concrete floor was restored with hydraulic cement. Each sampling cartridge was appropriately labeled, wrapped and immediately placed on ice. The samples were rushed by FedEx to Air Toxics LTD. of Folsom, California under chain-of-custody protocols.

3.3 Waste Management and Disposal

Soil cuttings and purge and “decon” water generated during the investigation were drummed and left onsite.

3.4 Analytical Methods

The soil and ground-water samples were analyzed by Friedman & Bruya, Inc., of Seattle, Washington. Sub-slab vapor samples were analyzed by AirToxics, Ltd of Folsom, California. Laboratory analytical reports are included in Appendix E. Table 3-1 presents analytical methods used during this assessment by media.

Table 3-1. Analytical Methods

Analytical Method	Constituents	Soil	Ground Water	Sub-Slab Vapor
NWTPH-HCID	Total Petroleum Hydrocarbons (TPH)–Hydrocarbon Identification (HCID)	Selected samples	Selected sample	---
NWTPH-Gx	Total Petroleum Hydrocarbons (TPH)–Gasoline-Range Organics (GRO) Quantification	Soils with detections of GRO in NWTPH-HCID samples	---	---
NWTPH-Dx	Total Petroleum Hydrocarbons (TPH)–Diesel-Range Organics (DRO) and Residual Oil Range Organics (RRO) Quantification	Samples with DRO/RRO detections by NWTPH-HCID	---	---
EPA Method 8260B	Volatile Organic Constituents (VOCs)	Selected samples	Selected sample	---
EPA 8270 SIM	Polynuclear Aromatic Hydrocarbons (PAHs)	Selected samples	---	---
EPA 200.8, 1631	RCRA Metals (arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium)	Selected samples	---	---
EPA 8082	Polychlorinated Biphenyls (PCBs)	Selected sample	---	---
TO-17 VI	Volatile Organic Compounds (VOCs): 2-Propanol (for leak detection)	---	---	All samples

3.5 Cleanup Standards

3.5.1 Soil Matrix Cleanup Standards

The Soil Matrix Cleanup Rules permit soil impacts from petroleum hydrocarbons to be cleaned up by setting standards based on site conditions. The cleanup levels are determined for the site by inputting environmental parameters with site-specific values. The values used in determining the Soil Matrix Cleanup level for a site are:

- Annual rainfall
- Soil type
- Sensitivity of the uppermost aquifer
- Depth to ground water
- Distance to nearest potential receptors
- Number of potential receptors

The Soil Matrix Cleanup Score Sheet for the site is presented in Appendix F. The score conservatively calculated for the site is 30, indicating that a Level II cleanup standard (500-milligrams per Kilogram [mg/Kg] DRO and RRO) is appropriate.

3.5.2 Risk-Based Cleanup

The assessment and remediation of hazardous substances in Oregon are conducted according to Oregon Administrative Rule (OAR) 340, Division 122, *Hazardous Substance Remedial Action*

Rules. Risk-based cleanup concentrations are derived in accordance with ODEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites (RBDM)* guidance document.² This document provides guidance on the remediation of petroleum contamination from:

- Underground storage tanks regulated under the Cleanup Rules for Leaking Petroleum Underground Storage Tank Systems (OAR 340-122-0205 through 340-122-0360).
- Other sources of contamination regulated under the Hazardous Substance Remedial Action Rules (OAR 340-122-0010 through 340-122-0115).

ODEQ allows site closure using a risk-based approach described in the agency's *RBDM* guidance document, 2003 revision. Risk-based concentrations (RBCs) provided by ODEQ were developed as screening levels for suspect sites based on Oregon unacceptable additional risk criteria for cancer occurrence and for non-carcinogenic health impacts. The State of Oregon considers acceptable additional risk of cancer from contact with carcinogenic constituents at less than one in one million incidences, or, for non-carcinogenic constituents, below the constituent threshold concentration at which health impacts would occur. Residential standards were used for initial 'conservative' screening. ODEQ has supplemented the guidance document with expanded and updated spreadsheets showing appropriate RBCs for common exposure pathways (most recent update dated September 2009).

² ODEQ. September 2003. *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*. (Most recent table of RBDM RBCs dated September 2009).

4.0 FINDINGS

This section documents the analytical data for hazardous constituents in soil, the shallow water-bearing unit, and sub-slab vapor at the subject site as assessed by ENW during the Phase II ESA. Table 4-1 provides a summary of all sampling locations.

Table 4-1. Summary of Sampling Locations

Medium	Boring/ Sampling Location Designation	Sample ID	Date Sampled	Depth Sampled (feet)	Location
Soil	B1	B1-10	12/7/10	10	Northw est corner of site, outside building on SE Ankeny
		B1-15	12/7/10	15	
	B2	B2-5	12/7/10	5	Northw est corner, inside northern portion of building
		B2-15	12/7/10	15	
		B2-17.5	12/7/10	17.5	
	B3	B3-2	12/7/10	2	Next to catch basin in southern part of northern section of building
	B4	B4-2	12/7/10	2	Old benzene room
	B5b	B5b-2	12/7/10	2.5	Next to catch basin in southern portion of building
	B6	[samples not analyzed]	12/7/10	---	Former dry room, adjacent to historical carpet w ashing and offsite metal plating areas
	B7	B7-2	12/7/10	2	Former carpet cleaning area
		B7-10	12/7/10	10	
	B8	B8-7	12/7/10	7	In possible boiler room, southern portion of building
	B9	B9-0.5	12/7/10	0.5	Hazmat room
	B10	B10-0.5	12/7/10	0.5	Basement next to catch basin
	B11	[samples not analyzed]	12/7/10	---	Adjacent to catch basin in loading dock
	B12	B12-IF-18	12/16/10	18	North side of dry w ell/cistern
		B12-27	12/16/10	27	
	B13	B13-IF-18	12/16/10	18	South side of dry w ell/cistern
		B13-30	12/16/10	30	
Ground Water	B14	B14-9-10	12/16/10	9-10	East side of outside UST
		B14-15	12/16/10	15	
Sub-Slab Vapor	B15	B15-9	12/16/10	9	West side of outside UST
	MH01	MH01-101207	12/7/10	---	Dry w ell/cistern inside building
	SUB01	SUB01-101202	12/2/10	0.5	Northw est corner of the property, near fuel pump
	SUB02	SUB02-101202	12/2/10	0.5	Central w est portion of the building, adjacent to "old benzene room"
	SUB03	SUB03-101202	12/2/10	0.5	Central portion of the building (former dry cleaning room)
	SUB04	SUB04-101202	12/2/10	0.5	Basement, adjacent to sump
	SUB05	SUB05-101202	12/2/10	0.5	South-central portion of the building, "hazmat room"

4.1 Geophysical Survey

The objective of the geophysical subsurface mapping survey was to map the location of underground utilities and subsurface anomalies, including: confirm and/or identify locations of underground storage tanks, subsurface utilities (both abandoned and in-use) that may obstruct or endanger subsurface investigations, facilitate the mobilization of potential subsurface petroleum impacts, or may have been used for historical waste disposal practices (storm water or sanitary systems), and provide borehole clearance.

Geophysical anomalies result from contrasts of geophysical signatures of subsurface materials and, in some cases, from interference with surface and overhead features. Except where investigated by excavation, all anomalies and interpretations should be considered (somewhat) speculative. Geophysical characteristics result from a variety of factors (e.g., density, distribution, porosity, fill placement, contrasts in soil composition, intergranular fluid composition and saturation, contaminant impacts, etc.), and similar anomalies may be produced by different sources. Furthermore, similar sources may result in differing (or obscured) geophysical signatures as a result of other conditions that affect the recognition of contrasting subsurface materials.

The geophysical survey was performed by Geopotential Inc., under the supervision of ENW. An UST was confirmed under the sidewalk south of the Salvation Army building. Additionally, product lines from the tank were traced. No other magnetic or other anomalies were identified.

4.2 Boring and Soil Sampling Investigation

Boring logs are included in Appendix B. Screening of headspace over the recovered cores was uniformly low, usually reading between 0.1 and 0.3 parts per million on the PID. Analytical results for soil are presented in Table 1 (behind Tables tab following text). Figure 4 shows sampling locations with a summary of analytical results.

4.2.1 Former UST and Fuel Dispenser, Northwest Corner of Building

4.2.1.1 Previous Work by Others

In 1996, Hahn and Associates decommissioned a diesel UST located on the north side of the northwest corner of the Salvation Army building. The 6,000-gallon diesel tank at that location was originally supposed to be decommissioned in place, but during the decommissioning activities, the tank buoyantly shifted when storm water intruded into the excavation. On communication with and consent of ODEQ, it was decided that the tank should be removed.

A mixture of diesel and water were pumped from the tank prior to decommissioning. The bottom of the tank was reportedly at 10.5 feet bgs. The Hahn and Associates report and subsequent ODEQ closure letter state that confirmatory sampling of soils under the ends of the tank contained no higher than 47 mg/Kg total petroleum hydrocarbons by analytical method TPH-418.1 (a method that is no longer accepted by ODEQ regulators; the soil samples were initially analyzed by TPH-HCID, which indicated diesel-range impacts). Ground water was not encountered in the excavation.

The Hahn and Associates report indicated that a fuel dispenser was located immediately inside the nearby door of the building, approximately 15 feet from the UST. No visible indications of impacts were observed along the product lines between the tank and the dispenser. One soil sample was also collected from below the tank piping leading to the dispenser, and analytical results for the sample were below the analytical method detection limits.³

4.2.1.2 ENW Borings B1 and B2

Boring B1 was sited at the former location of the UST, and Boring B2 was located at the former dispenser location. Two (2) samples from Boring B1 were both “nondetect” for TPH by NWTPH-HCID. However, Boring B2 encountered gasoline impacts at up to 1,100 mg/Kg at five (5) feet bgs, exceeding the Soil Matrix Cleanup Level II standard for GRO of 80 mg/kg. Samples collected from B2 at 15 and 17.5 feet bgs were both “nondetect” by NWTPH-HCID.

Sample B2-5 was further analyzed for lead and VOCs. Lead was detected at 23.5 mg/Kg, exceeding its default background concentration but below its most-conservative RBC of 30 mg/Kg. VOCs benzene (0.085 mg/Kg), ethylbenzene (62 mg/Kg), naphthalene (67 mg/Kg), 1,2,4-trimethylbenzene (1,2,4-TMB; 280 mg/Kg), 1,3,5-trimethylbenzene (1,3,5-TMB; 81 mg/Kg), and xylenes (390 mg/Kg) all exceeded their most-conservative RBCs.

The data suggests that the former diesel tank may have also been used as a gasoline tank at one time, or alternatively, gasoline may have been dispensed from an above-ground storage tank (AST) or another UST at this location. The vertical extent of the GRO impacts has been established, but the lateral extent has not been fully delineated.

4.2.2 Central Building

4.2.2.1 Former Dry Cleaning and Carpet Cleaning Areas

Borings B3, B4, and B7 were all sited in the former dry cleaning and carpet cleaning areas. Boring B3, sited next to a catch basin adjacent to the former carpet washing room, and B4, sited adjacent to the “old benzene room” indicated on the Sanborn fire maps, were sampled at two (2) feet bgs. No VOCs were detected in either sample.

Boring B7, sampled at two (2) feet and 10 feet bgs, did not contain any detectable VOCs. The 10-foot sample was also analyzed for RCRA metals. No exceedances of RBC screening levels were present except for arsenic. Arsenic exceeded its RBC screening concentration but only narrowly exceeded its default background concentration.

4.2.2.2 Former “Dry Room”

The former “dry room” was located adjacent to the historical carpet washing and offsite metal plating areas. Boring B6 was completed at 10 feet bgs, and penetrated light brown micaceous silt to clayey silt from just below the concrete to the bottom. No odor, staining, or PID responses were noted, and therefore no samples were analyzed from the boring.

³ Note: Hahn and Associates report states that the impacts were detected under the west end of the tank, but the report's summary table and sample location map indicated the detection was under the piping. Therefore there is some uncertainty what was sampled and where the detection was located.

4.2.2.3 Former Boiler Room, Hazmat Room, and Dry Well/Cistern

Borings B8 (former boiler room), B9 (hazmat room), and B12 and B13 (dry well/cistern) were also associated with the historical dry cleaning and carpet cleaning facilities, but are addressed separately in this section.

Boring B8 was sampled at seven (7) feet bgs (Sample B8-7). B8-7 contained DRO impacts of 3,300 mg/Kg and RRO impacts at 640 mg/Kg. Sample B9-0.5 from below the hazmat room contained 1,100-mg/Kg DRO. Therefore both the B8 and B9 locations encountered soils exceeding Soil Matrix Cleanup Level II standards. Both B8-7 and B9-0.5 contained detectable naphthalene with the maximum detection exceeding naphthalene's RBC screening concentration. 1,2,4- and 1,3,5-TMB were also detected in B9-0.5 but were below their respective screening levels.

The dry well was determined to be 27 feet deep. B12 and B13 were completed at 29 and 30 feet refusal depths respectively, with samples collected at 18 feet (soil-water interface) and 27 feet (in B12) and 30 feet (in B13). No VOCs or TPH were detected in either boring.

4.2.2.4 Catch Basin, Loading Dock Area

The loading dock on the west side of the building served the historical dry cleaning and rug cleaning companies that occupied the site. A catch basin is located in the base of the loading dock. Therefore Boring B11 was sited adjacent to the catch basin. Boring B11 was completed at 10 feet bgs, and penetrated light brown micaceous silt to clayey silt from just below the concrete to the bottom. No odor, staining, or significant PID responses were noted, and therefore no samples were analyzed from the boring.

4.2.3 Southwest Building

Borings B5b and B10 were sited adjacent to floor sumps.

Boring B5b was sampled at two (2) feet bgs. B5b-2 contained 11,000-mg/Kg DRO, 620-mg/Kg RRO, 0.4-mg/Kg Arochlor 1254, 12.7-mg/Kg arsenic, 4.3-mg/Kg naphthalene, and 0.26-mg/kg tetrachloroethene (PCE), all exceeding their respective Soil Matrix Cleanup Level II and/or RBC screening levels. The identified constituents will require delineation. The data is not definitive whether the floor sump or associated piping is leaking, and therefore further assessment of this feature is needed.

Boring B10 was sampled at 0.5 feet bgs. No TPH or VOCs were detected in the sample.

4.2.4 UST under South Sidewalk

The UST under the south sidewalk was estimated to have a capacity of 675 gallon and is no longer in service. The top of the tank was determined to be 42 inches below sidewalk grade, and the bottom of the tank was at 87 inches below sidewalk grade. The tank was eight (8) feet long. Borings B14 and B15 were sited on the east and west ends of the tank, respectively. Samples B14-9-10, B14-15, and B15-9 were all "nondetect" by NWTPH-HCID, indicating that it is unlikely that the tank has had any significant leaks to the subsurface.

4.3 Water Sampling, Dry Well/Cistern

As previously indicated, the dry well/cistern was completed at 27 feet below floor grade. No soil impacts were detected in the two (2) borings sited immediately to its north and south.

The sample (see Figure 5 for location) was analyzed for petroleum-hydrocarbon impacts by NWTPH-HCID and for VOCs. Water sample analytical results are presented in Table 2. No petroleum hydrocarbons or VOCs were detected above the analytical method detection limits.

4.4 Sub-Slab Vapor Sampling Results

The sub-slab vapor assessment was performed to determine if there are impacts from VOCs to soil gas, particularly from the petroleum hydrocarbons and chlorinated solvents that may have been used in historical dry cleaning applications. Table 3 shows the PID screening results and sampling parameters used during the sampling. Sampling locations are shown on Figure 6. Analytical data is presented in Table 4 and summarized here:

- All five (5) sample locations had detections of **DRO**, but only the sample collected at SUB01 contained DRO concentration (43,000 micrograms per cubic meter [$\mu\text{g}/\text{m}^3$]) above the most-conservative ODEQ RBC of 24,000 $\mu\text{g}/\text{m}^3$.
- All five (5) sample locations had detections of **benzene**, but only SUB01 and SUB05 (with detected concentrations of 74 and 82 $\mu\text{g}/\text{m}^3$ respectively) contained benzene above the most-conservative ODEQ RBC (62 $\mu\text{g}/\text{m}^3$).
- **Ethylbenzene** (600 $\mu\text{g}/\text{m}^3$) only exceeded the most-conservative ODEQ RBC (190 $\mu\text{g}/\text{m}^3$) at SUB05.
- **Naphthalene** was detected in all five (5) samples, but only exceeded the most-conservative ODEQ RBC (14 $\mu\text{g}/\text{m}^3$) at SUB01 (180 $\mu\text{g}/\text{m}^3$), SUB03 (110 $\mu\text{g}/\text{m}^3$), SUB04 (17 $\mu\text{g}/\text{m}^3$), and SUB05 (600 $\mu\text{g}/\text{m}^3$).
- **PCE** was detected in all five (5) samples, but only exceeded the most-conservative ODEQ RBC at SUB02 (120 $\mu\text{g}/\text{m}^3$), SUB04 (2,200 $\mu\text{g}/\text{m}^3$), and SUB05 (2,600 $\mu\text{g}/\text{m}^3$).
- **Trichloroethene (TCE)** was only detected at SUB04 (13 $\mu\text{g}/\text{m}^3$) where it exceeded its most-conservative ODEQ RBC of 5.4 $\mu\text{g}/\text{m}^3$.
- The most-conservative ODEQ RBC's for **1,2,4-TMB** and **1,3,5-TMB** were only exceeded at SUB05 (16,000 and 11,000 $\mu\text{g}/\text{m}^3$, respectively).
- Isopropyl alcohol (or 2-Propanol), used for leak detection purposes, was detected in three (3) of the samples above laboratory reporting limits. However all the detections were below 5,000 $\mu\text{g}/\text{m}^3$. Generally, if concentrations of isopropyl alcohol are below 5,000- $\mu\text{g}/\text{m}^3$ it is assumed that the leak will not have a significant effect on the results.⁴

The analytical results will be further evaluated in Section 5.

⁴ ODEQ. 2010, *Guidance for Assessing and Remediating Vapor Intrusion in Buildings*. March 25.

5.0 RISK SCREENING

ODEQ allows closure using a risk-based approach described in the agency's *Risk Based Decision Making for the Remediation of Petroleum Contaminated Sites* (RBDM) guidance document, 2003 revision. Constituents in assessment samples were compared to risk-based concentrations (RBCs) provided by ODEQ in its most recent (September 2009) update to the appendicized tables of the *RBDM* guidance document. The RBCs were developed as screening levels for suspect sites based on Oregon unacceptable additional risk criteria for cancer occurrence and for non-carcinogenic health impacts. The State of Oregon considers acceptable additional risk of cancer from contact with carcinogenic constituents at less than one in one million incidences, or for non-carcinogenic constituents, the constituent threshold concentration at which health impacts would occur.

In the tables following the Tables tab, many of the constituents were not detected above their respective analytical method detection limits; however those detection limits exceed their respective risk-based screening concentrations [indicated by a "(Y)" in the final column of the some tables]. ODEQ does not require cleanup for petroleum constituents that are not detected by the department-specified analytical methods if standard method detection limits are met. These constituents are therefore not carried through the risk assessment process in those media.

It should also be noted that none of the impacts described in this report have been fully delineated, and in some cases the source features/areas are only suspected. Therefore this risk screening may be subject to revision when more data is available.

5.1 Identification of Constituents of Interest

Constituents of interest (COIs) associated with the historical activities of the site and adjacent properties are listed below:

- GRO, DRO and RRO (Total Petroleum Hydrocarbons or TPH)
- VOCs
- PAHs
- RCRA metals
- PCBs

5.2 Identification of Constituents of Potential Concern

Constituents were initially compared to conservative screening-level RBCs to identify constituents of potential concern (COPCs) in each medium. The residential screening-level concentrations of the *RBDM* guidance document and subsequent updated guidance materials for all media are used since this approach is the most conservative method in assessing potential risk to human health. The lowest residential RBC is used in the screening process regardless of whether a pathway is complete or not.

5.2.1 Soils

Table 1 summarizes the risk-screening of all soil samples analyzed at the site during the ENW Phase II ESA site activities. The following constituents exceeded their most-conservative screening RBCs and therefore are considered COPCs in soils:

- GRO
- DRO
- Benzene
- Ethylbenzene
- Naphthalene
- PCE
- 1,2,4-TMB
- 1,3,5-TMB
- Xylenes
- Arsenic
- Arochlor 1254 (PCB)

Although RRO exceeded its Soil Matrix Cleanup Level II standard, ODEQ does not provide a RBC for RRO (other than for mineral oil) because of the wide variation in oil formulations. Instead, ODEQ regulates risk in RRO by regulating its hazardous constituents. Therefore RRO will not be carried through the risk screening.

5.2.2 Ground Water

There were no hazardous constituents detected in the dry well/cistern water sample. Therefore there are no COPCs in ground water at this time; however, assessment was limited to a single sample from the shallow water-bearing unit.

5.2.3 Sub-Slab Vapor

The following sub-slab vapor constituents exceeded their screening-level RBCs and therefore are considered COPCs in sub-slab vapors:

- DRO
- Benzene
- Ethylbenzene
- Naphthalene
- PCE
- TCE
- 1,2,4-TMB
- 1,3,5-TMB

5.3 Conceptual Site Model

5.3.1 Media of Concern

Surface soils (to three [3] feet bgs) are impacted at the site [Note: for the purposes of this risk screening, the upper three (3) feet relative to local (main) floor level of the Salvation Army facility will be considered surface soils. This is equivalent to the uppermost three (3) feet in each boring, except for the boring in the basement level, which will be considered entirely within subsurface soils.]. Subsurface soils [deeper than three (3) feet bgs] are also impacted at the site. Sub-slab vapor has also been shown to be impacted.

At this time ground water is not considered a medium of concern, since no impacts were detected in the dry well. However, as previously stated, delineation has not been completed and this assessment is based on a single sample; therefore, it is possible that ground water may be impacted at another portion of the site.

There are no surface waters in the vicinity of the site, and the entire property is paved. Therefore there is nothing to indicate that contaminants have been transported away from the site by storm water or other means.

Therefore shallow and subsurface soils and sub-slab vapors are the only media of concern at the site, *identified at this time*.

5.3.2 Land Use and Ground-Water Use – Potential Receptors

The site is currently developed with a commercial warehouse building. Occupational workers are currently present at the site and will be present in the future. The property is not zoned for residential use and therefore residents are not anticipated to be present in the foreseeable future. Construction and excavation workers may also be present at the site for utility upgrades or future redevelopment. Therefore, the potential receptors include current and future occupational workers, and current and future construction and excavation workers. It is assumed that these receptors are conservative with respect to consideration of the occasional site visitor.

Ground water is not used as a drinking water source on or in the vicinity of the subject property, based on well logs in the Oregon Water Resources Department GRID database and on the ODEQ Facility Profiler database.

5.3.3 Pathways of Concern

An exposure pathway is the course a constituent takes from a source to an exposed population. Exposure pathways include four (4) elements:

- (1) The source of contamination;
- (2) The means by which a constituent will be released, retained, or travel in a given medium (e.g., air or ground water);
- (3) A point of potential contact with a receptor; and
- (4.) The means by which contact will occur (e.g., inhalation, ingestion).

If any of these elements is missing, the pathway is considered incomplete. Table 5-1 presents the results of exposure pathway screening using the reasoning presented in ODEQ's RBDM guidance document.

Table 5-1. Summary of Pathway Analysis for Human Receptors

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Considered	Reason for Selection or Exclusion
Surface Soil (up to 3 feet depth)			
Occupational Worker	Direct ingestion, inhalation of volatiles and dermal contact with soil	YES	Surface soils are impacted and exposure to future occupational workers may occur if the site is modified or redeveloped.
	Inhalation of volatiles from impacted soil intruding into building (indoor air)	YES	Surface soils are impacted with volatile constituents
	Leaching to ground water with subsequent ingestion	No	Ground water is not known to be impacted and is not used as a drinking water source in the vicinity of the site
Construction Worker	Direct ingestion and dermal contact with soil	YES	Surface soils are impacted and exposure to future construction workers is possible
Excavation Worker	Direct ingestion, inhalation of volatiles and dermal contact with soil	YES	Impacts are present in surface soils
Subsurface Soils (greater than 3 feet depth)			
Occupational Worker	Direct ingestion, inhalation of volatiles and dermal contact with soil	No	Subsurface soils are impacted but too deep to be in contact with current or future occupational workers.
	Inhalation of volatiles from impacted soil intruding into building (indoor air)	YES	Subsurface soils are impacted with volatile constituents
	Leaching to ground water with subsequent ingestion	No	Ground water is not known to be impacted and is not used as a drinking water source in the vicinity of the site
Construction Worker	Direct ingestion and dermal contact with soil	No	Subsurface soils are impacted but too deep for exposure to future construction workers
Excavation Worker	Direct ingestion, inhalation of volatiles and dermal contact with soil	YES	Impacts are present in subsurface soils

5.3.4 Conceptual Site Model Summary

Based on the above discussion, Figure 7 summarizes the conceptual site model developed for the site, depicting all exposure pathways evaluated and retained for evaluation of human health risk.

5.4 Evaluation of COPCs in Surface Soil

Table 5 shows only samples collected from surface soils. The following constituents are identified as COPCs in surface soils: naphthalene, PCE, arsenic, Arochlor 1254, and DRO.

Table 6 further evaluates these COPCs for complete exposure pathways identified in the conceptual site model, and identifies only arsenic (detected at 12.7 mg/Kg) as a Constituent of Concern (COC) in surface soils for exposure of a future occupational worker. Since the site is completely floored with concrete, arsenic does not present an unacceptable health risk at the present time to occupational workers. Additionally, arsenic's background concentration is 7 mg/Kg, and therefore the arsenic exceedance is not significantly above background.

5.5 Evaluation of COPCs in Subsurface Soils

Table 7 shows only samples collected from subsurface soils. The following constituents are identified as COPCs in subsurface soils: benzene, ethylbenzene, naphthalene, PCE, 1,2,4-TMB, 1,3,5-TMB, xylenes, arsenic, GRO, and DRO.

Table 8 further evaluates the COPCs in subsurface soils with RBCs for complete exposure pathways identified in the conceptual site model. Table 8 indicates only ethylbenzene and naphthalene may present an unacceptable health risk by vapor intrusion into interior air, and additionally naphthalene may present an unacceptable health risk by volatilization to exterior air. Both ethylbenzene and naphthalene were detected above their RBCs for volatilization pathways at the northwest corner of the building, near the former fuel dispenser.

Vapor intrusion into interior air space is further evaluated in the next section.

5.6 Sub-Slab Vapor Risk Screening

As previously discussed, sub-slab vapor sampling is an ideal sampling method to determine if volatile vapors present an unacceptable health risk by the vapor intrusion into interior air space exposure pathway. Section 5.2.3 identified DRO, benzene, ethylbenzene, naphthalene, PCE, TCE, 1,2,4-TMB, and 1,3,5-TMB as exceeding the most conservative sub-slab vapor RBCs and therefore are considered COPCs for vapor intrusion. Table 9 further evaluates the sub-slab vapors by comparison with RBCs for the complete exposure pathway of volatilization into interior air of occupational workers. Naphthalene and PCE exceed the RBCs and therefore are considered COCs for vapor intrusion to occupational workers. Naphthalene exceeded the occupational vapor intrusion RBC only in SUB05 (south central portion of the building, hazmat room), and PCE exceeded the RBC both in SUB05 and in SUB04 (basement, adjacent to the sump).

5.7 Evaluation of Risk to the Environment

No sensitive environmental lands or habitat were identified in the immediate vicinity of the subject property.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This Phase II ESA was performed to determine if historical site activities have impacted the environmental condition of the subject property. All recognized conditions identified in the previous Phase I ESA have been further assessed by sampling of soil, water, and/or sub-slab vapors. A total of 15 borings were completed at the site. Soil samples were collected from most of the borings, based on visual and olfactory observations and PID response. Additionally a water sample was collected from the dry well/cistern suspected of being a pressure blow-off feature for a historical boiler. Five (5) sub-slab vapor samples were collected to further evaluate the vapor intrusion exposure pathway.

The Phase II ESA identified gasoline impacts up to 1,100 mg/Kg adjacent to the historical fuel dispenser location at the northwest corner of the building. Decommissioning activities conducted in 1996 addressed a diesel UST immediately north of this location which was decommissioned by removal according to national standards of practice and with regulatory review and closure by ODEQ.

A low concentration of PCB (Arochlor 1254) was detected in shallow soils along with diesel and oil impacts (11,000 mg/Kg and 620 mg/Kg, respectively) next to a catch basin in the southern portion of the building (Boring B5B location). The impacts at this location exceeded Soil Matrix Cleanup Level II standards. Diesel impacts were also present in soils associated with the former boiler and hazmat rooms, also above Soil Matrix Cleanup Level II standards.

A risk screening was performed to provide a preliminary assessment of the impacts and to develop a preliminary conceptual site model of potential exposures to hazardous substances. The risk screening showed that PCE and naphthalene present a potential unacceptable health risk to current and future occupation workers by volatilization into interior air.

It must be stressed that this Phase II ESA does not entail delineation of impacts and only provides a risk screening based on the data available to date.

6.2 Recommendations

ENW recommends the following actions:

- 1 All impacts need to be further delineated and should be further characterized to provide better resolution in areas of concern.
- 2 The dry well/cistern provides an avenue by which ground water may be impacted. The dry well/cistern needs to be appropriately decommissioned according to State requirements.
- 3 The underground storage tank under the south sidewalk is no longer in service, and should be decommissioned according to State and municipal standards.

- 4 Risk screening has indicated that vapor intrusion of tetrachloroethene (PCE) and naphthalene may present an unacceptable health risk to occupational workers. Remedial measures will probably be required.

7.0 LIMITATIONS

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the site closure does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope.

- Naturally occurring toxic or hazardous substances in the subsurface soils, geology and water
- Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
- Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards.
- Unpredictable events that may occur after ENW's site visits, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. ENW's investigation has been focused only on the potential for contamination that was specifically identified in the SOW. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited SOW, ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. ENW has endeavored to collect representative analytical samples for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

ENW performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure site. ENW assume no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

TABLES

Table 1. Summary of Analytical Data, Soil

Sample ID		B1-10	B1-15	B2-5	B2-15	B2-17.5	B3-2	B4-2	B5b-2	B7-2	B7-10
Date Sampled		12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10
Depth Sampled (feet)		10	15	5	15	17.5	2	2	2.5	2	10
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		Northwest corner of site, outside building on SE Ankeny, near former tank location		Northwest corner, inside northern portion of building, near former fuel dispenser			Next to catch basin in southern part of northern section of building, adjacent to former carpet washing room	Adjacent to "Old benzene room"	Next to catch basin in southern portion of building	Former carpet cleaning area	
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents											
Benzene	c, v	---	---	0.085	---	---	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)
Bromodichloromethane	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Bromoform	c, nv	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Bromomethane	nc, v	---	---	<0.5 (ND)	---	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
Carbon tetrachloride	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Chlorobenzene	nc, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Chlorodibromomethane	c, nv	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Chloroethane	nc, v	---	---	<0.5 (ND; ca)	---	---	<0.05 (ND)	<0.05 (ND)	<0.5 (ND; ca)	<0.5 (ND; ca)	<0.5 (ND; ca)
Chloroform	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Chloromethane	nc, v	---	---	<0.5 (ND)	---	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
Dichlorobenzene, 1,2-	nc, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Dichlorobenzene, 1,4-	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Dichloroethane, 1,1-	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Dichloroethene, 1,1-	nc, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Dichloroethene, cis-1,2-	nc, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Dichloroethene, trans-1,2-	nc, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Dichloromethane	c, v	---	---	<0.5 (ND)	---	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
EDB (1,2-dibromoethane)	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
EDC (1,2-dichloroethane)	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Ethylbenzene	c, v	---	---	62	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
MTBE (methyl t-butyl ether)	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Naphthalene	c, v	---	---	67	---	---	<0.05 (ND)	<0.05 (ND)	4.3	<0.05 (ND)	<0.05 (ND)
Propylbenzene, iso	nc, v	---	---	7.3	---	---	<0.05 (ND)	<0.05 (ND)	0.088	<0.05 (ND)	<0.05 (ND)
Tetrachloroethene (PCE)	c, v	---	---	<0.025 (ND)	---	---	<0.025 (ND)	<0.025 (ND)	0.26	<0.025 (ND)	<0.025 (ND)
Toluene	nc, v	---	---	28	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trichloroethane, 1,1,1-	nc, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trichloroethane, 1,1,2- Ψ	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trichloroethene	c, v	---	---	<0.03 (ND)	---	---	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)
Trichlorofluoromethane (Freon 11)	nc, v	---	---	<0.5 (ND; ca)	---	---	<0.05 (ND)	<0.05 (ND)	<0.5 (ND; ca)	<0.05 (ND; ca)	<0.05 (ND; ca)
Trimethylbenzene, 1,2,4-	nc, v	---	---	280	---	---	<0.05 (ND)	<0.05 (ND)	3.7	<0.05 (ND)	<0.05 (ND)
Trimethylbenzene, 1,3,5-	nc, v	---	---	81	---	---	<0.05 (ND)	<0.05 (ND)	0.92	<0.05 (ND)	<0.05 (ND)
Vinyl chloride	c, v	---	---	<0.05 (ND)	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Xylenes	nc, v	---	---	390	---	---	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)
Metals											
Arsenic	c, nv	---	---	---	---	---	---	---	12.7	---	8.71
Barium	nc, nv	---	---	---	---	---	---	---	185	---	147
Cadmium Ψ	c, nv	---	---	---	---	---	---	---	1.16	---	1.08
Chromium (VI) Ψ	c, nv	---	---	---	---	---	---	---	15.3	---	10.9
Lead	NA, nv	---	---	23.5	---	---	---	---	14.9	---	9.84
Mercury	nc, nv	---	---	---	---	---	---	---	<0.2 (ND)	---	<0.2 (ND)
Nickel	c, nv	---	---	---	---	---	---	---	---	---	13.5
Silver	nc, nv	---	---	---	---	---	---	---	<1 (ND)	---	<1 (ND)

Table 1. Summary of Analytical Data, Soil

Sample ID		B1-10	B1-15	B2-5	B2-15	B2-17.5	B3-2	B4-2	B5b-2	B7-2	B7-10
Date Sampled		12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10
Depth Sampled (feet)		10	15	5	15	17.5	2	2	2.5	2	10
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		Northwest corner of site, outside building on SE Ankeny, near former tank location		Northwest corner, inside northern portion of building, near former fuel dispenser			Next to catch basin in southern part of northern section of building, adjacent to former carpet washing room	Adjacent to "Old benzene room"	Next to catch basin in southern portion of building	Former carpet cleaning area	
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Semivolatile Organic Constituents											
Polychlorinated biphenyls (PCBs) Ψ	c, nv	---	---	---	---	---	---	---	0.4 (Arochlor 1254)	---	---
Polycyclic Aromatic Hydrocarbons											
Acenaphthene	nc, v	---	---	---	---	---	---	---	0.99	---	---
Anthracene	nc, v	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Benz[a]anthracene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Benzo[a]pyrene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Chrysene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Fluoranthene	nc, nv	---	---	---	---	---	---	---	<0.076 (ND)	---	---
Fluorene	nc, v	---	---	---	---	---	---	---	<4.4 (ND)	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	---	---	<0.05 (ND)	---	---
Pyrene	nc, nv	---	---	---	---	---	---	---	0.086	---	---
Total Petroleum Hydrocarbons											
GRO	nc, nv	<20 (NP)	<20 (NP)	1100	<20 (NP)	<20 (NP)	---	---	<20 (NP)	---	---
DRO	nc, nv	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	---	---	11000	---	---
RRO	nc, nv	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	---	---	620	---	---

Notes:

mg/Kg = milligram per kilogram or parts per million.

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established

NP = not present at or above the laboratory method reporting limit shown (HCID analysis).

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either Soil Matrix Cleanup Standards or screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

(1) = screening-level RBC is for Total Chromium, assuming a ration of 1:6 CrIII to CrVI

ca = the calibration results fell outside of acceptance criteria. The value reported is an estimate

Table 1. Summary of Analytical Data, Soil

Sample ID		B8-7	B9-0.5	B10-0.5	B12-IF-18	B12-27	B13-IF-18	B13-30	B14-9-10	B14-15	B15-9					
Date Sampled		12/7/10	12/7/10	12/7/10	12/16/10	12/16/10	12/16/10	12/16/10	12/16/10	12/16/10	12/16/10					
Depth Sampled (feet)		7	0.5	0.5	18	27	18	30	9-10	15	9					
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW					
Location		In possible former boiler room, southern portion of building	"Hazmat Room"	Basement next to sump	North side of dry well/cistern		South side of dry well/cistern		East side of outside UST		West side of outside UST					Constituent of Potential Concern
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)				TRUE OR Y FALSE OR N
Volatile Organic Constituents																
Benzene	c, v	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	---	---	---	0.085	NE	0.0093	NE	Y
Bromodichloromethane	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.0025	NE	(Y)
Bromoform	c, nv	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.22	NE	N
Bromomethane	nc, v	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	---	---	---	---	---	---	---	<0.5 (ND)	NE	0.098	NE	(Y)
Carbon tetrachloride	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.013	NE	(Y)
Chlorobenzene	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	6.5	NE	N
Chlorodibromomethane	c, nv	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.016	NE	(Y)
Chloroethane	nc, v	<0.5 (ND; ca)	<0.5 (ND; ca)	<0.5 (ND; ca)	---	---	---	---	---	---	---	<0.5 (ND)	NE	320	NE	N
Chloroform	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0	NE	(Y)
Chloromethane	nc, v	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	---	---	---	---	---	---	---	<0.5 (ND)	NE	2.2	NE	N
Dichlorobenzene, 1,2-	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	70	NE	N
Dichlorobenzene, 1,4-	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0	NE	N
Dichloroethane, 1,1-	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.037	NE	(Y)
Dichloroethene, 1,1-	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	11	NE	N
Dichloroethene, cis-1,2-	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	6	NE	N
Dichloroethene, trans-1,2-	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	2.5	NE	N
Dichloromethane	c, v	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	---	---	---	---	---	---	---	<0.5 (ND)	NE	0.038	NE	(Y)
EDB (1,2-dibromoethane)	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	<0.05 (ND)	NE	0.000081	NE	(Y)
EDC (1,2-dichloroethane)	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	<0.05 (ND)	NE	0.0014	NE	(Y)
Ethylbenzene	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	62	NE	0.16	NE	Y
MTBE (methyl t-butyl ether)	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	<0.05 (ND)	NE	0.092	NE	N
Naphthalene	c, v	0.087	0.16	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	67	NE	0.087	NE	Y
Propylbenzene, iso	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	7.3	NE	3500	NE	N
Tetrachloroethene (PCE)	c, v	<0.025 (ND)	<0.025 (ND)	<0.025 (ND)	---	---	---	---	---	---	---	0.26	NE	0.0054	NE	Y
Toluene	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	28	NE	140	NE	N
Trichloroethane, 1,1,1-	nc, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	400	NE	N
Trichloroethane, 1,1,2- Ψ	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.0046	NE	(Y)
Trichloroethene	c, v	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	---	---	---	---	---	---	---	<0.03 (ND)	NE	0.0023	NE	(Y)
Trichlorofluoromethane (Freon 11)	nc, v	<0.05 (ND; ca)	<0.05 (ND; ca)	<0.05 (ND; ca)	---	---	---	---	---	---	---	<0.5 (ND)	NE	72	NE	N
Trimethylbenzene, 1,2,4-	nc, v	<0.05 (ND)	0.39	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	280	NE	16	NE	Y
Trimethylbenzene, 1,3,5-	nc, v	<0.05 (ND)	0.20	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	81	NE	3.1	NE	Y
Vinyl chloride	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.00051	NE	(Y)
Xylenes	nc, v	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)	---	---	---	390	NE	25	NE	Y
Metals																
Arsenic	c, nv	---	---	---	---	---	---	---	---	---	---	12.7	NE	0.39	7	Y
Barium	nc, nv	---	---	---	---	---	---	---	---	---	---	185	NE	15000	NE	N
Cadmium Ψ	c, nv	---	---	---	---	---	---	---	---	---	---	1.16	NE	1800	1	N
Chromium (VI) Ψ	c, nv	---	---	---	---	---	---	---	---	---	---	15.3	NE	38	NE	N
Lead	NA, nv	---	---	---	---	---	---	---	---	---	---	23.5	NE	30	17	N
Mercury	nc, nv	---	---	---	---	---	---	---	---	---	---	<0.2 (ND)	NE	23	0.07	N
Nickel	c, nv	---	---	---	---	---	---	---	---	---	---	13.5	NE	12000	38	N
Silver	nc, nv	---	---	---	---	---	---	---	---	---	---	<1 (ND)	NE	390	1	N

Table 1. Summary of Analytical Data, Soil

Sample ID		B8-7	B9-0.5	B10-0.5	B12-IF-18	B12-27	B13-IF-18	B13-30	B14-9-10	B14-15	B15-9	Maximum Soil Concentration (remaining soil)	Soil Matrix Cleanup Level	ODEQs Screening-level RBCs (Soil)	Background Concentrations (metals)	Constituent of Potential Concern
Date Sampled		12/7/10	12/7/10	12/7/10	12/16/10	12/16/10	12/16/10	12/16/10	12/16/10	12/16/10	12/16/10					
Depth Sampled (feet)		7	0.5	0.5	18	27	18	30	9-10	15	9					
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW					
Location		In possible former boiler room, southern portion of building	"Hazmat Room"	Basement next to sump	North side of dry well/cistern		South side of dry well/cistern		East side of outside UST		West side of outside UST	TRUE OR Y FALSE OR N				
Constituent of Interest		Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)				
			Semivolatile Organic Constituents													
Polychlorinated biphenyls (PCBs) Ψ		c, nv	---	---	---	---	---	---	---	---	---	<0.4 (ND)	NE	0.22	NE	Y
Polycyclic Aromatic Hydrocarbons																
Acenaphthene		nc, v	---	---	---	---	---	---	---	---	---	0.99	NE	4700	NE	N
Anthracene		nc, v	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	23000	NE	N
Benz[a]anthracene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.15	NE	N
Benzo[a]pyrene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.015	NE	(Y)
Benzo[b]fluoranthene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.15	NE	N
Benzo[k]fluoranthene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	1.5	NE	N
Chrysene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	15	NE	N
Dibenz[a,h]anthracene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.015	NE	(Y)
Fluoranthene		nc, nv	---	---	---	---	---	---	---	---	---	0.076	NE	2300	NE	N
Fluorene		nc, v	---	---	---	---	---	---	---	---	---	4.4	NE	3100	NE	N
Indeno[1,2,3-cd]pyrene		c, nv	---	---	---	---	---	---	---	---	---	<0.05 (ND)	NE	0.15	NE	N
Pyrene		nc, nv	---	---	---	---	---	---	---	---	---	0.086	NE	1700	NE	N
			Total Petroleum Hydrocarbons													
GRO	nc, nv	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	1100	80	26	NE	Y
DRO	nc, nv	3300	1100	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	11000	500	2800	NE	Y
RRO	nc, nv	640	<250 (ND)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	640	500	9800	NE	N

Notes:

mg/Kg = milligram per kilogram or parts per millio

<# (ND) = not detected at or above the laboratory

NE = not established

NP = not present at or above the laboratory meth

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either Soil Matrix Cleanup Standards or screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

(1) = screening-level RBC is for Total Chromium, asssuming a ration of 1:6 CrIII to CrVI

ca = the calibration results fell outside of acceptance criteria. The value reported is an estimate

Table 2. Summary of Analytical Data, Water

Sample ID		MH01-101207	Maximum Ground Water Concentration	ODEQs Screening-level RBCs	Background Concentrations (metals)	COPC?
Date Sampled		12/7/10				TRUE OR Y FALSE OR N
Sampled By		ENW				
Location		Dry well/cistern inside building				
Constituent of Interest		Note	µg/L (ppb)	µg/L (ppb)		
Volatile Organic Constituents						
Benzene	c, v	<0.35 (ND)	<0.35 (ND)	0.39	NE	N
Bromodichloromethane	c, v	<1 (ND)	<1 (ND)	0.12	NE	(Y)
Bromoform	c, nv	<1 (ND)	<1 (ND)	7.2	NE	N
Bromomethane	nc, v	<1 (ND)	<1 (ND)	8.7	NE	N
Carbon tetrachloride	c, v	<1 (ND)	<1 (ND)	0.19	NE	(Y)
Chlorobenzene	nc, v	<1 (ND)	<1 (ND)	91	NE	N
Chlorodibromomethane	c, nv	<1 (ND)	<1 (ND)	0.68	NE	(Y)
Chloroethane	nc, v	<1 (ND)	<1 (ND)	21000	NE	N
Chloroform	c, v	<1 (ND)	<1 (ND)	0.19	NE	(Y)
Chloromethane	nc, v	<10 (ND)	<10 (ND)	190	NE	N
Dichlorobenzene, 1,2-	nc, v	<1 (ND)	<1 (ND)	370	NE	N
Dichlorobenzene, 1,4-	c, v	<1 (ND)	<1 (ND)	0.42	NE	(Y)
Dichloroethane, 1,1-	c, v	<1 (ND)	<1 (ND)	2.3	NE	N
Dichloroethene, 1,1-	nc, v	<1 (ND)	<1 (ND)	340	NE	N
Dichloroethene, cis-1,2-	nc, v	<1 (ND)	<1 (ND)	360	NE	N
Dichloroethene, trans-1,2-	nc, v	<1 (ND)	<1 (ND)	110	NE	N
Dichloroethylether	c, v	<1 (ND)	<1 (ND)	0.011	NE	(Y)
Dichloromethane	c, v	<5 (ND)	<5 (ND)	4.4	NE	(Y)
EDB (1,2-dibromoethane)	c, v	<1 (ND)	<1 (ND)	0.0063	NE	(Y)
EDC (1,2-dichloroethane)	c, v	<1 (ND)	<1 (ND)	0.14	NE	(Y)
Ethylbenzene	c, v	<1 (ND)	<1 (ND)	1.4	NE	N
MTBE (methyl t-butyl ether)	c, v	<1 (ND)	<1 (ND)	12	NE	N
Naphthalene	c, v	<1 (ND)	<1 (ND)	0.14	NE	(Y)
Propylbenzene, iso	nc, v	<1 (ND)	<1 (ND)	680	NE	N
Tetrachloroethene (PCE)	c, v	<1 (ND)	<1 (ND)	0.093	NE	(Y)
Toluene	nc, v	<1 (ND)	<1 (ND)	2300	NE	N
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	<1 (ND)	<1 (ND)	59000	NE	N
Trichloroethane, 1,1,1-	nc, v	<1 (ND)	<1 (ND)	9100	NE	N
Trichloroethane, 1,1,2- Ψ	c, v	<1 (ND)	<1 (ND)	0.23	NE	(Y)
Trichloroethene	c, v	<1 (ND)	<1 (ND)	0.039	NE	(Y)
Trichlorofluoromethane (Freon 11)	nc, v	<1 (ND)	<1 (ND)	1300	NE	N
Trichlorophenol, 2,4,6- Ψ	c, nv	<1 (ND)	<1 (ND)	5.2	NE	N
Trimethylbenzene, 1,2,4-	nc, v	<1 (ND)	<1 (ND)	15	NE	N
Trimethylbenzene, 1,3,5-	nc, v	<1 (ND)	<1 (ND)	12	NE	N
Vinyl chloride	c, v	<0.2 (ND)	<0.2 (ND)	0.025	NE	(Y)
Xylenes	nc, v	<2 (ND)	<3 (ND)	200	NE	N
Total Petroleum Hydrocarbons						
GRO	nc, nv	<200 (NP)	<200 (NP)	100	NE	(Y)
DRO	nc, nv	<500 (NP)	<500 (ND)	88	NE	N
RRO	nc, nv	<500 (NP)	<500 (ND)	290	NE	(Y)

Notes:

NP = not present based on NWTPH-HCID analysis

ND = not detected at or above laboratory method reporting limits

--- = not analyzed or not applicable.

< = not detected above method reporting limit shown.

NE = not established.

ug/L = micrograms per Liter or parts per billion (ppb).

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for groundwater (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

x = the pattern of peaks is not indicative of the fuel standard used for quantitation.

J = indicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

ca = The calibration results for this range fell outside of acceptance criteria; the value reported is an estimate.

Table 3. Sub-Slab Vapor PID Screening

Sample ID	SUB01-101202	SUB02-101202	SUB03-101202	SUB04-101202	SUB05-101202
Date Sampled	12/2/10	12/2/10	12/2/10	12/2/10	12/2/10
Depth Sampled (feet)	0.5	0.5	0.5	0.5	0.5
Flow Rate (ml/min)	50	0.5	0.5	0.5	0.5
Sampling Time (min)	20	20	20	20	20
Sample Volume (ml)	1000	10	10	10	10
Sampled By	ENW	ENW	ENW	ENW	ENW
Location	Northwest corner of the property, near fuel pump	Central west portion of the building, adjacent to "old benzene room"	Central portion of the building (former dry cleaning room)	Basement, adjacent to sump	South-central portion of the building, "hazmat room"
Notes: 1	ppm				
PID Screening:	7.2	0.7	0.7	0.5	127.7

1 PID = Photoionization Meter

Table 4. Summary of Analytical Data for Sub-Slab Vapor

Sample ID		SUB01-101202	SUB02-101202	SUB03-101202	SUB04-101202	SUB05-101202	Maximum Soil Gas Concentration	ODEQs Screening-level RBCs (Soil Gas) 1	TRUE OR Y FALSE OR N
Date Sampled		12/2/10	12/2/10	12/2/10	12/2/10	12/2/10			
Depth Sampled (feet)		0.5	0.5	0.5	0.5	0.5			
Sampled By		ENW	ENW	ENW	ENW	ENW			
Location		Northwest corner of the property, near fuel pump	Central west portion of the building, adjacent to "old benzene room"	Central portion of the building (former dry cleaning room	Basement, adjacent to sump	South-central portion of the building, "hazmat room"			
Constituent of Interest		Note	µg/m³				µg/m³		
Volatile Organic Constituents									
Benzene	c, v	74	20	15	7.7	82	82	62	Y
Dichloroethene, cis-1,2-	nc, v	<4 (ND)	<4 (ND)	<4 (ND)	<4 (ND)	<4 (ND)	<4 (ND)	>Pv	N
Ethylbenzene	c, v	50	10	44	<4.3 (ND)	600	600	190	Y
Naphthalene	c, v	180 E	9.1	110 E	17	600 E	600 E	14	Y
Tetrachloroethene (PCE)	c, v	16	120	26	2200 E	2600 E	2600 E	82	Y
Toluene	nc, v	120	53	40	9.6	210	210	1000000	N
Trichloroethene	c, v	<5.4 (ND)	<5.4 (ND)	<5.4 (ND)	13	<5.4 (ND)	13	5.4	Y
Trimethylbenzene, 1,2,4-	nc, v	440	<29 (ND)	<29 (ND)	<29 (ND)	16000	16000	1500	Y
Trimethylbenzene, 1,3,5-	nc, v	150	5.2	13	<4.9 (ND)	11000	11000	1300	Y
Vinyl chloride	c, v	<2.6 (ND)	<2.6 (ND)	<2.6 (ND)	<2.6 (ND)	<2.6 (ND)	<2.6 (ND)	33	N
Xylenes	nc, v	400	28.7	119	8.8	16900	16900	21000	N
Total Petroleum Hydrocarbons									
GRO	nc, nv	<1000 (ND)	<1000 (ND)	<1000 (ND)	<1000 (ND)	<1000 (ND)	<1000 (ND)	130000	N
DRO	nc, nv	43000 E	3600	4700	1200	8200	43000	24000	Y
Leak Detection									
2-Propanol		220	57	<49 (ND)	<49 (ND)	1200 E	220	5000	N

Notes:

ND = not detected at or above laboratory method reporting limits

< = not detected above method reporting limit shown.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter of air

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

>Pv = indicates this constituent cannot present an unacceptable health risk by the vapor intrusion pathway

E = Exceeds instrument calibration range

Table 5. Screening of Surface Soils (Detected Constituents Only)

Location ID		B3	B4	B5	B7	B9	B10	Maximum Soil Concentration (remaining soil)	Soil Matrix Cleanup Level	ODEQs Screening-level RBCs (Soil)	Background Concentrations (metals)	Constituent of Potential Concern
Sample ID		B3-2	B4-2	B5b-2	B7-2	B9-0.5	B10-0.5					TRUE OR Y FALSE OR N
Date Sampled		12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10					
Depth Sampled (feet)		2	2	2.5	2	0.5	0.5					
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW					
Location		Next to catch basin in southern part of northern section of building, adjacent to former carpet washing room	Adjacent to "Old benzene room"	Next to catch basin in southern portion of building	Former carpet cleaning area	"Hazmat Room"	Basement next to sump					
Constituent of Interest		Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)				
Volatile Organic Constituents												
Ethylbenzene	c, v	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	0.05	NE	0.16	NE	N
Naphthalene	c, v	<0.05 (ND)	<0.05 (ND)	4.3	<0.05 (ND)	0.16	<0.05 (ND)	4.3	NE	0.087	NE	Y
Propylbenzene, iso	nc, v	<0.05 (ND)	<0.05 (ND)	0.088	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	0.088	NE	3500	NE	N
Tetrachloroethene (PCE)	c, v	<0.025 (ND)	<0.025 (ND)	0.26	<0.025 (ND)	<0.025 (ND)	<0.025 (ND)	0.26	NE	0.0054	NE	Y
Trimethylbenzene, 1,2,4-	nc, v	<0.05 (ND)	<0.05 (ND)	3.7	<0.05 (ND)	0.39	<0.05 (ND)	3.7	NE	16	NE	N
Trimethylbenzene, 1,3,5-	nc, v	<0.05 (ND)	<0.05 (ND)	0.92	<0.05 (ND)	0.20	<0.05 (ND)	0.92	NE	3.1	NE	N
Xylenes	nc, v	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	0.1	NE	25	NE	N
Metals												
Arsenic	c, nv	---	---	12.7	---	---	---	12.7	NE	0.39	7	Y
Barium	nc, nv	---	---	185	---	---	---	185	NE	15000	NE	N
Cadmium Ψ	c, nv	---	---	1.16	---	---	---	1.16	NE	1800	1	N
Chromium (VI) Ψ	c, nv	---	---	15.3	---	---	---	15.3	NE	38	NE	N
Lead	NA, nv	---	---	14.9	---	---	---	14.9	NE	30	17	N
Semivolatile Organic Constituents												
Polychlorinated biphenyls (PCBs) Ψ	c, nv	---	---	0.4	---	---	---	0.4	NE	0.22	NE	Y
Polycyclic Aromatic Hydrocarbons												
Acenaphthene	nc, v	---	---	0.99	---	---	---	0.99	NE	4700	NE	N
Fluoranthene	nc, nv	---	---	0.076	---	---	---	0.076	NE	2300	NE	N
Fluorene	nc, v	---	---	4.4	---	---	---	4.4	NE	3100	NE	N
Pyrene	nc, nv	---	---	0.086	---	---	---	0.086	NE	1700	NE	N
Total Petroleum Hydrocarbons												
DRO	nc, nv	---	---	11000	---	1100	<50 (NP)	11000	500	2800	NE	Y
RRO	nc, nv	---	---	620	---	<250 (ND)	<250 (NP)	620	500	9800	NE	N

Notes:

mg/Kg = milligram per kilogram or parts per million.

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established

NP = not present at or above the laboratory method reporting limit shown (HCID analysis).

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either Soil Matrix Cleanup Standards or screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level).

² Screening-level RBC based on Dichloropropane, 1-2; given the lack of chemical property and toxicological data for these compounds.

(Y) indicates analyte not detected, but detection limit is above screening concentration.

(1) = screening-level RBC is for Total Chromium, asssuming a ration of 1:6 CrIII to CrVI

ca = the calibration results fell outside of acceptance criteria. The value reported is an estimate

Green cells in table indicate risk screening is performed on REMOVED materials whose concentrations set an upper limit on impacts remaining after the soil and tank removals.

Pink cells in table indicate soils that have been removed to appropriate waste disposal/recycling locations

Table 6. Risk Screening of Surface Soil COPCs

Contaminated Medium		SURFACE SOIL mg/Kg (ppm)						SURFACE SOIL mg/Kg (ppm)		SURFACE SOIL mg/Kg (ppm)		Maximum Detected Concentration	Lowest Applicable RBC (Soil) ¹	COC?
Exposure Pathway		Soil Ingestion, Dermal Contact, and Inhalation						Volatilization to Outdoor Air		Vapor Intrusion into Buildings				
		RBC _{ss}						RBC _{so}		RBC _{si}				
Receptor Scenario		Occupational		Construction Worker		Excavation Worker		Occupational		Occupational				
Direct or Indirect Pathway (see notes)		DCS		DCS		DCS		IVS		IVS				
Contaminant of Concern	Note		Note		Note		Note		Note		Note	mg/Kg (ppm)	mg/Kg (ppm)	Y/N
Naphthalene	c, v	23		580	>Csat	16,000	>Csat	27		27		4.3	23	N
Tetrachloroethene (PCE)	c, v	5.1		40		1,100	>Csat	66		1.6		0.26	1.6	N
Arsenic	c, nv	1.7		13		370		-	NV	-	NV	12.7	1.7	Y
Polychlorinated biphenyls (PCBs) Ψ	c, nv	0.98		7.6	>Csat	210	>Csat	-	NV	-	NV	0.4	0.98	N
DRO	nc, nv	70000		23000		-	>Max	-	>Max	-	>Max	11000	70,000	N

Notes:

— = not analyzed or not applicable.

ug/L = micrograms per Liter or parts per billion (ppb).

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

DRO = diesel-range organics.

Bolded concentrations exceed risk-based concentrations and background concentrations, as applicable.¹ Lowest Risk-Based Concentration for soil (complete exposure pathways).

Table 7. Screening of Subsurface Soils (Detected Constituents Only)

Location ID		B1		B2			B7		B10	b12		B13	
Sample ID		B1-10	B1-15	B2-5	B2-15	B2-17.5	B7-10	B8-7	B10-0.5	B12-IF-18	B12-27	B13-IF-18	B13-30
Date Sampled		12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/7/10	12/16/10	12/16/10	12/16/10	12/16/10
Depth Sampled (feet)		10	15	5	15	17.5	10	7	0.5	18	27	18	30
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW	ENW
Location		Northwest corner of site, outside building on SE Ankeny, near former tank location		Northwest corner, inside northern portion of building, near former fuel dispenser			Former carpet cleaning area	Possible boiler room	Basement next to sump	North side of drywell		South side of drywell	
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents													
Benzene	c, v	---	---	0.085	---	---	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)	<0.03 (ND)
Ethylbenzene	c, v	---	---	62	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Naphthalene	c, v	---	---	67	---	---	<0.05 (ND)	0.087	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Propylbenzene, iso	nc, v	---	---	7.3	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Tetrachloroethene (PCE)	c, v	---	---	<0.025 (ND)	---	---	<0.025 (ND)	<0.025 (ND)	<0.025 (ND)	---	---	---	---
Toluene	nc, v	---	---	28	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trimethylbenzene, 1,2,4-	nc, v	---	---	280	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Trimethylbenzene, 1,3,5-	nc, v	---	---	81	---	---	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)
Xylenes	nc, v	---	---	390	---	---	<0.1 (ND)	<0.1 (ND)	<0.1 (ND)	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)	<0.15 (ND)
Metals													
Arsenic	c, nv	---	---	---	---	---	8.71	---	---	---	---	---	---
Barium	nc, nv	---	---	---	---	---	147	---	---	---	---	---	---
Cadmium Ψ	c, nv	---	---	---	---	---	1.08	---	---	---	---	---	---
Chromium (VI) Ψ	c, nv	---	---	---	---	---	10.9	---	---	---	---	---	---
Lead	NA, nv	---	---	23.5	---	---	9.84	---	---	---	---	---	---
Nickel	c, nv	---	---	---	---	---	13.5	---	---	---	---	---	---
Total Petroleum Hydrocarbons													
GRO	nc, nv	<20 (NP)	<20 (NP)	1100	<20 (NP)	<20 (NP)	---	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)	<20 (NP)
DRO	nc, nv	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	---	3300	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)	<50 (NP)
RRO	nc, nv	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	---	640	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)	<250 (NP)

Notes:

mg/Kg = milligram per kilogram or parts per million.

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established

NP = not present at or above the laboratory method

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either Soil Matrix Cleanup Standards or screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

Table 8. Risk Screening of Subsurface Soil COPCs

Contaminated Medium		SOIL mg/Kg (ppm)		SOIL mg/Kg (ppm)		SOIL mg/Kg (ppm)		Maximum Detected Concentration	Lowest Applicable RBC (Soil)	COC?
Exposure Pathway		Soil Ingestion, Dermal Contact, and Inhalation RBC _{ss}		Volatilization to Outdoor Air RBC _{so}		Vapor Intrusion into Buildings RBC _{si}				
Receptor Scenario		Excavation Worker		Occupational		Occupational				
Direct or Indirect Pathway (see notes)		DCS		IVS		IVS				
Contaminant of Concern	Note		Note		Note		Note	mg/Kg (ppm)	mg/Kg (ppm)	Y/N
Benzene	c, v	9,500	>Csat	50		1.2		0.085	1.2	N
Ethylbenzene	c, v	44,000	>Csat	160		12		62	12	Y
Naphthalene	c, v	16,000	>Csat	27		27		67	27	Y
Tetrachloroethene (PCE)	c, v	1,100	>Csat	66		1.6		0.025	1.6	N
Trimethylbenzene, 1,2,4-	nc, v	54,000	>Csat	980		1,000		280	980	N
Trimethylbenzene, 1,3,5-	nc, v	42,000	>Csat	-	>Csat	150		81	150	N
Xylenes	nc, v	-	>Max	-	>Csat	-	>Csat	390	---	N
Arsenic	c, nv	370		-	NV	-	NV	8.71	370	N
GRO	nc, nv	-	>Max	-	>Max	-	>Max	1100	---	N
DRO	nc, nv	-	>Max	-	>Max	-	>Max	3300	---	N

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.

< = not detected above method reporting limit shown.

NE = not established.

ug/L = micrograms per Liter or parts per billion (ppb).

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

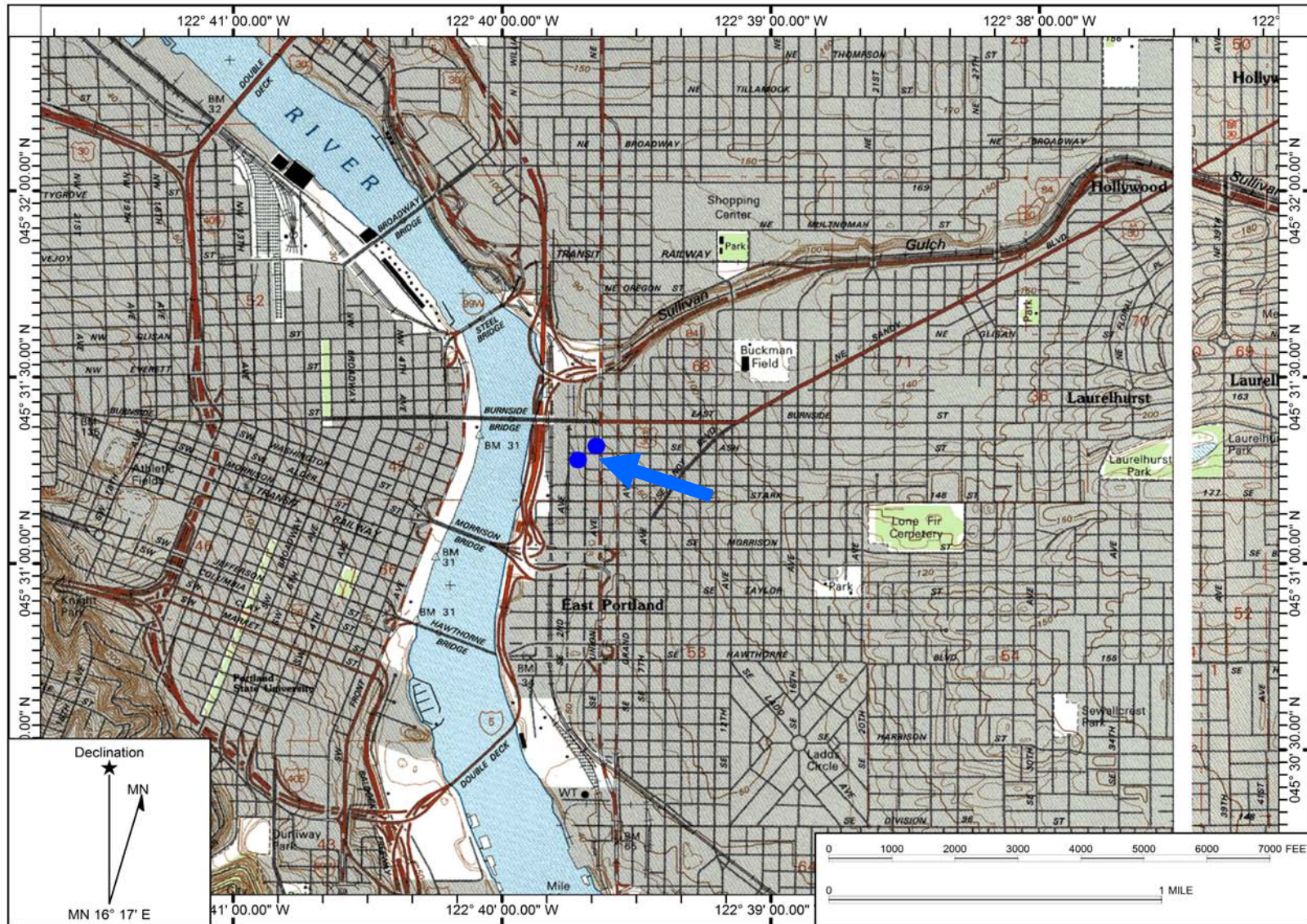
DRO = diesel-range organics.

RRO = residual-range organics.

Bolded concentrations exceed either Soil Matrix Cleanup Standards or screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil

FIGURES



Source: USGS Topographic Map, 7.5-Minute Portland Quadrangle, 1990

	Date Drawn: 11/16/2010 CAD File Name: 495-10001-01 svmap Drawn By: LDG Approved By: NMW	Salvation Army 139 SE Martin Luther King Jr. Boulevard Portland, Oregon	Site Vicinity Map	Project No. 495-10001-01 Figure No. 1
---	---	---	---------------------------------	--



- LEGEND:
- APPROXIMATE BUILDING LOCATIONS
 - APPROXIMATE PROPERTY BOUNDARIES
 - APPROXIMATE SUBJECT PROPERTY BOUNDARIES
 - APPROXIMATE LOCATION OF ABANDONED UST
 - APPROXIMATE LOCATION OF PREVIOUSLY DECOMMISSIONED UST

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2009 AND ENW FIELD NOTES.

APPROXIMATE SCALE

0

90

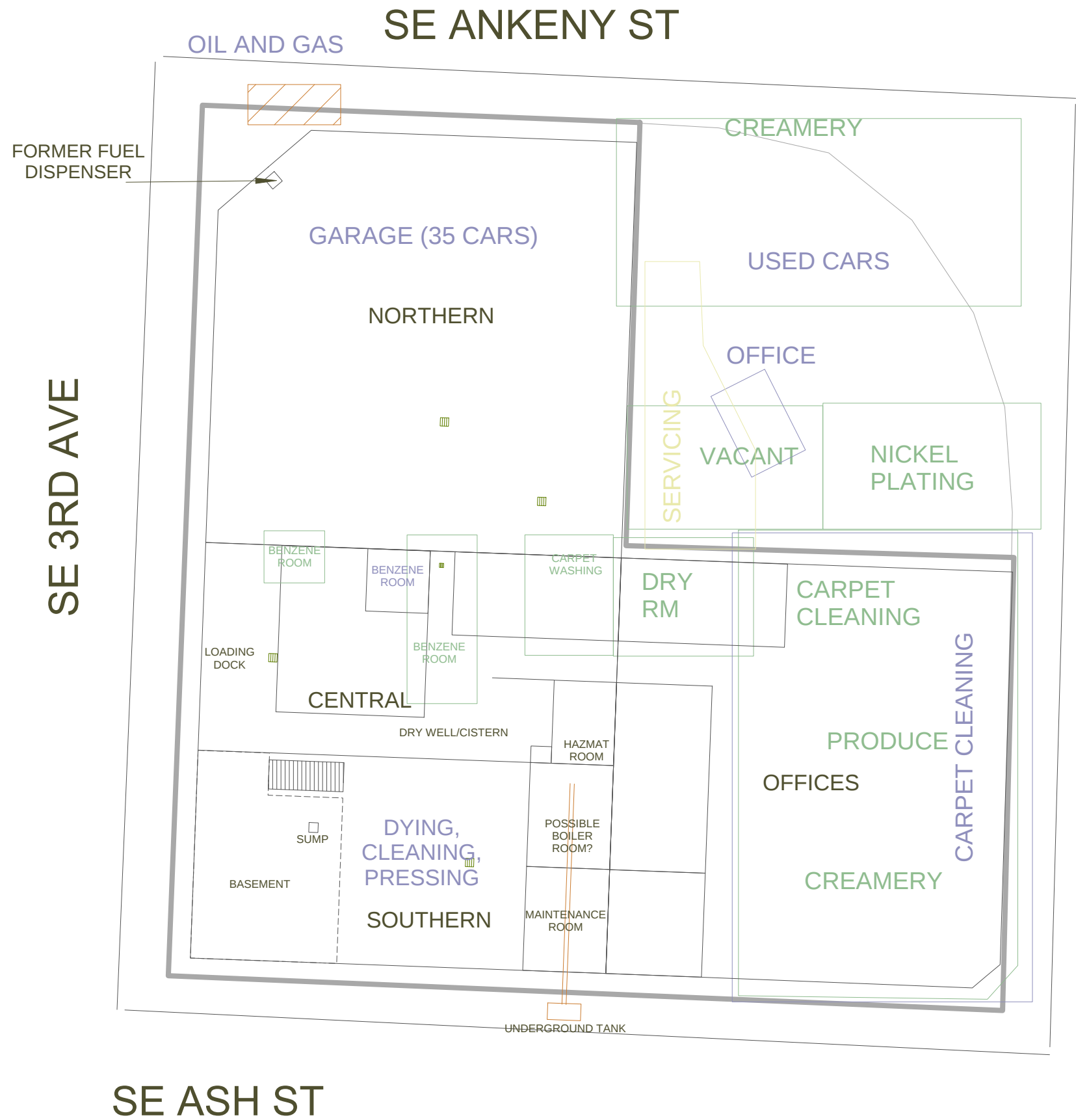
180 FEET

PO BOX 14488, PORTLAND, OREGON 97293
(503)452-5561 Fax(503)452-7669

FIGURE 2

SITE PLAN

SALVATION ARMY
139 SE MLK BLVD
PORTLAND, OREGON



LEGEND:

APPROXIMATE BUILDING LOCATIONS

APPROXIMATE PROPERTY BOUNDARIES

APPROXIMATE SUBJECT PROPERTY BOUNDARIES

APPROXIMATE LOCATION OF ABANDONED UST

APPROXIMATE LOCATION OF PREVIOUSLY DECOMMISSIONED UST

CATCH BASIN & FLOOR DRAIN

OFFICE

FEATURES FROM 1924 SANBORN MAP

OFFICE

FEATURES FROM 1950 SANBORN MAP

OFFICE

FEATURES FROM 1969 SANBORN MAP

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2009 AND ENW FIELD NOTES.

2. HISTORICAL FEATURES OF INTEREST BASED ON INTERPRETATION OF SANBORN FIRE INSURANCE MAPS WITH THE DATES INDICATED RELATED TO THE PUBLISHED DATE OF THOSE MAPS ON WHICH THE FEATURE IS SHOWN.

APPROXIMATE SCALE

0

30

60

FEET

N

EVRENNORTHWEST

environmental, natural resource consultants

PO BOX 14488, PORTLAND, OREGON 97293
(503)452-5561 Fax(503)452-7669

FIGURE 3

HISTORICAL PROPERTY USE/DEVELOPMENT

SALVATION ARMY

139 SE MLK BLVD

PORTLAND, OREGON

Sample ID	B1-10
Depth (ft)	10
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg
Sample ID	B1-15
Depth (ft)	15
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B2-5
Depth (ft)	5
GRO	1100
DRO	<50
RRO	<250
BENZENE	0.085
ETHYLBENZENE	62
NAPHTHALENE	67
PROPYLBENZENE	7.3
TOLUENE	28
TRIMETHYLBENZENE 1,2,4	280
TRIMETHYLBENZENE 1,3,5	81
XYLENES	390
LEAD	23.5
UNITS	mg/Kg
Sample ID	B2-15
Depth (ft)	15
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg
Sample ID	B2-17.5
Depth (ft)	17.5
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B12-IF-18
Depth (ft)	18
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg
Sample ID	B12-27
Depth (ft)	27
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B10-0.5
Depth (ft)	0.5
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B13-IF-18
Depth (ft)	18
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg
Sample ID	B13-30
Depth (ft)	30
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B5b-2
Depth (ft)	2
GRO	<20
DRO	11000
RRO	620
NAPHTHALENE	4.3
PROPYLBENZENE	0.088
TETRACHLOROETHENE	0.26
TRIMETHYLBENZENE 1,2,4	3.7
TRIMETHYLBENZENE 1,3,5	0.92
UNITS	mg/Kg

Sample ID	B15-9
Depth (ft)	9
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B14-9-10
Depth (ft)	9-10
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg
Sample ID	B14-15
Depth (ft)	15
GRO	<20
DRO	<50
RRO	<250
UNITS	mg/Kg

Sample ID	B7-2
Depth (ft)	2
GRO	---
DRO	---
RRO	---
UNITS	mg/Kg
Sample ID	B7-10
Depth (ft)	10
ARSENIC	8.71
BARIUM	147
CADMIUM	1.08
CHROMIUM	10.9
LEAD	9.84
NICKEL	13.5
UNITS	mg/Kg

Sample ID	B9-0.5
Depth (ft)	0.5
GRO	<20
DRO	1100
RRO	<250
NAPHTHALENE	0.16
TRIMETHYLBENZENE 1,2,4	0.39
TRIMETHYLBENZENE 1,3,5	0.2
UNITS	mg/Kg

Sample ID	B8-7
Depth (ft)	7
GRO	<20
DRO	3300
RRO	640
NAPHTHALENE	0.087
UNITS	mg/Kg

LEGEND:

APPROXIMATE BUILDING LOCATIONS

APPROXIMATE PROPERTY BOUNDARIES

APPROXIMATE SUBJECT PROPERTY BOUNDARIES

APPROXIMATE LOCATION OF ABANDONED UST

APPROXIMATE LOCATION OF PREVIOUSLY DECOMMISSIONED UST

CATCH BASINS & FLOOR DRAINS

B1

ENW SAMPLE LOCATION

GRO: GASOLINE-RANGE HYDROCARBONS
DRO: DIESEL-RANGE HYDROCARBONS
RRO: RESIDUAL(OIL)-RANGE HYDROCARBONS
MG/KG: MILLIGRAMS PER KILOGRAM

<#: NOT DETECTED AT OR ABOVE ANALYTICAL METHOD REPORTING LIMIT (#).

INDICATES SOIL AT LOCATION EXCEEDS APPLICABLE RISK-BASED CONCENTRATIONS AND/OR SOIL MATRIX CLEANUP LEVELS

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2009 AND ENW FIELD NOTES.

APPROXIMATE SCALE

0

30

60

FEET

EVRENNORTHWEST

INC.

environmental natural resource consultants

PO BOX 14488, PORTLAND, OREGON 97293
(503)452-5561 Fax(503)452-7669

FIGURE 4

SAMPLE LOCATION DIAGRAM
(DETECTED SOIL DATA)

SALVATION ARMY
139 SE MLK BLVD
PORTLAND, OREGON

SE 3RD AVE

SE ANKENY ST

FORMER FUEL
DISPENSER



- LEGEND:
- APPROXIMATE PROPERTY BOUNDARIES
 - APPROXIMATE SUBJECT PROPERTY BOUNDARIES
 - APPROXIMATE SUBJECT BUILDINGS
 - APPROXIMATE LOCATION OF ABANDONED UST
 - APPROXIMATE LOCATION OF PREVIOUSLY DECOMMISSIONED UST
 - CATCH BASIN
 - MH01
 - ENW SAMPLE LOCATION

- NOTES:
- BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2009 AND ENW FIELD NOTES.

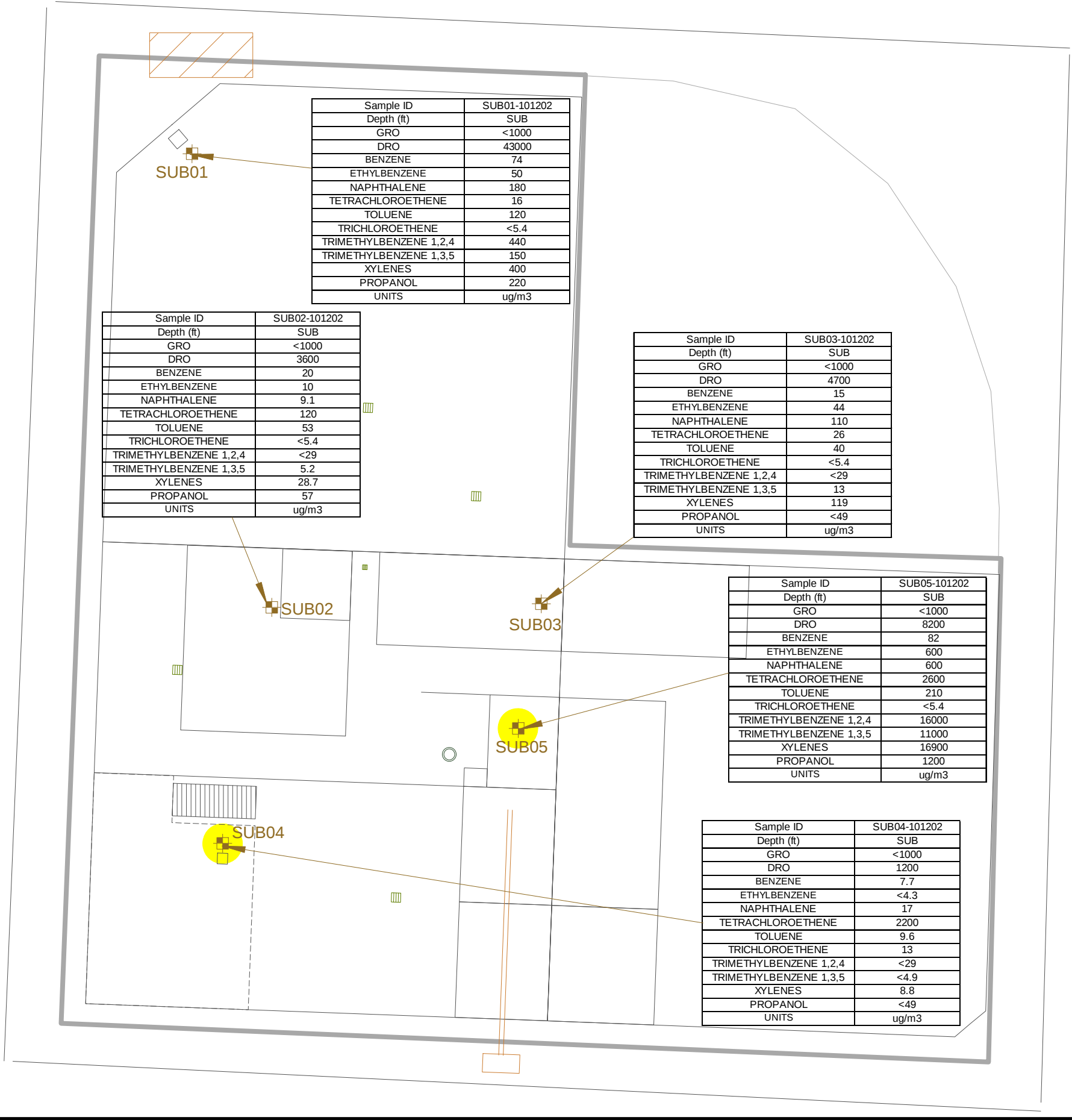
APPROXIMATE SCALE

0 25 50 FEET

EVRENNORTHWEST INC.
environmental natural resource consultants

PO BOX 14488, PORTLAND, OREGON 97293
(503)452-5561 Fax(503)452-7669

FIGURE 5
SAMPLE LOCATION DIAGRAM
(WATER)
SALVATION ARMY
139 SE MLK BLVD
PORTLAND, OREGON



LEGEND:

APPROXIMATE BUILDING LOCATIONS

APPROXIMATE PROPERTY BOUNDARIES

APPROXIMATE SUBJECT PROPERTY BOUNDARIES

APPROXIMATE LOCATION OF ABANDONED UST

APPROXIMATE LOCATION OF PREVIOUSLY DECOMMISSIONED UST

CATCH BASIN

SUB01

ENW SAMPLE LOCATION

GRO:

GASOLINE-RANGE HYDROCARBONS

DRO:

DIESEL-RANGE HYDROCARBONS

RRO:

RESIDUAL(OIL)-RANGE HYDROCARBONS

ug/m3;

MICROGRAMS PER CUBIC METER

<#:

NOT DETECTED AT OR ABOVE ANALYTICAL METHOD REPORTING LIMIT (#).

INDICATES SUB-SLAB VAPOR AT LOCATION EXCEEDS APPLICABLE RISK-BASED CONCENTRATIONS

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2009 AND ENW FIELD NOTES.

APPROXIMATE SCALE

0

25

50

FEET

PO BOX 14488, PORTLAND, OREGON 97293
(503)452-5561 Fax(503)452-7669

FIGURE 6

SAMPLE LOCATION DIAGRAM
(DETECTED SUB-SLAB DATA)

SALVATION ARMY
139 SE MLK BLVD
PORTLAND, OREGON

APPENDIX A CITY OF PORTLAND PERMIT

CITY OF PORTLAND, OREGON
OFFICE OF TRANSPORTATIONPermit No. **TR-10-198**

BUREAU OF ENGINEERING AND DEVELOPMENT

Issue Date 12/9/2010

Void after 3/9/2011 (90 days)

The permittee shall, a minimum of two working days prior to beginning work, notify the Right-of-Way Inspection Section (823-7148) of the proposed work schedule for the permitted activity.

Before beginning work, the permittee shall obtain approval of their traffic control plan from the City Traffic Engineer @ 823-5185.

CALL 823-7002 FOR INSPECTION

Allow 4 hours from time of request for inspection. Requests made after 12 Noon may not be inspected until the next working day. Inspection requests may be made after normal working hours by calling 823-7002 and leaving information after the recorded message. (Inspection not available weekends and legal holidays.)

REVOCABLE PERMIT TO USE DEDICATED STREET AREAS

The undersigned applies for a revocable permit in accordance with the provisions of the City Charter and Title 17, Public Improvements of the Code of the City of Portland. For use of the street area of:

SE Ash St between SE 3rd Ave and SE MLK Jr Blvd

To drill 2, 2" diameter, 20' deep test borings to investigate soil conditions for possible soil and/or groundwater contamination. Test bores may be made in ROW area approximately as follows:

62' E of E curb line of SE MLK Jr Blvd, 2' N of N curb line of SE Ash St
71' E of E curb line of SE MLK Jr Blvd, 2' N of N curb line of SE Ash St

and located as shown on the attached plan.

Commencement of work authorized by this permit acknowledges permittee's acceptance of the following conditions :

(CONDITIONS)

- (1) This permit is for the use of the street area only, and shall not exempt the permittee from obtaining any license or permit required by the City Code or Ordinances for any act to be performed under this permit, nor shall this permit waive the provisions of any City Code, Ordinance, or the City Charter, except as herein stated.
- (2) This permit is revocable by the City Engineer at any time in the event the public's need requires it, or the permittee fails to comply with the conditions of this permit, and no expenditure of money hereunder, lapse of time, or other act or thing shall operate as an estoppel against the City of Portland, or be held to give the permittee any vested or other right. Upon the expiration of this permit, or upon its sooner revocation by the City Engineer, the permittee shall, within 30 days, remove said installations from the street area and restore the street area as directed by and to the satisfaction of the City Engineer.
- (3) The permittee shall hold the City of Portland, its officers, agents, and employees free and harmless from any claims for damages to persons or property, including legal fees and costs of defending any actions or suits, including any appeals, which may result from the permitted activity.
- (4) This permit is personal to the permittee and may not be transferred, assigned or otherwise conveyed, and will require insurance with limits of coverage that will meet the maximum requirements for liability of a

public body as set forth in ORS 30.260 through 30.300, or as it may be required by subsequent amendment and naming the City, its officers, agents and employees as additional insured. Said insurance to be kept in full force and effect at all times. This permit is automatically revoked without further action by the City Engineer if this insurance is permitted to lapse, is canceled, or for any other reason becomes inoperative.

- (5) The permittee shall provide an annual street opening bond in the penal sum of TWO THOUSAND AND NO/100 DOLLARS (\$2000.00) as provided by Section 17.32.040 of the Code of the City.
- (6) The permittee shall initiate construction authorized by this permit within 30 days of the permit issue date. If the permitted work has not begun within 90 days, the permittee shall reapply for a permit before beginning any work within the right-of-way.
- (7) The permittee shall comply with the requirements of ORS 757.541 to 757.571. Utilities shall be notified and have an opportunity to locate their facilities at least two days prior to commencing work allowed under this permit.
- (8) The permittee will protect public facilities in the right-of-way. The permittee will restore public facilities and guarantees the cost for repairs or replacement of any private or public facilities or private property damaged or destroyed caused in whole or in part as a result of work performed under this permit. The permittee recognizes and agrees the City cannot guarantee the accuracy of location of utilities in the street; and permittee further agrees to be responsible for any and all damage caused by his work under this permit, although such damage or destruction may have resulted in whole or in part because of the City's mislocation or misinformation in relation to the utilities.
- (9) Permittee shall **obtain street use permits** for areas equipment will be parked and will obtain permits for **lane closures** and for full street closures in advance.
- (10) Permittee shall maintain a minimum four foot pedestrian way or the **sidewalk shall be closed at each end of the block with barricades and with signs "Sidewalk Closed-Use Opposite Side"**.
- (11) Permittee shall protect the work area by barricading or installing a fence adjacent to the excavation area as directed by the City Engineer.
- (12) After measurements and/or samples are obtained the boreholes will be filled and sealed to match the surrounding surface.
- (13) Permittee shall conform with their approved traffic control plan for this project and shall not block travel lanes unless a traffic control plan for lane closure has been approved by the Traffic Engineer.
- (14) The permit is responsible for complying with Title 10 of the City Code, including all erosion measures and signs.

Permit Fee 1 testbore at \$316.00 ea. = \$316.00
per City Code Sect 17.24.020

Review Fee \$55.00
TOTAL FEE \$371.00

Amount paid \$371.00

PERMITTEE - Evren Northwest, Inc.
PO Box 14488
Portland OR 97293
(503) 452-5561 (Nici Schroeter)

CITY ENGINEER

Approved by Liam Nagy
Contingent upon covering Code & Franchises of the
City of Portland Bureau of Transportation
December 09, 2010

From: [WB DEV SVCS](#)
To: [PBOT Utility Permits;](#)
cc: [Carpenter, Terry;](#)
Subject: RE: Evren Northwest - Test Bore - *TR-10-198*
Date: Thursday, December 09, 2010 2:03:58 PM

[No apparent conflict](#)

Terry Carpenter x Engineering Tech II x Portland Water Bureau
Phone: (503) 823-3805 x Fax: (503) 823-7743

“From Forest to Faucet”

From: PBOT Utility Permits
Sent: Thursday, December 09, 2010 1:04 PM
To: WB DEV SVCS
Subject: Evren Northwest - Test Bore - *TR-10-198*

Please review the attached plan set and reply with your comments and conditions. Please contact the applicant directly, copying the PBOT Utility Permits box, if you have any issues or concerns that need to be addressed. The applicant can be contacted at nicis@evren-nw.com

Thank you,

Liam Nagy
City of Portland Bureau of Transportation
1120 SW Fifth Avenue Room 800 Portland OR 97204
p. 503-823-1337 f. 503-279-2667
liam.nagy@portlandoregon.gov

Test Bore, Monitoring Well, & Underground Storage Tank Decommissioning Permit Request Form

1) Contractor Working in ROW:

Name _____
 Company erren Northwest Inc.
 Address PO BOX 14488
Portland, OR 97243
 Phone _____
 Email 5034525561
Nic@erren-nw.com

3) Site Address:

139 SE Martin Luther King
Portland, OR

4) Name of Street to be Opened:

Ash Street

5) Names of Bounding Streets:

SE 3rd Street

2) Contractor Requesting Permit? (if different)

Name _____
 Company _____
 Address Same
 Phone _____
 Email _____

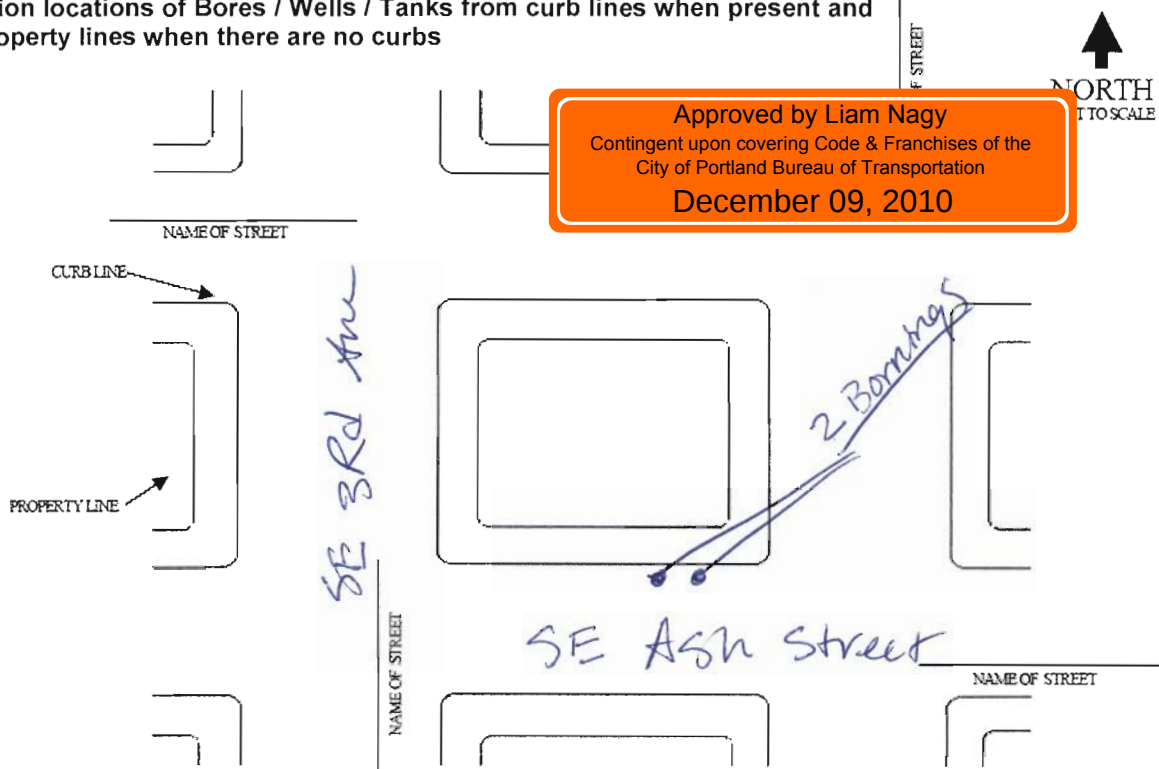
6) Test Bore / Monitoring Well:

Number of Bores 2
 Number of Wells 2
 Greatest Diameter 2-inch diameter
 Greatest Depth 20 feet

7) Underground Storage Tanks:

Number of Tanks _____
 Decommission in Place ☐ or Remove from Ground ☐

Dimension locations of Bores / Wells / Tanks from curb lines when present and from property lines when there are no curbs



Approved by Liam Nagy
 Contingent upon covering Code & Franchises of the
 City of Portland Bureau of Transportation
 December 09, 2010

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139 SE MARTIN LUTHER KING JR BLVD - BUCKMAN - PORTLAND

[Explorer](#) | [Property](#) | **Maps** | [Projects](#) | [Crime](#) | [Census](#) | [Environmental](#) | [Transportation](#)
[Summary](#) | [Benchmarks](#) | [Businesses](#) | [Elevation](#) | [Fire](#) | [Hazard](#) | **Photo** | [Property](#) | [Tax Map](#) | [UGB](#) | [Walkability](#) | [Zoning](#) | [Zip Code](#) | [Public Art](#)

Aerial Photo

2009 / '08 / '07 / '06 / '05 / '04 / '03 / '02 / '01

6" / 2' / 4' / 10' / 20'

 Streets: [On](#) Lots: [On](#) Dot: [On](#)


Approved by Liam Nagy
Contingent upon covering Code & Franchises of the
City of Portland Bureau of Transportation
December 09, 2010

Proposed borings.
2-in diameter, 20-ft
deep

Possible UST

City of Portland, Corporate GIS

11/2/2010

THE GIS APPLICATIONS ACCESSED THROUGH THIS WEB SITE PROVIDE A VISUAL DISPLAY OF DATA FOR YOUR CONVENIENCE. EVERY REASONABLE EFFORT HAS BEEN MADE TO ASSURE THE ACCURACY OF THE MAPS AND ASSOCIATED DATA. THE CITY OF PORTLAND MAKES NO WARRANTY, REPRESENTATION OR GUARANTEE AS TO THE CONTENT, SEQUENCE, ACCURACY, TIMELINESS OR COMPLETENESS OF ANY OF THE DATA PROVIDED HEREIN. THE USER OF THESE APPLICATIONS SHOULD NOT RELY ON THE DATA PROVIDED HEREIN FOR ANY REASON. THE CITY OF PORTLAND EXPLICITLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE CITY OF PORTLAND SHALL ASSUME NO LIABILITY FOR ANY ERRORS, OMISSIONS, OR INACCURACIES IN THE INFORMATION PROVIDED REGARDLESS OF HOW CAUSED. THE CITY OF PORTLAND SHALL ASSUME NO LIABILITY FOR ANY DECISIONS MADE OR ACTIONS TAKEN OR NOT TAKEN BY THE USER OF THE APPLICATIONS IN RELIANCE UPON ANY INFORMATION OR DATA FURNISHED HEREUNDER. FOR UPDATED INFORMATION ABOUT THE MAP DATA ON PORTLANDMAPS PLEASE REFER TO [CITY'S METADATA](#). FOR QUESTIONS ABOUT ASSESSMENT INFORMATION PLEASE CONTACT THE COUNTY ASSESSORS OFFICE IN YOUR COUNTY.

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 PortlandMaps © 2010 [City of Portland, Oregon](#)

Sam
Adams
Mayor

Susan D.
Keil
Director

BILLING SUMMARY

Date: **12/9/2010**

Permittee: **Evren Northwest, Inc.**

Permit Number: **TR-10-198**

Work Location: **SE Ash St / SE 3rd Ave - SE Mlk Jr Blvd**

SAP / Check / Credit Card: **8401 (Evren Northwest, Inc.)**

<u>Description</u>	<u>SAP Internal Order Number</u>	<u>Amount</u>
Underground Tanks	9TR000001100	\$ 316.00
Water Bureau SOP	WAFS000007	\$ 55.00
Total		\$ 371.00

Bureau Rep: **Liam Nagy**

Telephone: **503-823-1337**

CITY OF PORTLAND, OREGON
OFFICE OF TRANSPORTATIONPermit No. **TR-10-196**

BUREAU OF ENGINEERING AND DEVELOPMENT

Issue Date 12/2/2010

Void after 3/2/2011 (90 days)

The permittee shall, a minimum of two working days prior to beginning work, notify the Right-of-Way Inspection Section (823-7148) of the proposed work schedule for the permitted activity.

Before beginning work, the permittee shall obtain approval of their traffic control plan from the City Traffic Engineer @ 823-5185.

CALL 823-7002 FOR INSPECTION

Allow 4 hours from time of request for inspection. Requests made after 12 Noon may not be inspected until the next working day. Inspection requests may be made after normal working hours by calling 823-7002 and leaving information after the recorded message. (Inspection not available weekends and legal holidays.)

REVOCABLE PERMIT TO USE DEDICATED STREET AREAS

The undersigned applies for a revocable permit in accordance with the provisions of the City Charter and Title 17, Public Improvements of the Code of the City of Portland. For use of the street area of:

SE Ankeny St between SE 3rd Ave and SE MLK Jr Blvd

To drill 1, 2" diameter, 20' deep test boring to investigate subsurface conditions. Test bores may be made in ROW area approximately as follows:

30' E of E curb line of SE 3rd Ave, 10' S of S curb line of SE Ankeny St

and located as shown on the attached plan.

Commencement of work authorized by this permit acknowledges permittee's acceptance of the following conditions :

(CONDITIONS)

- (1) This permit is for the use of the street area only, and shall not exempt the permittee from obtaining any license or permit required by the City Code or Ordinances for any act to be performed under this permit, nor shall this permit waive the provisions of any City Code, Ordinance, or the City Charter, except as herein stated.
- (2) This permit is revocable by the City Engineer at any time in the event the public's need requires it, or the permittee fails to comply with the conditions of this permit, and no expenditure of money hereunder, lapse of time, or other act or thing shall operate as an estoppel against the City of Portland, or be held to give the permittee any vested or other right. Upon the expiration of this permit, or upon its sooner revocation by the City Engineer, the permittee shall, within 30 days, remove said installations from the street area and restore the street area as directed by and to the satisfaction of the City Engineer.
- (3) The permittee shall hold the City of Portland, its officers, agents, and employees free and harmless from any claims for damages to persons or property, including legal fees and costs of defending any actions or suits, including any appeals, which may result from the permitted activity.
- (4) This permit is personal to the permittee and may not be transferred, assigned or otherwise conveyed, and will require insurance with limits of coverage that will meet the maximum requirements for liability of a public body as set forth in ORS 30.260 through 30.300, or as it may be required by subsequent

amendment and naming the City, its officers, agents and employees as additional insured. Said insurance to be kept in full force and effect at all times. This permit is automatically revoked without further action by the City Engineer if this insurance is permitted to lapse, is canceled, or for any other reason becomes inoperative.

- (5) The permittee shall provide an annual street opening bond in the penal sum of TWO THOUSAND AND NO/100 DOLLARS (\$2000.00) as provided by Section 17.32.040 of the Code of the City.
- (6) The permittee shall initiate construction authorized by this permit within 30 days of the permit issue date. If the permitted work has not begun within 90 days, the permittee shall reapply for a permit before beginning any work within the right-of-way.
- (7) The permittee shall comply with the requirements of ORS 757.541 to 757.571. Utilities shall be notified and have an opportunity to locate their facilities at least two days prior to commencing work allowed under this permit.
- (8) The permittee will protect public facilities in the right-of-way. The permittee will restore public facilities and guarantees the cost for repairs or replacement of any private or public facilities or private property damaged or destroyed caused in whole or in part as a result of work performed under this permit. The permittee recognizes and agrees the City cannot guarantee the accuracy of location of utilities in the street; and permittee further agrees to be responsible for any and all damage caused by his work under this permit, although such damage or destruction may have resulted in whole or in part because of the City's mislocation or misinformation in relation to the utilities.
- (9) Permittee shall **obtain street use permits** for areas equipment will be parked and will obtain permits for **lane closures** and for full street closures in advance.
- (10) Permittee shall maintain a minimum four foot pedestrian way or the **sidewalk shall be closed at each end of the block with barricades and with signs "Sidewalk Closed-Use Opposite Side"**.
- (11) Permittee shall protect the work area by barricading or installing a fence adjacent to the excavation area as directed by the City Engineer.
- (12) After measurements and/or samples are obtained the boreholes will be filled and sealed to match the surrounding surface.
- (13) Permittee shall conform with their approved traffic control plan for this project and shall not block travel lanes unless a traffic control plan for lane closure has been approved by the Traffic Engineer.
- (14) The permit is responsible for complying with Title 10 of the City Code, including all erosion measures and signs.

Insurance approved YES
Bond approved YES

Permit Fee 1 Testbore at \$316.00 ea. = \$316.00
per City Code Sect 17.24.020

Review Fee \$55.00
TOTAL FEE \$371.00

Amount paid \$371.00

PERMITTEE - Evren Northwest, Inc.
PO Box 14488
Portland OR 97293
(503) 452-5561 (Nici Schroeter)

CITY ENGINEER

Approved by Liam Nagy
Contingent upon covering Code & Franchises of the
City of Portland Bureau of Transportation
December 02, 2010

From: [WB DEV SVCS](#)
To: [PBOT Utility Permits;](#)
cc: [Carpenter, Terry;](#)
Subject: RE: Evren Northwest - Test Bore - *TR-10-196*
Date: Thursday, December 02, 2010 3:11:13 PM

[No apparent conflict](#)

Terry Carpenter x Engineering Tech II x Portland Water Bureau
Phone: (503) 823-3805 x Fax: (503) 823-7743

“From Forest to Faucet”

From: PBOT Utility Permits
Sent: Thursday, December 02, 2010 2:00 PM
To: WB DEV SVCS
Subject: Evren Northwest - Test Bore - *TR-10-196*

Please review the attached plan set and reply with your comments and conditions. Please contact the applicant directly, copying the PBOT Utility Permits box, if you have any issues or concerns that need to be addressed. The applicant can be contacted at nicis@evren-nw.com

Thank you,

Liam Nagy
City of Portland Bureau of Transportation
1120 SW Fifth Avenue Room 800 Portland OR 97204
p. 503-823-1337 f. 503-279-2667
liam.nagy@portlandoregon.gov

Test Bore, Monitoring Well, & Underground Storage Tank Decommissioning Permit Request Form

1) Contractor Working in ROW:

Name Evren NW
Company _____
Address PO Box 14488
Phone 585 452 5561
Email Nicis@evren-NW.com

3) Site Address:

139 SE MLK Blvd.
Portland, Oregon

4) Name of Street to be Opened:

SE Ankeny

5) Names of Bounding Streets: SE 3rd

6) Test Bore / Monitoring Well:

Number of Bores	1
Number of Wells	2
Greatest Diameter	2 inch
Greatest Depth	20 feet

2) Contractor Requesting Permit? (if different)

Name _____

Company _____

Address _____

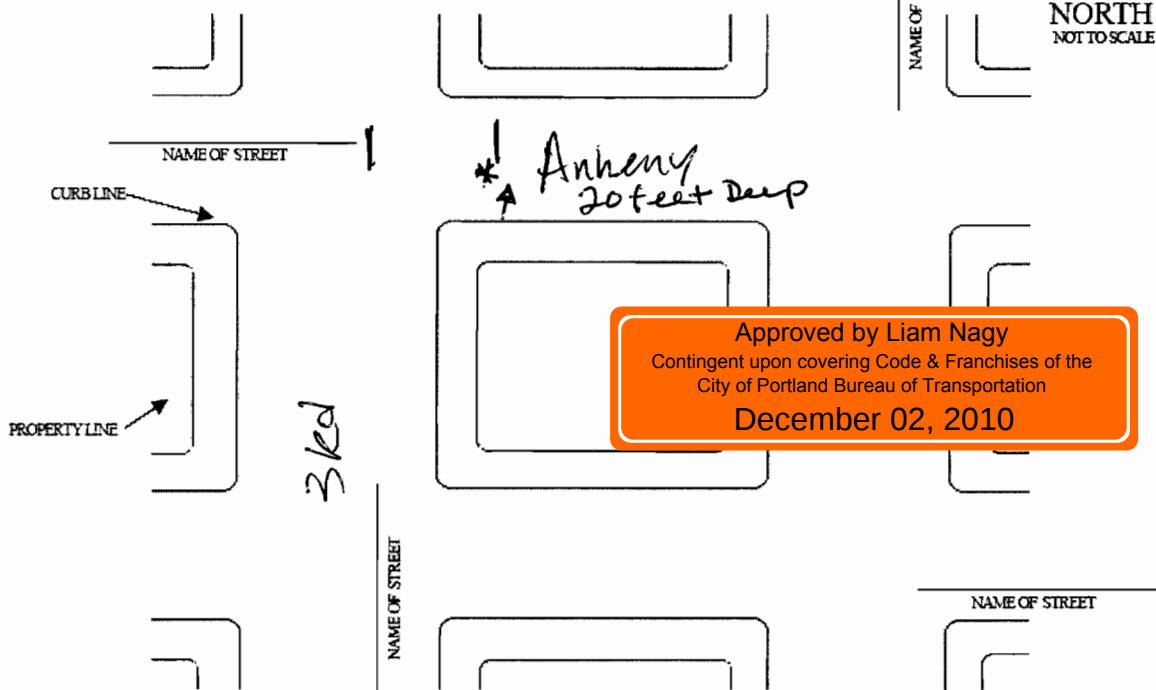
Phone _____

Email _____

7) Underground Storage Tanks:

Number of Tanks _____
Decommission in Place ☐ or **Remove from Ground** ☐

Dimension locations of Bores / Wells / Tanks from curb lines when present and from property lines when there are no curbs



PortlandMaps

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BUCKMAN - PORTLAND**[Explorer](#) | [Property](#) | **Maps** | [Projects](#) | [Crime](#) | [Census](#) |
[Environmental](#) | [Transportation](#)[Summary](#) | [Benchmarks](#) | [Businesses](#) | [Elevation](#) | [Fire](#) | [Hazard](#) | **Photo** | [Property](#) | [Tax Map](#) | [UGB](#) | [Walkability](#) |
[Zoning](#) | [Zip Code](#) | [Public Art](#)

Aerial Photo

2009 / ['08](#) / ['07](#) / ['06](#) / ['05](#) / ['04](#) / ['03](#) / ['02](#) / ['01](#)6" / [2'](#) / [4'](#) / [10'](#) / [20'](#)Streets: [On](#) Lots: [On](#) Dot: [On](#)

City of Portland, Corporate GIS

11/2/2010

THE GIS APPLICATIONS ACCESSED THROUGH THIS WEB SITE PROVIDE A VISUAL DISPLAY OF DATA FOR YOUR CONVENIENCE. EVERY REASONABLE EFFORT HAS BEEN MADE TO ASSURE THE ACCURACY OF THE MAPS AND ASSOCIATED DATA. THE CITY OF PORTLAND MAKES NO WARRANTY, REPRESENTATION OR GUARANTEE AS TO THE CONTENT, SEQUENCE, ACCURACY, TIMELINESS OR COMPLETENESS OF ANY OF THE DATA PROVIDED HEREIN. THE USER OF THESE APPLICATIONS SHOULD NOT RELY ON THE DATA PROVIDED HEREIN FOR ANY REASON. THE CITY OF PORTLAND EXPLICITLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE CITY OF PORTLAND SHALL ASSUME NO LIABILITY FOR ANY ERRORS, OMISSIONS, OR INACCURACIES IN THE INFORMATION PROVIDED REGARDLESS OF HOW CAUSED. THE CITY OF PORTLAND SHALL ASSUME NO LIABILITY FOR ANY DECISIONS MADE OR ACTIONS TAKEN OR NOT TAKEN BY THE USER OF THE APPLICATIONS IN RELIANCE UPON ANY INFORMATION OR DATA FURNISHED HEREUNDER. FOR UPDATED INFORMATION ABOUT THE MAP DATA ON PORTLANDMAPS PLEASE REFER TO [CITY'S METADATA](#). FOR QUESTIONS ABOUT ASSESSMENT INFORMATION PLEASE CONTACT THE COUNTY ASSESSORS OFFICE IN YOUR COUNTY.

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Sam
Adams
Mayor

Susan D.
Keil
Director

BILLING SUMMARY

Date: **12/2/2010**

Permittee: **Evern Northwest, Inc.**

Permit Number: **TR-10-196**

Work Location: **SE Ankeny St / SE 3rd Ave - SE MLK Jr Blvd**

SAP / Check / Credit Card: **8387 (Evern Northwest, Inc.)**

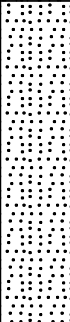
<u>Description</u>	<u>SAP Internal Order Number</u>	<u>Amount</u>
Underground Tanks	9TR000001100	\$ 316.00
Water Bureau SOP	WAFS000007	\$ 55.00
Total		\$ 371.00

Bureau Rep: **Liam Nagy**

Telephone: **503-823-1337**

APPENDIX B BORING LOGS

DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B1	
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/7/10		HOLE SIZE 2.25-in.	
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL	
							FIRST WATER none	
DRILLER Cascade			CORE RECOVERY (%)			# SAMPLES		# CORE BOXES
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot					DEPTH BOTTOM OF HOLE 24

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			CONCRETE and GRAVEL						
			SILT W/ SAND(ML) firm, moist , no odor or staining.						PID = 0.1 ppm
2			SAND (SP) gray, loose, moist, no odor or staining.						PID = 0.1 ppm
4									
6			SAND W/ GRAVEL(SP/SW) medium to coarse, gray, loose, moist, no odor or staining				32%		PID = 0.1 ppm
8									
10				B1-10		6			5
			SILT (ML) light brown micaceous with occasional layers of silty fine sand and silty clay, moderately firm to loose, moist to wet, no odor or staining				40%		PID = 0.1 ppm
12									
14				B1-15		6			
			SANDY SILT (MH/SM) Same as above with increasing sand and wetness with depth				72%		

DRILL LOG	PROJECT	PROJECT NO.	BORING NO.
	Salvation Army	495-10001-02	B1

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
16									
18									
20			SANDY GRAVEL W/ SILT (SM/GM) gray, fraible but slightly cemented, moist to dry, no odor or staining				64%		PID = 0.1
22			SAND (SP) gray, loose, moist						
22			SILTY CLAYEY GRAVEL(GM/GC) friable, moist to dry, no odor or staining						PID = 0.3 ppm
24			BOTTOM OF BORING				80%		
26									
28									
30									
32									
34									

DRILL LOG		PROJECT			PROJECT NO.		BORING NO.			
		Salvation Army			495-10001-02		B2			
SITE		BEGUN		COMPLETED		HOLE SIZE		ANGLE FROM HORIZ.		
139 SE MLK Blvd, Portland, Oregon		12/7/10		12/7/10		2.25 in.				
COORDINATES		DEPTH GROUND WATER	DATE SL	STATIC LEVEL		FIRST WATER		GROUND ELEVATION		
						none				
DRILLER		CORE RECOVERY (%)			# SAMPLES		# CORE BOXES		DEPTH TOP OF ROCK	
Cascade										
DRILL MAKE AND MODEL		LOGGED BY:							DEPTH BOTTOM OF HOLE	
		K. Mathiot							20	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			CONCRETE and GRAVEL						
			SILT (ML) light brown, very stiff, moist to dry, no odor or staining.						PID = 0.1 ppm
2			CLAYEY SILT (CH/MH) gray, micaceous, stiff, moist to dry, strong petroleum odor.						PID = 50-172 ppm
4									
				B2-5		6	90%		
6			CLAYEY SILT(CH/MH) micaceous, light brown, stiff, moist, no staining, slight odor						PID = 2.9 ppm
8									
10							100%		
12			CLAYEY SILT(CH/MH) decreasing clay content, micaceous, light brown, stiff, moist, no staining, slight odor						PID = 1.6 ppm
14									
			SILT to CLAYEY SILT (CH/MH) light brown, micaceous,stiff, moist to wet, no staining or odor	B2-15			56%		PID = 0.9 ppm

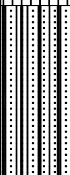
DRILL LOG	PROJECT	PROJECT NO.	BORING NO.
	Salvation Army	495-10001-02	B2

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
16									
18			SILTY GRAVEL W/ CLAY(GC/GM) gray, friable, moist to dry no staining or odor	B2-18					PID = 0.9
20			BOTTOM OF BORING				84%		
22									
24									
26									
28									
30									
32									
34									

DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B3						
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/7/10		HOLE SIZE 2.25-in.						
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL		FIRST WATER none		GROUND ELEVATION		
DRILLER Cascade			CORE RECOVERY (%)			# SAMPLES			# CORE BOXES			DEPTH TOP OF ROCK	
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot								DEPTH BOTTOM OF HOLE 10		

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			CONCRETE and GRAVEL						PID = 0.7 ppm
			SILT (ML) light brown, micaceous, loose to moderately stiff, dry, no odor or staining.						
2				B3-2		6			
4							100%		
6			SILT TO CLAYEY SILT (CH/MH) light brown, micaceous, stiff, moist, no odor or staining.						
8									PID = 0.6ppm
10			BOTTOM OF BORING	B3-10		6	100%		
12									
14									

DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B4						
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/7/10		HOLE SIZE 2.25-in.						
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL		FIRST WATER none		GROUND ELEVATION		
DRILLER Cascade			CORE RECOVERY (%)			# SAMPLES			# CORE BOXES			DEPTH TOP OF ROCK	
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot								DEPTH BOTTOM OF HOLE 10		

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			CONCRETE and GRAVEL						
			SILT (ML) light brown, micaceous, firm, dry, no odor or staining.						PID = 0.4 ppm
2				B4-2		6			
			FINE SANDY SLIT (SM/MH) brown, micaceous, loose to moderately firm, dry, no odor or staining.						PID = 0.4ppm
4									
			CLAYEY SILT TO SILTY CLAY (CH- MH) brown, micaceous, firm, moist, no odor or staining				100%		PID = 0.4 ppm
6									
8									
10				B4-10		6			
			BOTTOM OF BORING				199%		
12									
14									

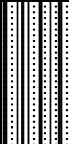
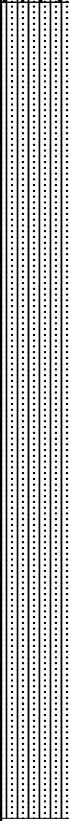
DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B5b		
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/7/10		HOLE SIZE 2.25-in.		
COORDINATES			DEPTH GROUND WATER	DATE SL	STATIC LEVEL		FIRST WATER none		
DRILLER Cascade			CORE RECOVERY (%)		# SAMPLES		# CORE BOXES		
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot					DEPTH BOTTOM OF HOLE 10	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			CONCRETE and GRAVEL						
			SILT (ML) light brown, micaceous, firm, dry to moist, no odor or staining.						PID = 5.4 ppm
			SILT (ML) gray/black, micaceous, firm, strong staining and odor moist.						PID = 70+ ppm
2			SILT (ML) light brown, micaceous	B5b-2		6			PID = 8.7 ppm
			SILT (ML) gray, micaceous, firm, moist, staining and odor						PID = 38.8
			SILT (ML) brown, micaceous, firm, dry to moist, no staining, slight odor						PID = 4.0
4									
			CLAYEY SILT (CH-MH) brown, micaceous, firm, moist, no staining or odor.				100%		PID = 0.5 ppm
6									
									
8									
									
10				B5b-10		6			
			BOTTOM OF BORING				90%		
12									
14									

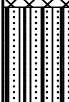
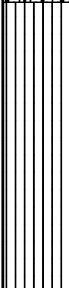
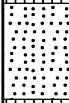
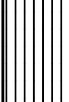
DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B6		
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/7/10		HOLE SIZE 2.25 inches		
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL		
DRILLER Cascade			CORE RECOVERY (%)		# SAMPLES		# CORE BOXES		
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot					DEPTH BOTTOM OF HOLE 10	
							FIRST WATER none		
							GROUND ELEVATION		
							DEPTH TOP OF ROCK		

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			CONCRETE and GRAVEL						
			SILT TO CLAYEY SILT(CL-ML) light brown, micaceous, stiff, moist, no odor or staining.						PID = 0.5 ppm
2				B6-2		6			
4							62%		
6									
8									
10			BOTTOM OF BORING	B6-10		6	100%		
12									
14									

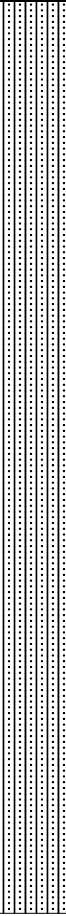
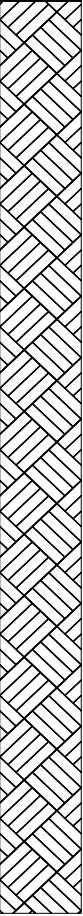
DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B7		
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/07/10		HOLE SIZE 1.5 inch		
COORDINATES			DEPTH GROUND WATER	DATE SL	STATIC LEVEL		FIRST WATER none		
DRILLER VEC			CORE RECOVERY (%)		# SAMPLES		# CORE BOXES		
DRILL MAKE AND MODEL			LOGGED BY: N. Morris					DEPTH BOTTOM OF HOLE 10	
ANGLE FROM HORIZ.			GROUND ELEVATION						
DEPTH TOP OF ROCK									

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			SILTS W/ FINE SANDS (MH/SM) light gray, damp, medium plastic						
2			SILTY FINE SANDS (SM) light brown, cohesive, low plastic, dry, no odor or staining.	B7-2		12	100%		PID = 0.0 ppm
4							100%		
6							100%		
8							100%		
10			BOTTOM OF BORING	B7-10		12	100%		
12									
14									

DRILL LOG		PROJECT			PROJECT NO.		BORING NO.					
		Salvation Army			495-10001-02		B8					
SITE			BEGUN		COMPLETED		HOLE SIZE		ANGLE FROM HORIZ.			
139 SE MLK Blvd, Portland, Oregon			12/7/10		12/07/10		2 in					
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL		FIRST WATER		GROUND ELEVATION	
									none			
DRILLER			CORE RECOVERY (%)			# SAMPLES		# CORE BOXES		DEPTH TOP OF ROCK		
VEC												
DRILL MAKE AND MODEL			LOGGED BY:							DEPTH BOTTOM OF HOLE		
			N. Morris							10		

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.		
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY				
0			Cement						PID = 0.0 ppm		
			FILL tan, cream, and reddish color brick/tile								
2			SANDY SILTS (SM/MH) light brown, dry					100%			PID = 0.0 ppm
			SILTS (ML) light brown, micaceous, dry, low plastic					100%			PID = 0.0 ppm
4											
6			SAND/FILL (SP) light brown/gray.					75%			PID = 0 ppm
			SILTS (ML) light brown, micaceous, dry, low plastic					12			PID = 1.2 ppm
8											PID=1.1 ppm
10											
			BOTTOM OF BORING				75%		PID = 0 ppm		
12											
14											

DRILL LOG		PROJECT			PROJECT NO.		BORING NO.					
		Salvation Army			495-10001-02		B9					
SITE				BEGUN		COMPLETED		HOLE SIZE		ANGLE FROM HORIZ.		
139 SE MLK Blvd, Portland, Oregon				12/7/10		12/07/10		2 in				
COORDINATES				DEPTH GROUND WATER		DATE SL		STATIC LEVEL		FIRST WATER		
										none		
DRILLER				CORE RECOVERY (%)			# SAMPLES		# CORE BOXES		DEPTH TOP OF ROCK	
VEC												
DRILL MAKE AND MODEL				LOGGED BY:						DEPTH BOTTOM OF HOLE		
				N. Morris						10		

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						
			SILTS W/ FINE SANDS(SM) light brown, dry, low plastic, micaceous	B9-0.5		6			PID = 30.0 ppm at top to 0.1 at 10'
2							100%		PID = 7 ppm
4							100%		PID = 3.0 ppm
6							100%		PID = 1.3 ppm
8							100%		PID = 1 ppm
10			BOTTOM OF BORING				100%		PID = 0.1 ppm
12									
14									

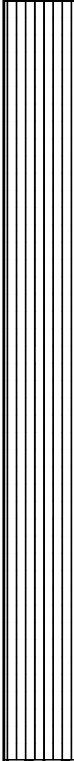
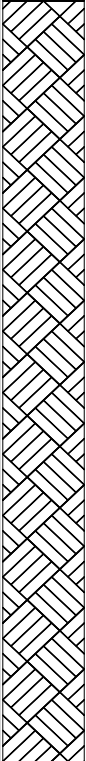
DRILL LOG		PROJECT			PROJECT NO.		BORING NO.					
		Salvation Army			495-10001-02		B10					
SITE			BEGUN		COMPLETED		HOLE SIZE		ANGLE FROM HORIZ.			
139 SE MLK Blvd, Portland, Oregon			12/7/10		12/07/10		2 in					
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL		FIRST WATER		GROUND ELEVATION	
									none			
DRILLER			CORE RECOVERY (%)			# SAMPLES			# CORE BOXES		DEPTH TOP OF ROCK	
VEC												
DRILL MAKE AND MODEL			LOGGED BY:							DEPTH BOTTOM OF HOLE		
			N. Morris							10		

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						
			GRAVELLY SILTS (GM) brown, some odor	B10-0.5		6			PID = 5.0 ppm
2			SILTS (ML) light brown, dry, low plastic				100%		PID = 0 ppm
4							100%		PID = 0 ppm
6							100%		PID = 0 ppm
8							100%		PID = 0 ppm
10			BOTTOM OF BORING				100%		PID = 0 ppm
12									
14									

DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B11						
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/7/10		COMPLETED 12/07/10		HOLE SIZE 2 in						
COORDINATES			DEPTH GROUND WATER		DATE SL		STATIC LEVEL		FIRST WATER none		GROUND ELEVATION		
DRILLER CASCADE Drilling			CORE RECOVERY (%)			# SAMPLES			# CORE BOXES			DEPTH TOP OF ROCK	
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot								DEPTH BOTTOM OF HOLE 10		

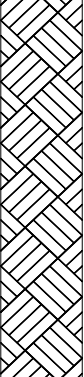
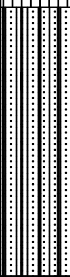
DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						
2			SILT TO CLAYEY SILT (CL-ML) brown, micaceous, firm, moist, no odor or staining	B11-2		6			PID = 0.5 ppm
4							64%		
6									
8									
10			BOTTOM OF BORING	B11-10		6	82%		PID = 0.4 ppm
12									
14									

DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B12		
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/16/10		COMPLETED 12/16/10		HOLE SIZE 0.25 in		
COORDINATES			DEPTH GROUND WATER 12/7/10		STATIC LEVEL		FIRST WATER 18 ft		
DRILLER Cascade			CORE RECOVERY (%)		# SAMPLES		# CORE BOXES		
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot					DEPTH BOTTOM OF HOLE 29	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						PID = 0.2 ppm
2			SILT (ML) light brown, micaceous, firm, moist, no odor or staining						
4									
6							82%		
8									
10			CLAYEY SILT (CL/MH) brown, micaceous, firm, moist, no odor or staining				100%		PID = 0.4 ppm
12									
14							64%		

DRILL LOG	PROJECT		PROJECT NO.		BORING NO.	
	Salvation Army		495-10001-02		B12	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
16			SILTY FINE SAND (SM) brown, micaceous, loose, moist, no odor or staining						PID = 0.3 ppm
			CLAYEY SILT TO SILTY CLAY (MH/CH) brown, micaceous, firm, wet, no odor or staining						PID = 0.3 ppm PID = 0.3 ppm
18				B12-IF-18		6			Wet at 18 ft.
20			SAND w/ GRAVEL (GP/SP) dark gray, loose, wet				56%		
22									
24							6%		
26			SANDY GRAVEL (GP/SP) iron cemented, rounded gravels, brick and wood @ 28' (FILL)						
				B12-27		6			
28									
			BOTTOM OF BORING; REFUSAL				96%		
30									
32									
34									

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						
			SILT (ML) light brown, micaceous, firm, moist, no odor or staining						PID = 0.2 ppm
2									
4									
6							76%		
8			CLAYEY SILT TO SILTY CLAY (CL/MH) brown, micaceous, firm, moist, no odor or staining						PID = 0.1 ppm
10							100%		
12			SILT (ML) light brown, micaceous, loose to firm, moist, no odor or staining						PID = 0.1 ppm
			SILTY FINE SANDS (MH/SM) brown, micaceous, loose, dry, no odor or staining						PID = 0.0 ppm
14							70%		

DRILL LOG	PROJECT		PROJECT NO.		BORING NO.	
	Salvation Army		495-10001-02		B13	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
16			SILTY CLAY (CH/MH) brown, micaceous, firm, wet, no odor or staining						PID = 0.1 ppm
18				B13-IF-18		6			Wet at 18 feet.
20			No Recovery [Driller indicates that it felt like sand/silty sand]				50%		
22									
24									
26			SANDY GRAVEL (GP-SP) reddish brown, moderately cemented, wet, no odor or staining.				0%		PID = 0.0 ppm
28									
30				B13-30		6			
			BOTTOM OF BORING				44%		
32									
34									

DRILL LOG		PROJECT			PROJECT NO.		BORING NO.		
		Salvation Army			495-10001-02		B14		
SITE			BEGUN		COMPLETED		HOLE SIZE		
139 SE MLK Blvd, Portland, Oregon					12/07/10		0.25 in		
COORDINATES			DEPTH GROUND WATER	DATE SL	STATIC LEVEL		FIRST WATER		
DRILLER			CORE RECOVERY (%)		# SAMPLES		# CORE BOXES		
Cascade									
DRILL MAKE AND MODEL			LOGGED BY:					DEPTH BOTTOM OF HOLE	
			K. Mathiot					15	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						
			SILT (ML) light brown to reddish brown, micaceous, loose to moderately firm, moist, no odor or staining						PID = 0.2 ppm
2									
			CLAYEY SILT (CL/MH) light brown, micaceous, firm, moist, no odor or staining						PID = 0.1 ppm
4									
			CLAYEY SILT (CL/MH) light brown, micaceous, firm, moist, no staining, slight to moderate petroleum odor				100%		PID = 0.0 ppm
6									
8									
10				B14-9-10		12			
							36%		
12			CLAYEY SILT W/ FINE SAND (VC) light brown, micaceous, saturated from 12-12.8', moist w/ increasing fine sand from 12.8-15' no odor or staining						PID = 0.0 ppm
14									
				B14-15		6			
			BOTTOM OF BORING				80%		

DRILL LOG		PROJECT Salvation Army			PROJECT NO. 495-10001-02		BORING NO. B15		
SITE 139 SE MLK Blvd, Portland, Oregon			BEGUN 12/16/10		COMPLETED 12/16/10		HOLE SIZE 0.25 in		
COORDINATES			DEPTH GROUND WATER 12/16/10		STATIC LEVEL		FIRST WATER 9 ft		
DRILLER Cascade			CORE RECOVERY (%)		# SAMPLES		# CORE BOXES		
DRILL MAKE AND MODEL			LOGGED BY: K. Mathiot					DEPTH BOTTOM OF HOLE 10	

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				MW Const./ Completion	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE AND DIAMETER	SAMPLE LENGTH	SAMPLE RECOVERY		
0			Cement						PID = 0.7 ppm
			CLAYEY SILT (CL/MH) dark brown to reddish brown, micaceous, firm, moist, no odor or staining. Burnt wood @ 2.0'						
2									PID = 0 ppm
4									
6							50%		
8			CLAYEY SILT W/ FINE SANDS (VC) light brown, micaceous, firm, moist to wet, no odor or staining						PID = 0.0 ppm
				B15-9		6			Moist to wet at 9 ft
10			BOTTOM OF BORING				84%		
12									
14									

APPENDIX C SITE PHOTOGRAPHS



Geophysical survey in progress to clear for Phase II drilling locations.



Steps to crawlspace level of facility (southeast portion).



Former fuel dispenser location in warehouse, northwest corner.



Crawlspace level of facility is used for storage.



Salvation Army
139 SE Martin Luther King Jr Boulevard
Portland, Oregon

Site Photographs

Project No.
495-10001-02

Appendix C



Geophysical survey within building to clear proposed boring locations.



Collecting sub-slab vapor sample SUB01.



Collecting sub-slab vapor sample. Red rags contain 2-propanol as a test for system leakage during sampling.



Screening sub-slab vapor sample location with a PID.



Salvation Army
139 SE Martin Luther King Jr Boulevard
Portland, Oregon

Site Photographs

Project No.
495-10001-02

Appendix C



Sampling sub-slab vapor sample location SUB05.



Collecting sub-slab vapor sample SUB02.



View into possible dry well/cistern.



Salvation Army
139 SE Martin Luther King Jr Boulevard
Portland, Oregon

Site Photographs

Project No.
495-10001-02

Appendix C



Manually advancing push probe to recover soil samples within the crawlspace of the building.



Soil cores were logged by ENW staff with oversight by Registered Geologist.



Soil cores were recovered within CAB sleeves.



Salvation Army
139 SE Martin Luther King Jr Boulevard
Portland, Oregon

Site Photographs

Project No.
495-10001-02

Appendix C



Checking tank contents and depth of abandoned tank on south side of property.



Geophysical clearance for drilling adjacent to the UST.



Geophysical clearance around dry well/cistern.



Drilling adjacent to the UST located on the southern portion of the site.



Salvation Army
139 SE Martin Luther King Jr Boulevard
Portland, Oregon

Site Photographs

Project No.
495-10001-02

Appendix C



Drilling adjacent to the dry well/cistern.



Collecting water sample from temporary well point in boring adjacent to dry well/cistern.



Salvation Army
139 SE Martin Luther King Jr Boulevard
Portland, Oregon

Site Photographs

Project No.
495-10001-02

Appendix C

APPENDIX D FIELD SAMPLING DATA SHEETS

FIELD SAMPLING DATA SHEET

EVREN NORTHWEST										PO Box 14488 Portland, Oregon, 97293 503-452-5561 Fax: 503-452-7669									
PROJECT NAME: 495-10001-02										SAMPLE LOCATION: SUB01-10202									
SITE ADDRESS: 139 SE MLU										NEXT TO OLD FUEL PUMP									
WIND FROM: N NE E SE S SW W NW WEATHER: SUNNY CLOUDY RAIN ?										DUP ID: <u>LIGHT</u> MEDIUM HEAVY TEMPERATURE: <u>50</u> °C (Circle appropriate units)									

20 min @ 50 ml/min = 1000 ml

Container Type	Date	Leak-Test Time (start)	Leak-Test Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Time (start)	Purge Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Vessel ID	Flow Meter ID
Tedlar/Summa	12/2/02	---	---	---	---	09:01	09:03	---	---	---	---

Date	Time	Depth (ft)	PID (ppm)	O ₂ (ppm)	CO (ppm)	CO ₂ (ppm)
12-2-10	0901	0.5	7.2	---	---	---
			7.1	---	---	---
			7.4	---	---	---
			7.3	---	---	---
	0902		7.2	---	---	---

Container Type	Date	Summa ID	Controller ID	Sample Time (start)	Sample Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Amount & Volume (L)	Sample ID	Flow Controller	Total Time
Tedlar/Summa	12/2/02	60449315	---	09:05	09:25	---	---	0.5L (100 ml, 5L, 6L)	SUB01-10202	(ES)	20 min

CONTAINER TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
BTEX/TPH (TO-3)	PESTICIDES/PCBs (TO-4) ALDEHYDES/KEYTONES (TO-5) PESTICIDES/PCBs (TO-10) ALDEHYDES/KEYTONES (TO-11)
NONMETHANE ORGANIC COMPOUNDS (TO-12)	PAHs/SVOCs (TO-13) VOCs (TO-15)
TPH as Diesel (TO-17)	
SPECIFIC CHEMICAL ANALYSIS	
OTHER	
OTHER	
OTHER	

ANALYSIS ALLOWED PER BOTTLE TYPE

NOTES:

SAMPLER: N. merdys (PRINTED NAME) mm (SIGNATURE)

FIELD SAMPLING DATA SHEET

PO Box 14488
Portland, Oregon, 97293
503-452-5561 Fax: 503-452-7669

EVREN NORTHWEST

SAMPLE LOCATION: 50304-101202

PROJECT NAME: 495-10001-02

SITE ADDRESS: 139 SE MLK

DUP ID:

	LIGHT	MEDIUM	HEAVY
1			
2			
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98			
99			
100			

TEMPERATURE: ☒ 52 . °C [Circle appropriate units]

General Comments:

SOIL GAS SETUP DATA

20 min @ 50 ml/min = 1000 ml

Container Type	Date	Leak-Test Time (start)	Leak-Test Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Time (start)	Purge Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Vessel ID	Flow Meter ID
Tedlar/Summa	12/2/10	-	-	-	-	55:50	55:50	-	-	-	-

SOIL GAS SCREENING

Date	Time	Depth (ft)	PID (ppm)	O ₂ (ppm)	CO (ppm)	CO ₂ (ppm)
12-2-10	0955	0.5	0.9			
			1.2			
			1.0			
			0.6			
	0951		0.8			

SOIL GAS SAMPLING DATA		Sample Depth: 0.5
-------------------------------	--	-------------------

Amount & Volume oz

[pəʃn ʃi ʃi]

Container Type	Date	Summa ID	Controller ID	Sample Time (start)	Sample Time (finish)	Milk Pressure (mmHg)	Finish Pressure (mmHg)	Amount & Volume (L)	Sample ID	Flow Controller	Total Time
Tedlar/Summa	12/2/10	60143483	---	10:01	10:21	---	---	0.5L 3L 5L 6L	50304-10102	YES NO	202

Total Number of containers/

2

Analysis below)

ALDEHYDES/KEYTONES (TO-11)

VOCs (TO-15)

100

U-17

SPECIFIC CHEMICAL ANALYSIS I

10

DATE

1000

NOTES:

SAMPLER: A. McQ24

(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

EVREN NORTHWEST
PO Box 14488
Portland, Oregon, 97293
503-452-5561 Fax: 503-452-7669

PROJECT NAME: 495-16001-02
SITE ADDRESS: 139 SE MIL
SAMPLE LOCATION: SUBS-101202
HAZARDOUS ROOM

WIND FROM: N NE E SE S SW W NW
WEATHER: SUNNY CLOUDY RAIN ?
General Comments: 20m @ 50ml/min = 1000ml

DUP ID: ☒ LIGHT ☐ MEDIUM ☐ HEAVY
TEMPERATURE: 65 °C
(Circle appropriate units)

Container Type	Date	Leak-Test Time (start)	Leak-Test Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Time (start)	Purge Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Vessel ID	Flow Meter ID
Tedlar/Summa	12/2/10					10:39	10:47				

SOIL GAS SCREENING

Date	Time	Depth (ft)	PID (ppm)	O ₂ (ppm)	CO (ppm)	CO ₂ (ppm)
12-2-10	1039	0.5	22.3			
			50.8			
			100.1			
			123.8			
			127.7			

SOIL GAS SAMPLING DATA

Container Type	Date	Summa ID	Controller ID	Sample Time (start)	Sample Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Amount & Volume (L)	Sample ID	Flow Controller	Total Time
Tedlar/Summa	12/2/10	60145118		10:44	11:04			0.5L @ 3L, 5L, 6L	SUBS-101202	YES	20m
Total Number of containers /											

ANALYSIS ALLOWED PER BOTTLE TYPE

CONTAINER TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
BTEX/TPH (TO-3)	PESTICIDES/PCBs (TO-9) PESTICIDES/PCBs (TO-10) ALDEHYDES/KEYTONES (TO-11)
NON-METHANE ORGANIC COMPOUNDS (TO-12)	PAHs/SVOCs (TO-13) VOCs (TO-15)
TPH as Diesel (TO-17)	
SPECIFIC CHEMICAL ANALYSIS	
OTHER	
OTHER	
OTHER	

NOTES:

SAMPLER: N. MILAN
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

EVREN NORTHWEST										PO Box 14488 Portland, Oregon, 97293 503-452-5561 Fax: 503-452-7669									
PROJECT NAME: 445-10001-03										SAMPLE LOCATION: 50303-101202									
SITE ADDRESS: 139 SE MLK																			
WIND FROM: N NE E SE S SW W NW										DUP ID: <u>LIGHT</u> MEDIUM HEAVY									
WEATHER: SUNNY CLOUDY RAIN ?										TEMPERATURE: 69.50 °C (Circle appropriate units)									
General Comments: 20 min @ 50 ml/min = 1000 ml																			
SOIL GAS SETUP DATA																			
Container Type	Date	Leak-Test Time (start)	Leak-Test Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Time (start)	Purge Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Vessel ID	Flow Meter ID								
Tedlar/Summa	12/2/10					11:27	11:29												
SOIL GAS SCREENING																			
Date	Time	Depth (ft)	PID (ppm)	O ₂ (ppm)	CO (ppm)	CO ₂ (ppm)													
12-2-10	11:27	0.5	2.1																
			1.6																
			0.3																
			0.2																
	11:28	3	0.2																
SOIL GAS SAMPLING DATA Sample Depth: 0.5																			
Container Type	Date	Summa ID	Controller ID	Sample Time (start)	Sample Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Amount & Volume (L)	Sample ID	Flow Controller	Total Time								
Tedlar/Summa	12/2/10	60143559		11:32	11:52			0.5L @ 3L, 5L, 6L	50303-101202	YES	20 min								
												Total Number of containers /							
CONTAINER TYPE TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)																			
BTEX/TPH (TO-3) PESTICIDES/PCBs (TO-4) ALDEHYDES/KEYTONES (TO-9) PESTICIDES/PCBs (TO-10) ALDEHYDES/KEYTONES (TO-11)																			
NON-METHANE ORGANIC COMPOUNDS (TO-12) PAHs/SVOCs (TO-13) VOCs (TO-15)																			
TPH as Diesel (TO-17)																			
SPECIFIC CHEMICAL ANALYSIS:																			
OTHER																			
OTHER																			
OTHER																			
NOTES:																			
SAMPLER: K. M. M. M.										(PRINTED NAME)									
(SIGNATURE)										(SIGNATURE)									

FIELD SAMPLING DATA SHEET

EVREN NORTHWEST
 PO Box 14488
 Portland, Oregon, 97293
 503-452-5561 Fax: 503-452-7669

PROJECT NAME: 495-1009-02
 SAMPLE LOCATION: 54302-101202
 SITE ADDRESS: 139 SE MCK
 DUP ID: CEN-1009-02

WIND FROM: N NE E SE S SW W NW
 WEATHER: SUNNY CLOUDY RAIN
 General Comments: ?
 TEMPERATURE: 52.0 °C
 (Circle appropriate units)

SOIL GAS SETUP DATA

20 min @ 50 ml/min = 1000 ml

Container Type	Date	Leak-Test Time (start)	Leak-Test Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Time (start)	Purge Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Purge Vessel ID	Flow Meter ID
Tedlar/Summa	12/2/00										

SOIL GAS SCREENING

Date	Time	Depth (ft)	PID (ppm)	O ₂ (ppm)	CO (ppm)	CO ₂ (ppm)
12-2-10	12:00	0.5	1.7			
			1.1			
			0.9			
			0.8			
			0.7			

SOIL GAS SAMPLING DATA

Sample Depth: 0.5

Container Type	Date	Summa ID	Controller ID	Sample Time (start)	Sample Time (finish)	Init Pressure (mmHg)	Final Pressure (mmHg)	Amount & Volume (L)	Sample ID	Flow Controller	Total Time
Tedlar/Summa	12/2/00	60132000		12:12	12:32			0.5L, 1L, 3L, 5L, 8L	54302-101202	YES	20 min

CONTAINER TYPE

ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)

Container Type	Analysis Allowed
BTEX/THP (TO-3)	PESTICIDES (TO-4)
ALDEHYDES/KETONES (TO-5)	PESTICIDES/PCBs (TO-10)
ALDEHYDES/KETONES (TO-11)	
NON-METHANE ORGANIC COMPOUNDS (TO-12)	PAHs/SVOCs (TO-13)
VOCs (TO-15)	
TPH as Diesel (TO-17)	
SPECIFIC CHEMICAL ANALYSIS	
OTHER	
OTHER	
OTHER	

NOTES:

SAMPLER: JN. MCK
 (PRINTED NAME)
 (SIGNATURE)

APPENDIX E LABORATORY ANALYTICAL REPORTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

December 28, 2010

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

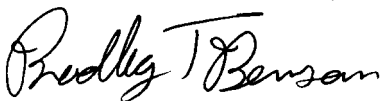
Dear Mr. Green:

Included are the results from the testing of material submitted on December 17, 2010 from the 495-10001-02 Salvation Army, F&BI 012213 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Bradley T. Benson
Chemist

Enclosures
c: Neil Woller
ENW1228R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 17, 2010 by Friedman & Bruya, Inc. from the Evren Northwest 495-10001-02 Salvation Army, F&BI 012213 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Evren Northwest</u>
012213-01	B13-GW
012213-02	B12-IF-18
012213-03	B12-27
012213-04	B13-IF-18
012213-05	B13-30
012213-06	B14-9-10
012213-07	B14-15
012213-08	B15-9

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/28/10

Date Received: 12/17/10

Project: 495-10001-02 Salvation Army, F&BI 012213

Date Extracted: 12/17/10

Date Analyzed: 12/20/10

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)**

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE
INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B12-IF-18 012213-02	ND	ND	ND	95
B12-27 012213-03	ND	ND	ND	93
B13-IF-18 012213-04	ND	ND	ND	93
B13-30 012213-05	ND	ND	ND	91
B14-9-10 012213-06	ND	ND	ND	90
B14-15 012213-07	ND	ND	ND	89
B15-9 012213-08	ND	ND	ND	89
Method Blank 00-2088 MB	ND	ND	ND	93

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B12-IF-18	Client: Evren Northwest
Date Received: 12/17/10	Project: 495-10001-02 Salvation Army, F&BI 012213
Date Extracted: 12/17/10	Lab ID: 012213-02
Date Analyzed: 12/18/10	Data File: 121735.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	42	152
Toluene-d8	103	36	149
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Ethylbenzene	<0.05
Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05
Naphthalene	<0.05
n-Propylbenzene	<0.05
Toluene	<0.05
1,2,4-Trimethylbenzene	<0.05
1,3,5-Trimethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B12-27	Client: Evren Northwest
Date Received: 12/17/10	Project: 495-10001-02 Salvation Army, F&BI 012213
Date Extracted: 12/17/10	Lab ID: 012213-03
Date Analyzed: 12/20/10	Data File: 122008.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
1,2-Dichloroethane-d4	93	42	152
Toluene-d8	91	36	149
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Ethylbenzene	<0.05
Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05
Naphthalene	<0.05
n-Propylbenzene	<0.05
Toluene	<0.05
1,2,4-Trimethylbenzene	<0.05
1,3,5-Trimethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B13-IF-18	Client: Evren Northwest
Date Received: 12/17/10	Project: 495-10001-02 Salvation Army, F&BI 012213
Date Extracted: 12/17/10	Lab ID: 012213-04
Date Analyzed: 12/20/10	Data File: 122009.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Ethylbenzene	<0.05
Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05
Naphthalene	<0.05
n-Propylbenzene	<0.05
Toluene	<0.05
1,2,4-Trimethylbenzene	<0.05
1,3,5-Trimethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B13-30	Client: Evren Northwest
Date Received: 12/17/10	Project: 495-10001-02 Salvation Army, F&BI 012213
Date Extracted: 12/17/10	Lab ID: 012213-05
Date Analyzed: 12/18/10	Data File: 121734.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
1,2-Dichloroethane-d4	94	42	152
Toluene-d8	93	36	149
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Ethylbenzene	<0.05
Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05
Naphthalene	<0.05
n-Propylbenzene	<0.05
Toluene	<0.05
1,2,4-Trimethylbenzene	<0.05
1,3,5-Trimethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank	Client: Evren Northwest
Date Received: NA	Project: 495-10001-02 Salvation Army, F&BI 012213
Date Extracted: 12/17/10	Lab ID: 002043 mb
Date Analyzed: 12/18/10	Data File: 121730.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

	% Recovery:	Lower Limit:	Upper Limit:
Surrogates:			
1,2-Dichloroethane-d4	95	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Ethylbenzene	<0.05
Isopropylbenzene	<0.05
Methyl t-butyl ether (MTBE)	<0.05
Naphthalene	<0.05
n-Propylbenzene	<0.05
Toluene	<0.05
1,2,4-Trimethylbenzene	<0.05
1,3,5-Trimethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/28/10

Date Received: 12/17/10

Project: 495-10001-02 Salvation Army, F&BI 012213

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 012213-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance
				Recovery MS	Criteria
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	66	39-139
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	67	44-135
Benzene	mg/kg (ppm)	2.5	<0.03	55	39-136
Toluene	mg/kg (ppm)	2.5	<0.05	62	38-139
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	68	44-139
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	69	46-135
m,p-Xylene	mg/kg (ppm)	5	<0.1	67	45-135
o-Xylene	mg/kg (ppm)	2.5	<0.05	69	44-137
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	74	42-140
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	69	44-138
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	71	43-140
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	72	46-139
Naphthalene	mg/kg (ppm)	2.5	<0.05	72	12-168

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Percent	Acceptance Criteria	RPD (Limit 20)
			Recovery LCS	Recovery LCSD		
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	94	91	62-124	3
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	87	83	66-125	5
Benzene	mg/kg (ppm)	2.5	86	83	69-122	4
Toluene	mg/kg (ppm)	2.5	93	90	72-122	3
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	100	97	72-121	3
Ethylbenzene	mg/kg (ppm)	2.5	98	93	72-130	5
m,p-Xylene	mg/kg (ppm)	5	97	92	72-131	5
o-Xylene	mg/kg (ppm)	2.5	100	97	71-129	3
Isopropylbenzene	mg/kg (ppm)	2.5	102	98	73-134	4
n-Propylbenzene	mg/kg (ppm)	2.5	99	96	72-136	3
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	101	96	72-132	5
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	102	98	70-132	4
Naphthalene	mg/kg (ppm)	2.5	107	102	60-125	5

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

VI/DO5/DO4

Phone #: (503)452-5561 Fax # (503)452-7669

TURNAROUND TIME

☒ Standard (1 DAY PER BRAD)
☐ **RUSH** _____

Rush charges authorized by: _____

SAMPLE DISPOSAL

☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

[illegible]

*Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044*

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: 	N. Mery	ENW	12-16-10	1500
Received by: 	D. D. VO	FEEL	12-17-10	10.00
Relinquished by:				
Received by:				
Samples received at 4 °C				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
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e-mail: fbi@isomedia.com

December 21, 2010

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

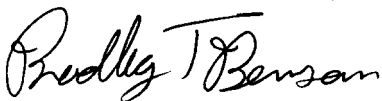
Dear Mr. Green:

Included are the results from the testing of material submitted on December 8, 2010 from the 495-10001-02, F&BI 012094 project. There are 43 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Bradley T. Benson
Chemist

Enclosures
c: Neil Woller
ENW1221R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 8, 2010 by Friedman & Bruya, Inc. from the Evren Northwest 495-10001-02, F&BI 012094 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Evren Northwest</u>
012094-01	MH01-101207
012094-02	B1-10
012094-03	B1-15
012094-04	B2-5
012094-05	B2-15
012094-06	B2-17.5
012094-07	B3-10
012094-08	B3-2
012094-09	B4-2
012094-10	B4-10
012094-11	B6-2
012094-12	B6-10
012094-13	B7-2
012094-14	B7-10
012094-15	B8-2
012094-16	B8-7
012094-17	B8-10
012094-18	B9-0.5
012094-19	B9-4
012094-20	B9-10
012094-21	B10-0.5
012094-22	B10-5.5
012094-23	B11-7
012094-24	B11-10
012094-25	B5b-2
012094-26	B5b-10

The 8260C soil calibration verification associated with the compounds chloroethane and trichlorofluoromethane was outside of laboratory control limits for several samples. The data were flagged accordingly.

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
 Date Received: 12/08/10
 Project: 495-10001-02, F&BI 012094
 Date Extracted: 12/08/10
 Date Analyzed: 12/08/10

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
 FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
 Results Reported as Not Detected (ND) or Detected (D)**

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE
 WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE
 INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	Surrogate (% Recovery) (Limit 53-144)
B1-10 012094-02	ND	ND	ND	99
B1-15 012094-03	ND	ND	ND	98
B2-5 012094-04	D	ND	ND	99
B2-15 012094-05	ND	ND	ND	108
B2-17.5 012094-06	ND	ND	ND	97
B8-7 012094-16	ND	D	D	ip
B9-0.5 012094-18	ND	D	ND	97
B10-0.5 012094-21	ND	ND	ND	97
B5b-2 012094-25	ND	D	D	108
Method Blank 00-2018 MB2	ND	ND	ND	107

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
Date Received: 12/08/10
Project: 495-10001-02, F&BI 012094
Date Extracted: 12/09/10
Date Analyzed: 12/09/10

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID
Results Reported as Not Detected (ND) or Detected (D)**

THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE
INFORMATION WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	Surrogate (% Recovery) (Limit 50-150)
MH01-101207 012094-01	ND	ND	ND	118
Method Blank 00-2022 MB	ND	ND	ND	113

ND - Material not detected at or above 0.2 mg/L gas, 0.5 mg/L diesel and 0.5 mg/L heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
Date Received: 12/08/10
Project: 495-10001-02, F&BI 012094
Date Extracted: 12/10/10
Date Analyzed: 12/10/10

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 58-139)
B2-5 012094-04 1/50	1,100	ds
Method Blank 00-2010 MB	<2	78

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
Date Received: 12/08/10
Project: 495-10001-02, F&BI 012094
Date Extracted: 12/09/10
Date Analyzed: 12/10/10 and 12/13/10

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND RESIDUAL RANGE
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Residual Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
B8-7 012094-16	3,300	640	103
B9-0.5 012094-18	1,100	<250	100
B5b-2 012094-25	11,000	620	99
Method Blank 00-2025 MB	<50	<250	126

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	B7-10	Client:	Evren Northwest
Date Received:	12/08/10	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/09/10	Lab ID:	012094-14
Date Analyzed:	12/10/10	Data File:	012094-14.032
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	106	60	125
Indium	89	60	125
Holmium	98	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	10.9
Nickel	13.5
Arsenic	8.71
Selenium	<1
Silver	<1
Cadmium	1.08
Barium	147
Lead	9.84

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	B2-5	Client:	Evren Northwest
Date Received:	12/08/10	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/10/10	Lab ID:	012094-04
Date Analyzed:	12/10/10	Data File:	012094-04.042
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	101	Limit:	Limit:
		60	125

Analyte:	Concentration
	mg/kg (ppm)

Lead	23.5
------	------

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	B5b-2	Client:	Evren Northwest
Date Received:	12/08/10	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/14/10	Lab ID:	012094-25
Date Analyzed:	12/14/10	Data File:	012094-25.033
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	96	60	125
Indium	79	60	125
Holmium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	15.3
Arsenic	12.7
Selenium	<1
Silver	<1
Cadmium	1.16
Barium	185
Lead	14.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/08/10	Lab ID:	I0-700 mb
Date Analyzed:	12/10/10	Data File:	I0-700 mb.008
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	92	60	125
Indium	91	60	125
Holmium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Nickel	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/10/10	Lab ID:	I0-705 mb
Date Analyzed:	12/10/10	Data File:	I0-705 mb.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Holmium	97	Limit:	Limit:
		60	125

Analyte:	Concentration
	mg/kg (ppm)

Lead	<1
------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/14/10	Lab ID:	I0-710 mb
Date Analyzed:	12/14/10	Data File:	I0-710 mb.031
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	83	60	125
Indium	83	60	125
Holmium	84	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
Date Received: 12/08/10
Project: 495-10001-02, F&BI 012094
Date Extracted: 12/09/10
Date Analyzed: 12/09/10

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E**

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Total Mercury</u>
Laboratory ID	
B7-10	<0.2
012094-14	
Method Blank	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
Date Received: 12/08/10
Project: 495-10001-02, F&BI 012094
Date Extracted: 12/14/10
Date Analyzed: 12/16/10

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E**

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

<u>Sample ID</u>	<u>Total Mercury</u>
Laboratory ID	
B5b-2	<0.2
012094-25	
Method Blank	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B2-5	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-04
Date Analyzed: 12/09/10	Data File: 120831.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	42	152
Toluene-d8	96	36	149
4-Bromofluorobenzene	116	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	27 ve
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	87 ve
Methylene chloride	<0.5	o-Xylene	59 ve
Methyl t-butyl ether (MTBE)	<0.05	Styrene	0.15
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	7.3
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	19 ve
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	33 ve
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	0.085	1,2,4-Trimethylbenzene	46 ve
Trichloroethene	<0.03	sec-Butylbenzene	3.4
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	2.0
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	25 ve	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	27 ve
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B2-5	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-04 1/100
Date Analyzed: 12/09/10	Data File: 120918.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	42	152
Toluene-d8	96	36	149
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<50	1,3-Dichloropropane	<5
Chloromethane	<50	Tetrachloroethene	<2.5
Vinyl chloride	<5	Dibromochloromethane	<5
Bromomethane	<50	1,2-Dibromoethane (EDB)	<5
Chloroethane	<50	Chlorobenzene	<5
Trichlorofluoromethane	<50	Ethylbenzene	62
Acetone	<50	1,1,1,2-Tetrachloroethane	<5
1,1-Dichloroethene	<5	m,p-Xylene	280
Methylene chloride	<50	o-Xylene	110
Methyl t-butyl ether (MTBE)	<5	Styrene	<5
trans-1,2-Dichloroethene	<5	Isopropylbenzene	7.5
1,1-Dichloroethane	<5	Bromoform	<5
2,2-Dichloropropane	<5	n-Propylbenzene	33
cis-1,2-Dichloroethene	<5	Bromobenzene	<5
Chloroform	<5	1,3,5-Trimethylbenzene	81
2-Butanone (MEK)	<50	1,1,2,2-Tetrachloroethane	<5
1,2-Dichloroethane (EDC)	<5	1,2,3-Trichloropropane	<5
1,1,1-Trichloroethane	<5	2-Chlorotoluene	<5
1,1-Dichloropropene	<5	4-Chlorotoluene	<5
Carbon tetrachloride	<5	tert-Butylbenzene	<5
Benzene	<3	1,2,4-Trimethylbenzene	280
Trichloroethene	<3	sec-Butylbenzene	<5
1,2-Dichloropropane	<5	p-Isopropyltoluene	<5
Bromodichloromethane	<5	1,3-Dichlorobenzene	<5
Dibromomethane	<5	1,4-Dichlorobenzene	<5
4-Methyl-2-pentanone	<50	1,2-Dichlorobenzene	<5
cis-1,3-Dichloropropene	<5	1,2-Dibromo-3-chloropropane	<50
Toluene	28	1,2,4-Trichlorobenzene	<25
trans-1,3-Dichloropropene	<5	Hexachlorobutadiene	<25
1,1,2-Trichloroethane	<5	Naphthalene	67
2-Hexanone	<50	1,2,3-Trichlorobenzene	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B3-2	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-08
Date Analyzed: 12/08/10	Data File: 120819.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B4-2	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-09
Date Analyzed: 12/08/10	Data File: 120820.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	42	152
Toluene-d8	100	36	149
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B7-2	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-13
Date Analyzed: 12/08/10	Data File: 120825.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	42	152
Toluene-d8	99	36	149
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B7-10	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-14
Date Analyzed: 12/08/10	Data File: 120826.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B8-7	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-16
Date Analyzed: 12/08/10	Data File: 120827.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	42	152
Toluene-d8	95	36	149
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	0.087
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B9-0.5	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-18
Date Analyzed: 12/08/10	Data File: 120829.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	42	152
Toluene-d8	97	36	149
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	0.20
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	0.39
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	0.16
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B10-0.5	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-21
Date Analyzed: 12/08/10	Data File: 120828.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	42	152
Toluene-d8	96	36	149
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: B5b-2	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 012094-25
Date Analyzed: 12/09/10	Data File: 120830.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	42	152
Toluene-d8	100	36	149
4-Bromofluorobenzene	133	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	0.26
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5 ca	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5 ca	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	0.088
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	0.28
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	0.92
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	3.7
Trichloroethene	<0.03	sec-Butylbenzene	0.66
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	1.0
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	4.3
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank	Client: Evren Northwest
Date Received: Not Applicable	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/08/10	Lab ID: 001922 mb2
Date Analyzed: 12/08/10	Data File: 120818.D
Matrix: Soil	Instrument: GCMS5
Units: mg/kg (ppm)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	97	50	150

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Methylene chloride	<0.5	o-Xylene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.5
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.25
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.25
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: MH01-101207	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/10/10	Lab ID: 012094-01
Date Analyzed: 12/10/10	Data File: 121008.D
Matrix: Water	Instrument: GCMS5
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	63	127
Toluene-d8	102	65	127
4-Bromofluorobenzene	102	69	127

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	<0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Method Blank	Client: Evren Northwest
Date Received: Not Applicable	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/10/10	Lab ID: 001924 mb
Date Analyzed: 12/10/10	Data File: 121007.D
Matrix: Water	Instrument: GCMS5
Units: ug/L (ppb)	Operator: VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	63	127
Toluene-d8	101	65	127
4-Bromofluorobenzene	101	69	127

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Methylene chloride	<5	o-Xylene	<1
Methyl t-butyl ether (MTBE)	<1	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon tetrachloride	<1	tert-Butylbenzene	<1
Benzene	<0.35	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<10
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10
Date Received: 12/08/10
Project: 495-10001-02, F&BI 012094
Date Extracted: 12/15/10
Date Analyzed: 12/17/10

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR PCBs REPORTED AS AROCLORS
USING EPA METHOD 8082A**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	Aroclor							Surrogate (% Rec.) (Limit 50-150)
	<u>1221</u>	<u>1232</u>	<u>1016</u>	<u>1242</u>	<u>1248</u>	<u>1254</u>	<u>1260</u>	
B5b-2 012094-25	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	133
Method Blank	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	90

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID: B5b-2	Client: Evren Northwest
Date Received: 12/08/10	Project: 495-10001-02, F&BI 012094
Date Extracted: 12/14/10	Lab ID: 012094-25 1/25
Date Analyzed: 12/15/10	Data File: 121521.D
Matrix: Soil	Instrument: GCMS6
Units: mg/kg (ppm)	Operator: YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	83	50	150
Benzo(a)anthracene-d12	113	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	5.9
Acenaphthylene	<0.05
Acenaphthene	0.99
Fluorene	4.4
Phenanthrene	2.4
Anthracene	<0.05
Fluoranthene	0.076
Pyrene	0.086
Benz(a)anthracene	<0.05
Chrysene	<0.05
Benzo(a)pyrene	<0.05
Benzo(b)fluoranthene	<0.05
Benzo(k)fluoranthene	<0.05
Indeno(1,2,3-cd)pyrene	<0.05
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	495-10001-02, F&BI 012094
Date Extracted:	12/14/10	Lab ID:	00-2064 mb 1/5
Date Analyzed:	12/14/10	Data File:	121409.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	88	50	150
Benzo(a)anthracene-d12	93	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR TPH AS GASOLINE
USING NWTPH-Gx**

Laboratory Code: 012125-02 (Duplicate)

Analyte	Reporting Units	(Wet Wt) Sample Result	(Wet Wt) Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	80	61-153

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 012113-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	109	111	63-146	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	114	79-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 011152-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	mg/kg (ppm)	50	3.40	92	93	51-132	1
Nickel	mg/kg (ppm)	25	2.91	96	95	33-149	1
Arsenic	mg/kg (ppm)	10	3.25	95 b	96 b	44-151	1 b
Selenium	mg/kg (ppm)	5	<1	91	91	52-128	0
Silver	mg/kg (ppm)	10	<1	91	93	69-125	2
Cadmium	mg/kg (ppm)	10	<1	98	100	83-120	2
Barium	mg/kg (ppm)	50	137	82 b	81 b	47-147	1 b
Lead	mg/kg (ppm)	20	259	79 b	63 b	65-126	23 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	101	79-125
Nickel	mg/kg (ppm)	25	105	84-116
Arsenic	mg/kg (ppm)	10	108	80-120
Selenium	mg/kg (ppm)	5	109	81-121
Silver	mg/kg (ppm)	10	99	84-117
Cadmium	mg/kg (ppm)	10	106	89-116
Barium	mg/kg (ppm)	50	104	88-113
Lead	mg/kg (ppm)	20	103	81-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 012094-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Lead	mg/kg (ppm)	20	23.5	87 b	87 b	65-126	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Lead	mg/kg (ppm)	20	92	81-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 012094-25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	mg/kg (ppm)	50	15.3	87 b	91 b	51-132	4 b
Arsenic	mg/kg (ppm)	10	12.7	57 b	65 b	44-151	13 b
Selenium	mg/kg (ppm)	5	<1	72	73	52-128	1
Silver	mg/kg (ppm)	10	<1	100	102	69-125	2
Cadmium	mg/kg (ppm)	10	1.16	101	103	83-120	2
Barium	mg/kg (ppm)	50	185	92 b	107 b	47-147	15 b
Lead	mg/kg (ppm)	20	14.9	86 b	96 b	65-126	11 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	114	79-125
Arsenic	mg/kg (ppm)	10	99	80-120
Selenium	mg/kg (ppm)	5	104	81-121
Silver	mg/kg (ppm)	10	100	84-117
Cadmium	mg/kg (ppm)	10	103	89-116
Barium	mg/kg (ppm)	50	104	88-113
Lead	mg/kg (ppm)	20	93	81-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

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Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
TOTAL MERCURY
USING EPA METHOD 1631E**

Laboratory Code: 011152-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.2	108	102	45-162	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	106	63-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
TOTAL MERCURY
USING EPA METHOD 1631E**

Laboratory Code: 012094-25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.2	104	107	45-162	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	90	63-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

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Project: 495-10001-02, F&BI 012094

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 010176-21 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	18	10-171
Chloromethane	mg/kg (ppm)	2.5	<0.5	45	10-162
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	43	10-166
Bromomethane	mg/kg (ppm)	2.5	<0.5	47	10-165
Chloroethane	mg/kg (ppm)	2.5	<0.5	77	10-161
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	45	10-164
Acetone	mg/kg (ppm)	12.5	<0.5	55	20-155
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	54	10-168
Methylene chloride	mg/kg (ppm)	2.5	<0.5	64	21-149
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	66	39-139
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	59	20-150
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	64	35-138
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	55	17-150
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	71	38-139
Chloroform	mg/kg (ppm)	2.5	<0.05	66	45-133
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	76	24-153
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	58	44-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	55	33-144
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	64	31-141
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	63	31-143
Benzene	mg/kg (ppm)	2.5	<0.03	68	39-136
Trichloroethene	mg/kg (ppm)	2.5	<0.03	64	40-138
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	70	43-136
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	73	47-137
Dibromomethane	mg/kg (ppm)	2.5	<0.05	66	46-136
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	74	34-154
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	69	45-137
Toluene	mg/kg (ppm)	2.5	<0.05	74	38-139
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	87	44-140
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	120	38-146
2-Hexanone	mg/kg (ppm)	12.5	<0.5	93	37-150
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	77	47-133
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	67	37-137
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	78	52-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	77	44-139
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	79	47-131
Ethylbenzene	mg/kg (ppm)	2.5	0.44	73	46-135
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	84	49-138
m,p-Xylene	mg/kg (ppm)	5	0.14	75	45-135
o-Xylene	mg/kg (ppm)	2.5	<0.05	74	44-137
Styrene	mg/kg (ppm)	2.5	<0.05	80	50-134
Isopropylbenzene	mg/kg (ppm)	2.5	8.0	63 b	42-140
Bromoform	mg/kg (ppm)	2.5	<0.05	80	52-124
n-Propylbenzene	mg/kg (ppm)	2.5	9.0	51 b	44-138
Bromobenzene	mg/kg (ppm)	2.5	<0.05	68	46-138
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	7.8	59 b	43-140
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	122	42-135
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	74	45-134
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	69	46-134
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	70	47-133
tert-Butylbenzene	mg/kg (ppm)	2.5	0.25	68	43-138
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	10	57 b	46-139
sec-Butylbenzene	mg/kg (ppm)	2.5	4.1	64 b	42-139
p-Isopropyltoluene	mg/kg (ppm)	2.5	2.8	66 b	44-141
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	65	45-131
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	68	45-128
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	69	47-131
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	72	30-147
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	61	40-140
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	55	31-148
Naphthalene	mg/kg (ppm)	2.5	18 ve	44 b	12-168
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	59	11-172

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	50	45	10-142	11
Chloromethane	mg/kg (ppm)	2.5	73	69	25-121	6
Vinyl chloride	mg/kg (ppm)	2.5	74	71	29-135	4
Bromomethane	mg/kg (ppm)	2.5	79	75	37-137	5
Chloroethane	mg/kg (ppm)	2.5	89	72	10-281	21 vo
Trichlorofluoromethane	mg/kg (ppm)	2.5	92	82	17-167	11
Acetone	mg/kg (ppm)	12.5	77	77	10-151	0
1,1-Dichloroethene	mg/kg (ppm)	2.5	87	84	44-153	4
Methylene chloride	mg/kg (ppm)	2.5	101	90	42-144	12
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	87	85	62-124	2
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	82	80	60-125	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	87	85	66-123	2
2,2-Dichloropropane	mg/kg (ppm)	2.5	90	86	63-138	5
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	89	86	72-118	3
Chloroform	mg/kg (ppm)	2.5	91	89	71-123	2
2-Butanone (MEK)	mg/kg (ppm)	12.5	88	89	10-150	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	86	84	66-125	2
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	95	91	68-128	4
1,1-Dichloropropene	mg/kg (ppm)	2.5	92	90	71-123	2
Carbon tetrachloride	mg/kg (ppm)	2.5	107	102	64-136	5
Benzene	mg/kg (ppm)	2.5	87	85	69-122	2
Trichloroethene	mg/kg (ppm)	2.5	87	85	71-122	2
1,2-Dichloropropane	mg/kg (ppm)	2.5	90	88	71-120	2
Bromodichloromethane	mg/kg (ppm)	2.5	102	100	68-140	2
Dibromomethane	mg/kg (ppm)	2.5	92	88	72-121	4
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	91	92	10-150	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	100	98	74-126	2
Toluene	mg/kg (ppm)	2.5	92	91	72-122	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	107	103	70-131	4
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	94	92	70-122	2
2-Hexanone	mg/kg (ppm)	12.5	97	96	10-152	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	95	92	72-121	3
Tetrachloroethene	mg/kg (ppm)	2.5	90	87	69-125	3
Dibromochloromethane	mg/kg (ppm)	2.5	105	101	68-130	4
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	99	98	72-121	1
Chlorobenzene	mg/kg (ppm)	2.5	91	89	69-125	2
Ethylbenzene	mg/kg (ppm)	2.5	95	93	72-130	2
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	106	102	69-133	4
m,p-Xylene	mg/kg (ppm)	5	94	92	72-131	2
o-Xylene	mg/kg (ppm)	2.5	99	97	71-129	2
Styrene	mg/kg (ppm)	2.5	99	97	73-132	2
Isopropylbenzene	mg/kg (ppm)	2.5	100	97	73-134	3
Bromoform	mg/kg (ppm)	2.5	107	103	68-129	4
n-Propylbenzene	mg/kg (ppm)	2.5	99	96	72-136	3
Bromobenzene	mg/kg (ppm)	2.5	93	93	73-125	0
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	99	96	72-132	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	97	96	67-116	1
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	92	92	67-123	0
2-Chlorotoluene	mg/kg (ppm)	2.5	97	95	72-130	2
4-Chlorotoluene	mg/kg (ppm)	2.5	97	96	73-129	1
tert-Butylbenzene	mg/kg (ppm)	2.5	102	99	71-130	3
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	100	97	70-132	3
sec-Butylbenzene	mg/kg (ppm)	2.5	99	96	71-134	3
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	98	71-135	4
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	91	90	70-124	1
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	91	89	68-126	2
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	95	94	71-125	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	109	106	63-122	3
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	97	93	69-132	4
Hexachlorobutadiene	mg/kg (ppm)	2.5	91	87	68-122	4
Naphthalene	mg/kg (ppm)	2.5	106	102	60-125	4
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	98	92	68-121	6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 012128-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	83	28-164
Chloromethane	ug/L (ppb)	50	<10	87	26-167
Vinyl chloride	ug/L (ppb)	50	<0.2	89	37-171
Bromomethane	ug/L (ppb)	50	<1	86	24-165
Chloroethane	ug/L (ppb)	50	<1	94	10-172
Trichlorofluoromethane	ug/L (ppb)	50	<1	90	30-199
Acetone	ug/L (ppb)	250	<10	95	19-168
1,1-Dichloroethene	ug/L (ppb)	50	<1	92	35-149
Methylene chloride	ug/L (ppb)	50	<5	87	61-124
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	97	49-139
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	96	65-128
1,1-Dichloroethane	ug/L (ppb)	50	<1	97	67-127
2,2-Dichloropropane	ug/L (ppb)	50	<1	100	23-163
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	98	65-139
Chloroform	ug/L (ppb)	50	<1	96	71-127
2-Butanone (MEK)	ug/L (ppb)	250	<10	98	47-162
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	91	68-132
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	95	63-135
1,1-Dichloropropene	ug/L (ppb)	50	<1	98	65-127
Carbon tetrachloride	ug/L (ppb)	50	<1	94	55-139
Benzene	ug/L (ppb)	50	<0.35	95	62-144
Trichloroethene	ug/L (ppb)	50	<1	89	68-134
1,2-Dichloropropane	ug/L (ppb)	50	<1	97	73-130
Bromodichloromethane	ug/L (ppb)	50	<1	99	65-135
Dibromomethane	ug/L (ppb)	50	<1	96	65-135
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	101	56-143
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	102	55-146
Toluene	ug/L (ppb)	50	<1	201 c	68-131
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	103	63-147
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	117	63-143
2-Hexanone	ug/L (ppb)	250	<10	101	51-149
1,3-Dichloropropane	ug/L (ppb)	50	<1	98	72-126
Tetrachloroethene	ug/L (ppb)	50	5.1	97	64-132
Dibromochloromethane	ug/L (ppb)	50	<1	102	65-135
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	99	77-127
Chlorobenzene	ug/L (ppb)	50	<1	95	72-118
Ethylbenzene	ug/L (ppb)	50	<1	130	51-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	96	72-129
m,p-Xylene	ug/L (ppb)	100	<2	149 c	72-137
o-Xylene	ug/L (ppb)	50	<1	141 c	67-133
Styrene	ug/L (ppb)	50	<1	99	73-126
Isopropylbenzene	ug/L (ppb)	50	<1	102	65-135
Bromoform	ug/L (ppb)	50	<1	104	60-136
n-Propylbenzene	ug/L (ppb)	50	<1	105	66-133
Bromobenzene	ug/L (ppb)	50	<1	96	70-129
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	107	72-130
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	98	65-137
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	95	66-135
2-Chlorotoluene	ug/L (ppb)	50	<1	100	62-131
4-Chlorotoluene	ug/L (ppb)	50	<1	98	62-132
tert-Butylbenzene	ug/L (ppb)	50	<1	98	64-135
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	128	69-139
sec-Butylbenzene	ug/L (ppb)	50	<1	98	64-134
p-Isopropyltoluene	ug/L (ppb)	50	<1	104	69-134
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	94	65-126
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	95	65-121
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	96	64-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	103	54-133
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	97	63-141
Hexachlorobutadiene	ug/L (ppb)	50	<1	90	53-140
Naphthalene	ug/L (ppb)	50	<1	102	40-166
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	94	55-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

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Project: 495-10001-02, F&BI 012094

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	104	104	27-138	0
Chloromethane	ug/L (ppb)	50	97	98	49-125	1
Vinyl chloride	ug/L (ppb)	50	103	103	53-131	0
Bromomethane	ug/L (ppb)	50	102	98	62-148	4
Chloroethane	ug/L (ppb)	50	103	102	30-176	1
Trichlorofluoromethane	ug/L (ppb)	50	112	108	65-172	4
Acetone	ug/L (ppb)	250	92	100	32-177	8
1,1-Dichloroethene	ug/L (ppb)	50	102	101	68-131	1
Methylene chloride	ug/L (ppb)	50	94	95	17-177	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	101	103	54-156	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	99	101	71-128	2
1,1-Dichloroethane	ug/L (ppb)	50	101	102	74-118	1
2,2-Dichloropropane	ug/L (ppb)	50	116	119	65-150	3
cis-1,2-Dichloroethene	ug/L (ppb)	50	99	102	74-126	3
Chloroform	ug/L (ppb)	50	101	102	76-118	1
2-Butanone (MEK)	ug/L (ppb)	250	96	100	52-152	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	102	101	77-118	1
1,1,1-Trichloroethane	ug/L (ppb)	50	107	107	77-123	0
1,1-Dichloropropene	ug/L (ppb)	50	103	104	75-122	1
Carbon tetrachloride	ug/L (ppb)	50	108	109	76-126	1
Benzene	ug/L (ppb)	50	98	100	77-121	2
Trichloroethene	ug/L (ppb)	50	97	98	74-119	1
1,2-Dichloropropane	ug/L (ppb)	50	101	102	77-121	1
Bromodichloromethane	ug/L (ppb)	50	107	108	77-129	1
Dibromomethane	ug/L (ppb)	50	103	103	79-121	0
4-Methyl-2-pentanone	ug/L (ppb)	250	102	106	65-135	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	109	110	79-129	1
Toluene	ug/L (ppb)	50	99	101	81-113	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	109	110	90-128	1
1,1,2-Trichloroethane	ug/L (ppb)	50	101	102	89-113	1
2-Hexanone	ug/L (ppb)	250	103	105	58-160	2
1,3-Dichloropropane	ug/L (ppb)	50	101	101	89-113	0
Tetrachloroethene	ug/L (ppb)	50	102	104	77-126	2
Dibromochloromethane	ug/L (ppb)	50	109	110	89-128	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	103	104	88-122	1
Chlorobenzene	ug/L (ppb)	50	99	100	86-118	1
Ethylbenzene	ug/L (ppb)	50	103	103	83-116	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	106	105	86-124	1
m,p-Xylene	ug/L (ppb)	100	101	103	84-120	2
o-Xylene	ug/L (ppb)	50	104	104	83-120	0
Styrene	ug/L (ppb)	50	105	105	87-119	0
Isopropylbenzene	ug/L (ppb)	50	106	106	83-120	0
Bromoform	ug/L (ppb)	50	114	114	77-119	0
n-Propylbenzene	ug/L (ppb)	50	104	105	83-118	1
Bromobenzene	ug/L (ppb)	50	100	103	88-117	3
1,3,5-Trimethylbenzene	ug/L (ppb)	50	102	104	85-121	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	102	104	83-115	2
1,2,3-Trichloropropane	ug/L (ppb)	50	99	100	83-114	1
2-Chlorotoluene	ug/L (ppb)	50	101	103	81-116	2
4-Chlorotoluene	ug/L (ppb)	50	102	105	83-117	3
tert-Butylbenzene	ug/L (ppb)	50	104	106	84-118	2
1,2,4-Trimethylbenzene	ug/L (ppb)	50	103	105	86-119	2
sec-Butylbenzene	ug/L (ppb)	50	103	105	84-121	2
p-Isopropyltoluene	ug/L (ppb)	50	106	108	85-118	2
1,3-Dichlorobenzene	ug/L (ppb)	50	98	100	85-118	2
1,4-Dichlorobenzene	ug/L (ppb)	50	101	103	85-119	2
1,2-Dichlorobenzene	ug/L (ppb)	50	99	102	81-117	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	112	117	62-136	4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	104	105	75-129	1
Hexachlorobutadiene	ug/L (ppb)	50	101	103	72-138	2
Naphthalene	ug/L (ppb)	50	107	112	66-135	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	103	106	70-133	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF SOIL SAMPLES FOR
POLYCHLORINATED BIPHENYLS AS
AROCOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: 012130-112 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.8	<0.1	80	88	68-127	10
Aroclor 1260	mg/kg (ppm)	0.8	<0.1	86	94	63-140	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.8	83	60-142
Aroclor 1260	mg/kg (ppm)	0.8	88	63-144

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 12/21/10

Date Received: 12/08/10

Project: 495-10001-02, F&BI 012094

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL
SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM**

Laboratory Code: 012105-01 1/25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.05	82	84	33-140	2
Acenaphthylene	mg/kg (ppm)	0.17	<0.05	81	85	43-128	5
Acenaphthene	mg/kg (ppm)	0.17	<0.05	84	84	58-108	0
Fluorene	mg/kg (ppm)	0.17	<0.05	98	83	57-113	17
Phenanthrene	mg/kg (ppm)	0.17	0.055	67 b	72 b	45-124	7 b
Anthracene	mg/kg (ppm)	0.17	<0.05	72	74	42-132	3
Fluoranthene	mg/kg (ppm)	0.17	0.087	63 b	79 b	50-125	23 b
Pyrene	mg/kg (ppm)	0.17	0.10	59 b	78 b	41-135	28 b
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.05	75	83	47-113	10
Chrysene	mg/kg (ppm)	0.17	0.063	76 b	82 b	45-122	8 b
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.068	77 b	85 b	24-145	10 b
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.05	84	89	51-118	6
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.064	69 b	79 b	30-134	14 b
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.053	73 b	73 b	40-138	0 b
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.05	77	76	51-122	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.05	77	70	54-115	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	76	72-112
Acenaphthylene	mg/kg (ppm)	0.17	77	63-110
Acenaphthene	mg/kg (ppm)	0.17	76	70-111
Fluorene	mg/kg (ppm)	0.17	84	69-110
Phenanthrene	mg/kg (ppm)	0.17	74	68-111
Anthracene	mg/kg (ppm)	0.17	67	67-110
Fluoranthene	mg/kg (ppm)	0.17	79	62-114
Pyrene	mg/kg (ppm)	0.17	78	61-114
Benz(a)anthracene	mg/kg (ppm)	0.17	74	58-108
Chrysene	mg/kg (ppm)	0.17	78	61-112
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	80	54-119
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	78	61-123
Benzo(a)pyrene	mg/kg (ppm)	0.17	69	52-112
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	72	44-133
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	71	57-119
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	75	60-116

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

012094

SAMPLE CHAIN OF CUSTODY WE 12-08-10

[Handwritten signatures and initials]

Send Report To LYNN D. GREEN
Company EVREN NORTHWEST, INC.
Address PO BOX 80747
City, State, ZIP PORTLAND, OR 97280-1747
Phone # (503)452-5561 Fax # (503)452-7669

SAMPLERS (signature) <i>[Signature]</i>	
PROJECT NAME/NO.	PO #
445-1001002 / SAMPSON WAY	445-1001002
REMARKS <u>Please see LYNN GREENWOOD</u> <u>ANALYSIS FOR THESE SAMPLES</u>	

Page #	TURNAROUND TIME:
1	Standard (2 Weeks)
RU/SII	1/15/10
Rush charges authorized by:	
SAMPLE DISPOSAL: Dispose after 30 days Return samples Will call with instructions	

SAMPLE ID	LAB ID	DATE	TIME	SAMPLE TYPE	# OF CONTAINERS	ANALYSES REQUESTED										NOTES	
						TPH-HCID	TPH-GX	TPH-DX	BTEX	R8DM VOCS	VOCS (8260)	PAHS (SIM)	PCBS	METALS	RCRA METALS-VI		SVOCs (8270)
MWD-10-207	01A-07	12-04-10	1535	water	7	/					/						
B1-10	02		1031	soil	1	X	X										
B1-15	03		1037		1	X	X										
B2-5	04A-E		1100		5	X	X				/						
B2-15	05		1115		1	X											
B2-17.5	06		1130		1	X											
B3-10	07		1210		1												
B3-2	08		1200		1												
B4-2	09		1415		1												
B4-10	10		1426		1												
B5-2	11		1444		1												
B6-10	12		1250		1						/						
B7-2	13		1051		1												
B7-10	14		1051		1						/						
B8-2	15		1440		1						/						
B8-7	16		1443		1						/						
B8-10	17		1444		1						/						
B9-0.5	18A-E		1125		5	/					/						

Friedman & Bryna, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 283-8282
Fax (206) 283-5044
FORMS(COCC)CC: DMX

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by <i>[Signature]</i>				
Received by <i>[Signature]</i>	N. Green	Evren	12-07-10	1500
Relinquished by <i>[Signature]</i>	D. D. D.	Evren	12-08-10	9:30
Received by		Samples received at	3	C

✓ per 12/8/10
M4

012094

SAMPLE CHAIN OF CUSTODY ME 12-08-10

Page # 2 of 2

11/18/13 105/181

Send Report To LYNN D. GREEN
Company EVREN NORTHWEST, INC.
Address PO BOX 80747
City, State, ZIP PORTLAND, OR 97280-1747
Phone # (503)452-5561 Fax # (503)452-7669

SAMPLERS (signature) <u>AL</u>	
PROJECT NAME/NO.	PO #
REMARKS <u>US-10012 (SALVAGE) 10012</u>	<u>US-10012-02</u>

TURNAROUND TIME: ☒ Standard (2 Weeks) ☐ Rush charges authorized by:	SAMPLE DISPOSAL: Dispose after 30 days Return samples Will call with instructions
--	--

SAMPLE ID	LAB ID	DATE	TIME	SAMPLE TYPE	# OF CONTAINERS	ANALYSES REQUESTED												NOTES
						TPH-HCID	TPH-GX	TPH-DX	BTEX	RBDM VOCS	VOCS (8260)	PAHS (SIM)	PCBS	METALS:	RCRA METALS	SVOCS (8270)		
B9-4	107	12-07-10	12:04	SOIL	1													
B9-10	20		12:04		1													
B10-0.5	21		12:04		1													
B10-5.5	22		12:03		1													
B11-7	23		12:04		1													
B11-10	24		12:04		1													
B11-10	25 A-F		12:04		5													
B55-10	26		12:04		1													

12-08-10/12/10

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by <u>AL</u>	<u>N. J. J. J.</u>	<u>EVN</u>	<u>12-07-10</u>	<u>12:04</u>
Received by <u>AL</u>	<u>AL</u>	<u>EVN</u>	<u>12-08-10</u>	<u>9:30</u>
Relinquished by				
Received by				

Samples received at 3:30

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044
FORMS(CCX)(COC) DOC



Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

Page 1 of 1

Collected by: (Print and Sign) N. Miller

Address _____ City _____ State _____ Zip _____

Phone 503-452-3321 Fax _____

P.O. # 495-10001-02

Project # 495-1021-02

Project Name Salvation Army

Time:

Lab Use Only
Pressurized by

Pressurization Gas

speci

$$\text{He} \quad \text{N}_2$$
Form 1293 rev. 1-1

12/14/2010
Mr. Lynn Green
EVREN Northwest, Inc.
18 SE 24th

Portland OR 97214

Project Name: Salvation Army
Project #: 495-10001-02
Workorder #: 1012064

Dear Mr. Lynn Green

The following report includes the data for the above referenced project for sample(s) received on 12/3/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Karen Lopez at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Karen Lopez
Project Manager

WORK ORDER #: 1012064

Work Order Summary

CLIENT:	Mr. Lynn Green EVREN Northwest, Inc. 18 SE 24th Portland, OR 97214	BILL TO:	Mr. Lynn Green EVREN Northwest, Inc. 18 SE 24th Portland, OR 97214
PHONE:	503-452-5561	P.O. #	495-10001-02
FAX:	503-452-7669	PROJECT #	495-10001-02 Salvation Army
DATE RECEIVED:	12/03/2010	CONTACT:	Karen Lopez
DATE COMPLETED:	12/10/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
01A	SUB01-101202	Modified TO-17 VI
02A	SUB02-101202	Modified TO-17 VI
03A	SUB03-101202	Modified TO-17 VI
04A	SUB04-101202	Modified TO-17 VI
05A	SUB05-101202	Modified TO-17 VI
06A	Lab Blank	Modified TO-17 VI
07A	CCV	Modified TO-17 VI
08A	LCS	Modified TO-17 VI
08AA	LCSD	Modified TO-17 VI

CERTIFIED BY:



Laboratory Director

DATE: 12/14/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-17
EVREN Northwest, Inc.
Workorder# 1012064**

Five TO-17 VI Tube samples were received on December 03, 2010. The laboratory performed the analysis via EPA Method TO-17 using GC/MS in the full scan mode. TO-17 sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for further separation.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A sampling volume of 1.00 L was used to convert ng to ug/m3 for the associated Lab Blank.

The reported CCV and LCS for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

The recoveries of internal standards Chlorobenzene-d5 and 4-Bromofluorobenzene in sample SUB05-101202 and Bromochloromethane in samples SUB01-101202, SUB02-101202, SUB03-101202, SUB04-101202 and SUB05-101202 were outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

The field surrogate, Naphthalene-d8, in sample SUB03-101202 exceeded the laboratory limits of 50-150% due to high level hydrocarbon matrix interference.

Naphthalene in samples SUB01-101202, SUB03-101202 and SUB05-101202, TPH (ref. Diesel) in sample SUB01-101202 and Tetrachloroethene in sample SUB04-101202 exceeded instrument calibration range. Data is reported as qualified.

Sample SUB05-101202 had mass concentrations for 2-propanol, Tetrachloroethene, m, p-Xylene, o-Xylene, 1, 3, 5-Trimethylbenzene, 1, 2, 4-Trimethylbenzene and Naphthalene well above the standard calibration range. To provide reliable results, the samples were analyzed at a higher split than the initial calibration. The split used resulted in a dilution of 4.3, and the reporting limit and calibration range were raised accordingly.

Due to the distribution of hydrocarbons in the heavier carbon range of gasoline (approximately C8 to C15) as well as inconsistent chromatographic profiles with a gasoline pattern, TPH gasoline was reported as not-detected in samples SUB01-101202, SUB02-101202, SUB03-101202 and SUB05-101202.

The recovery of 2-Propanol was above the acceptance limits of 70-130% in the Continuing Calibration Verification. Results for 2-propanol may be biased high.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-17

Client Sample ID: SUB01-101202

Lab ID#: 1012064-01A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Benzene	3.2	3.2	74	74
Toluene	3.8	3.8	120	120
Tetrachloroethene	6.8	6.8	16	16
Ethyl Benzene	4.3	4.3	50	50
m,p-Xylene	4.3	4.3	230	230
o-Xylene	4.3	4.3	170	170
1,3,5-Trimethylbenzene	4.9	4.9	150	150
1,2,4-Trimethylbenzene	29	29	440	440
Naphthalene	0.50	0.50	180 E	180 E
TPH (Diesel Range)	1000	1000	43000 E	43000 E
2-Propanol	49	49	220	220

Client Sample ID: SUB02-101202

Lab ID#: 1012064-02A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Benzene	3.2	3.2	20	20
Toluene	3.8	3.8	53	53
Tetrachloroethene	6.8	6.8	120	120
Ethyl Benzene	4.3	4.3	10	10
m,p-Xylene	4.3	4.3	22	22
o-Xylene	4.3	4.3	6.7	6.7
1,3,5-Trimethylbenzene	4.9	4.9	5.2	5.2
Naphthalene	0.50	0.50	9.1	9.1
TPH (Diesel Range)	1000	1000	3600	3600
2-Propanol	49	49	57	57

Client Sample ID: SUB03-101202

Lab ID#: 1012064-03A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
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Summary of Detected Compounds EPA METHOD TO-17

Client Sample ID: SUB03-101202

Lab ID#: 1012064-03A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Benzene	3.2	3.2	15	15
Toluene	3.8	3.8	40	40
Tetrachloroethene	6.8	6.8	26	26
Ethyl Benzene	4.3	4.3	44	44
m,p-Xylene	4.3	4.3	96	96
o-Xylene	4.3	4.3	23	23
1,3,5-Trimethylbenzene	4.9	4.9	13	13
Naphthalene	0.50	0.50	110 E	110 E
TPH (Diesel Range)	1000	1000	4700	4700

Client Sample ID: SUB04-101202

Lab ID#: 1012064-04A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Benzene	3.2	3.2	7.7	7.7
Trichloroethene	5.4	5.4	13	13
Toluene	3.8	3.8	9.6	9.6
Tetrachloroethene	6.8	6.8	2200 E	2200 E
m,p-Xylene	4.3	4.3	8.8	8.8
Naphthalene	0.50	0.50	17	17
TPH (Diesel Range)	1000	1000	1200	1200

Client Sample ID: SUB05-101202

Lab ID#: 1012064-05A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Benzene	14	14	82	82
Toluene	16	16	210	210
Tetrachloroethene	29	29	2600 E	2600 E
Ethyl Benzene	18	18	600	600
m,p-Xylene	18	18	5900 E	5900 E

Summary of Detected Compounds
EPA METHOD TO-17

Client Sample ID: SUB05-101202

Lab ID#: 1012064-05A

o-Xylene	18	18	11000 E	11000 E
1,3,5-Trimethylbenzene	21	21	11000 E	11000 E
1,2,4-Trimethylbenzene	120	120	16000 E	16000 E
Naphthalene	2.0	2.0	600 E	600 E
TPH (Diesel Range)	4300	4300	8200	8200
2-Propanol	210	210	1200 E	1200 E

Client Sample ID: SUB01-101202

Lab ID#: 1012064-01A

EPA METHOD TO-17

File Name:	11120722	Date of Extraction: NA	Date of Collection: 12/2/10 9:05:00 AM
Dil. Factor:	1.00	Date of Analysis: 12/7/10 05:17 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Vinyl Chloride	2.6	2.6	Not Detected	Not Detected
cis-1,2-Dichloroethene	4.0	4.0	Not Detected	Not Detected
1,2-Dichloroethane	4.0	4.0	Not Detected	Not Detected
Benzene	3.2	3.2	74	74
Trichloroethene	5.4	5.4	Not Detected	Not Detected
Toluene	3.8	3.8	120	120
Tetrachloroethene	6.8	6.8	16	16
Ethyl Benzene	4.3	4.3	50	50
m,p-Xylene	4.3	4.3	230	230
o-Xylene	4.3	4.3	170	170
1,3,5-Trimethylbenzene	4.9	4.9	150	150
1,2,4-Trimethylbenzene	29	29	440	440
Naphthalene	0.50	0.50	180 E	180 E
TPH (Diesel Range)	1000	1000	43000 E	43000 E
TPH (Gasoline Range)	1000	1000	Not Detected	Not Detected
2-Propanol	49	49	220	220

Air Sample Volume(L): 1.00

E = Exceeds instrument calibration range.

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	50-150
Toluene-d8	106	50-150
Naphthalene-d8	106	50-150

Client Sample ID: SUB02-101202

Lab ID#: 1012064-02A

EPA METHOD TO-17

File Name:	11120723	Date of Extraction: NA	Date of Collection: 12/2/10 12:12:00 PM
Dil. Factor:	1.00	Date of Analysis: 12/7/10 05:58 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Vinyl Chloride	2.6	2.6	Not Detected	Not Detected
cis-1,2-Dichloroethene	4.0	4.0	Not Detected	Not Detected
1,2-Dichloroethane	4.0	4.0	Not Detected	Not Detected
Benzene	3.2	3.2	20	20
Trichloroethene	5.4	5.4	Not Detected	Not Detected
Toluene	3.8	3.8	53	53
Tetrachloroethene	6.8	6.8	120	120
Ethyl Benzene	4.3	4.3	10	10
m,p-Xylene	4.3	4.3	22	22
o-Xylene	4.3	4.3	6.7	6.7
1,3,5-Trimethylbenzene	4.9	4.9	5.2	5.2
1,2,4-Trimethylbenzene	29	29	Not Detected	Not Detected
Naphthalene	0.50	0.50	9.1	9.1
TPH (Diesel Range)	1000	1000	3600	3600
TPH (Gasoline Range)	1000	1000	Not Detected	Not Detected
2-Propanol	49	49	57	57

Air Sample Volume(L): 1.00

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	50-150
Toluene-d8	102	50-150
Naphthalene-d8	117	50-150

Client Sample ID: SUB03-101202

Lab ID#: 1012064-03A

EPA METHOD TO-17

File Name:	11120724	Date of Extraction: NA	Date of Collection: 12/2/10 11:32:00 AM
Dil. Factor:	1.00	Date of Analysis: 12/7/10 06:38 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Vinyl Chloride	2.6	2.6	Not Detected	Not Detected
cis-1,2-Dichloroethene	4.0	4.0	Not Detected	Not Detected
1,2-Dichloroethane	4.0	4.0	Not Detected	Not Detected
Benzene	3.2	3.2	15	15
Trichloroethene	5.4	5.4	Not Detected	Not Detected
Toluene	3.8	3.8	40	40
Tetrachloroethene	6.8	6.8	26	26
Ethyl Benzene	4.3	4.3	44	44
m,p-Xylene	4.3	4.3	96	96
o-Xylene	4.3	4.3	23	23
1,3,5-Trimethylbenzene	4.9	4.9	13	13
1,2,4-Trimethylbenzene	29	29	Not Detected	Not Detected
Naphthalene	0.50	0.50	110 E	110 E
TPH (Diesel Range)	1000	1000	4700	4700
TPH (Gasoline Range)	1000	1000	Not Detected	Not Detected
2-Propanol	49	49	Not Detected	Not Detected

Air Sample Volume(L): 1.00

E = Exceeds instrument calibration range.

Q = Exceeds Quality Control limits.

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	50-150
Toluene-d8	106	50-150
Naphthalene-d8	168 Q	50-150

Client Sample ID: SUB04-101202

Lab ID#: 1012064-04A

EPA METHOD TO-17

File Name:	11120725	Date of Extraction: NA	Date of Collection: 12/2/10 10:01:00 AM
Dil. Factor:	1.00	Date of Analysis: 12/7/10 07:17 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Vinyl Chloride	2.6	2.6	Not Detected	Not Detected
cis-1,2-Dichloroethene	4.0	4.0	Not Detected	Not Detected
1,2-Dichloroethane	4.0	4.0	Not Detected	Not Detected
Benzene	3.2	3.2	7.7	7.7
Trichloroethene	5.4	5.4	13	13
Toluene	3.8	3.8	9.6	9.6
Tetrachloroethene	6.8	6.8	2200 E	2200 E
Ethyl Benzene	4.3	4.3	Not Detected	Not Detected
m,p-Xylene	4.3	4.3	8.8	8.8
o-Xylene	4.3	4.3	Not Detected	Not Detected
1,3,5-Trimethylbenzene	4.9	4.9	Not Detected	Not Detected
1,2,4-Trimethylbenzene	29	29	Not Detected	Not Detected
Naphthalene	0.50	0.50	17	17
TPH (Diesel Range)	1000	1000	1200	1200
TPH (Gasoline Range)	1000	1000	Not Detected	Not Detected
2-Propanol	49	49	Not Detected	Not Detected

Air Sample Volume(L): 1.00

E = Exceeds instrument calibration range.

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	50-150
Toluene-d8	100	50-150
Naphthalene-d8	107	50-150

Client Sample ID: SUB05-101202

Lab ID#: 1012064-05A

EPA METHOD TO-17

File Name:	11120726	Date of Extraction: NA	Date of Collection: 12/2/10 10:44:00 AM
Dil. Factor:	1.00	Date of Analysis: 12/7/10 07:57 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Vinyl Chloride	11	11	Not Detected	Not Detected
cis-1,2-Dichloroethene	17	17	Not Detected	Not Detected
1,2-Dichloroethane	17	17	Not Detected	Not Detected
Benzene	14	14	82	82
Trichloroethene	23	23	Not Detected	Not Detected
Toluene	16	16	210	210
Tetrachloroethene	29	29	2600 E	2600 E
Ethyl Benzene	18	18	600	600
m,p-Xylene	18	18	5900 E	5900 E
o-Xylene	18	18	11000 E	11000 E
1,3,5-Trimethylbenzene	21	21	11000 E	11000 E
1,2,4-Trimethylbenzene	120	120	16000 E	16000 E
Naphthalene	2.0	2.0	600 E	600 E
TPH (Diesel Range)	4300	4300	8200	8200
TPH (Gasoline Range)	4300	4300	Not Detected	Not Detected
2-Propanol	210	210	1200 E	1200 E

Air Sample Volume(L): 1.00

E = Exceeds instrument calibration range.

Container Type: TO-17 VI Tube

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	50-150
Toluene-d8	111	50-150
Naphthalene-d8	125	50-150

Client Sample ID: Lab Blank

Lab ID#: 1012064-06A

EPA METHOD TO-17

File Name:	11120718	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/7/10 02:03 PM	

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Vinyl Chloride	2.6	2.6	Not Detected	Not Detected
cis-1,2-Dichloroethene	4.0	4.0	Not Detected	Not Detected
1,2-Dichloroethane	4.0	4.0	Not Detected	Not Detected
Benzene	3.2	3.2	Not Detected	Not Detected
Trichloroethene	5.4	5.4	Not Detected	Not Detected
Toluene	3.8	3.8	Not Detected	Not Detected
Tetrachloroethene	6.8	6.8	Not Detected	Not Detected
Ethyl Benzene	4.3	4.3	Not Detected	Not Detected
m,p-Xylene	4.3	4.3	Not Detected	Not Detected
o-Xylene	4.3	4.3	Not Detected	Not Detected
1,3,5-Trimethylbenzene	4.9	4.9	Not Detected	Not Detected
1,2,4-Trimethylbenzene	29	29	Not Detected	Not Detected
Naphthalene	0.50	0.50	Not Detected	Not Detected
TPH (Diesel Range)	1000	1000	Not Detected	Not Detected
TPH (Gasoline Range)	1000	1000	Not Detected	Not Detected
2-Propanol	49	49	Not Detected	Not Detected

Air Sample Volume(L): 1.00

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	50-150
Toluene-d8	102	50-150
Naphthalene-d8	134	50-150

Client Sample ID: CCV

Lab ID#: 1012064-07A

EPA METHOD TO-17

File Name:	11120710	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/7/10 07:30 AM	

Compound	%Recovery
Vinyl Chloride	100
cis-1,2-Dichloroethene	117
1,2-Dichloroethane	108
Benzene	107
Trichloroethene	113
Toluene	123
Tetrachloroethene	118
Ethyl Benzene	116
m,p-Xylene	112
o-Xylene	126
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	106
Naphthalene	107
TPH (Diesel Range)	102
TPH (Gasoline Range)	91
2-Propanol	158 Q

Air Sample Volume(L): 1.00

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	50-150
Toluene-d8	103	50-150
Naphthalene-d8	142	50-150

Client Sample ID: LCS

Lab ID#: 1012064-08A

EPA METHOD TO-17

File Name:	11120703	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/7/10 02:47 AM	

Compound	%Recovery
Vinyl Chloride	98
cis-1,2-Dichloroethene	110
1,2-Dichloroethane	103
Benzene	95
Trichloroethene	109
Toluene	115
Tetrachloroethene	114
Ethyl Benzene	110
m,p-Xylene	105
o-Xylene	119
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	104
Naphthalene	103
TPH (Diesel Range)	Not Spiked
TPH (Gasoline Range)	Not Spiked
2-Propanol	115

Air Sample Volume(L): 1.00

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	50-150
Toluene-d8	90	50-150
Naphthalene-d8	126	50-150

Client Sample ID: LCSD

Lab ID#: 1012064-08AA

EPA METHOD TO-17

File Name:	11120704	Date of Extraction: NA	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/7/10 03:27 AM	

Compound	%Recovery
Vinyl Chloride	114
cis-1,2-Dichloroethene	116
1,2-Dichloroethane	98
Benzene	97
Trichloroethene	112
Toluene	118
Tetrachloroethene	119
Ethyl Benzene	111
m,p-Xylene	108
o-Xylene	118
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	105
Naphthalene	Not Spiked
TPH (Diesel Range)	Not Spiked
TPH (Gasoline Range)	Not Spiked
2-Propanol	119

Air Sample Volume(L): 1.00

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	50-150
Toluene-d8	90	50-150
Naphthalene-d8	116	50-150

APPENDIX F ODEQ SOIL MATRIX CLEANUP SCORESHEET

Soil Matrix Scoresheet

Depth to Ground Water		10	
< 25 feet	(10)		
25 – 50 feet	(7)		
51 – 100 feet	(4)		
> 100 feet	(1)		
Mean Annual Precipitation		5	
> 45 inches	(10)		
20 – 45 inches	(5)		
< 20 inches	(1)		
Native Soil Types		10	
Coarse sands, gravels	(10)		
Silts, fine sands	(5)		
Clays	(1)		
Sensitivity of uppermost Aquifer		4	
Sole Source	(10)		
Current Potable	(7)		
Future Potable	(4)		
Non-potable	(1)		
Potential Receptors		1	
Many, near	(10)		
Medium	(5)		
Few, far	(1)		
TOTAL SCORE =		30	
Matrix Score		Cleanup level in ppm TPH	
		Gasoline	Diesel
Level 1: > 40 pts.		40	100
Level 2: 25 - 40 pts.		80	500
Level 3: < 25 pts.		130	1000